

MAINVIEW[®] for UNIX System Services Getting Started

Version 1.3

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 - 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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About This Book

This book contains introductory information about the MAINVIEW for UNIX System Services product and is intended for systems analysts, systems programmers, computer operators, or anyone who is responsible for applying system maintenance and ensuring maximum system performance.

To use this book, you should be familiar with the following items

- your database management system (DBMS)
- Multiple Virtual Storage (MVS) systems, job control language (JCL), and the Interactive System Productivity Facility (ISPF)
- your client and host operating systems

For example, you should know how to respond to ISPF panels.

Throughout this book, references to OS/390 support also include support for MVS and z/OS.

How This Book Is Organized

This book is organized as follows. In addition, this book contains an index.

| Chapter | Description |
|--|---|
| Chapter 1, "Getting Started" | describes the MAINVIEW window interface and the MAINVIEW for UNIX System Services easy menus |
| Chapter 2, "Logging On to MAINVIEW for UNIX System Services" | describes how to log on to MAINVIEW for UNIX System Services |
| Chapter 3, "Using MAINVIEW for UNIX System Services Views" | describes how to perform basic view functions, how to examine views, and how to solve problems by using MAINVIEW for UNIX System Services views |

| Chapter | Description |
|---|---|
| Chapter 4, "Displaying Historical Data" | describes how to use historical data to look at the system as it existed during previous intervals |
| Chapter 5, "Customizing Views" | describes how to use View Customization to create your own views and change the appearance and content of MAINVIEW for UNIX System Services views |
| Chapter 6, "Using Summarized Views" | describes ways to use a summary view |
| Chapter 7, "Redisplaying Data without Updating" | describes how to use MAINVIEW for UNIX System Services to debug a problem without updating the data |
| Chapter 8, "Filtering Data" | describes how to use the WHERE command for a more complex filtering process |

Related Documentation

BMC Software products are supported by several types of documentation:

- online and printed books
- online Help
- release notes and other notices

Note: To view online messages that the MAINVIEW for UNIX System Services product generates, type **msg** followed by the message number on any MAINVIEW screen.

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Online Help

The MAINVIEW for UNIX System Services product includes online Help. In the MAINVIEW for UNIX System Services ISPF interface, access Help by pressing **PF1** from any ISPF panel.

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- updates to the installation instructions
- last-minute product information

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Conventions

This book uses the following general conventions:

| Item | Format | Example |
|--|--|---|
| information that you are instructed to type | bolded and in Times 10 pt. font | Type TIME = = PREV and press Enter . |
| specific (standard) keyboard key names | bolded and in Times 10 pt. font | To exit View Customization, press PF3 . |
| field names, option names | bolded and in Times 10 pt. font | In the 1st Condition field, type >=80 . Hyperlink from the Overview option. |
| directories, file names, Web addresses, e-mail addresses | bolded and in Times 10 pt. font | The BMC Software home page is at www.bmc.com . |
| view names, commands, nonspecific key names, keywords | every letter capitalized | The USROVERZ view displays all information for a user session. Use the HELP function key. |
| commands that can be shortened | required letters capitalized, other letters in lowercase | To clear the screen, type RESet . |
| code examples, syntax statements, system messages, screen text | Courier font | <code>//BBVDEF DD DSN=userid.BBVDEF</code> <code>Connecting...</code> |
| emphasized words, new terms, variables | italics | Perform <i>one</i> of the following steps. The combination of the operator and constant is called a <i>condition</i> . |

This book uses the following types of special text:

Note: Notes contain important information that you should consider.

Warning! Warnings alert you to situations that could cause problems, such as loss of data, if you do not follow instructions carefully.

Tip: Tips contain information that might improve product performance or that might make procedures easier to follow.

Chapter 1 Getting Started

This chapter provides an overview of the MAINVIEW for UNIX System Services product, which is a system-management application that helps you monitor and manage the performance of your UNIX System Services from a MAINVIEW window interface. This chapter also includes a list of related MAINVIEW products.

This chapter includes the following topics:

| | |
|-------------------------------------|-----|
| Overview | 1-2 |
| MAINVIEW Window Interface | 1-3 |
| Easy Menus | 1-4 |

Overview

The MAINVIEW for UNIX System Services product provides a basic set of views that you can use to monitor the following information:

- MVS address spaces that have been dubbed as MVS-OE address spaces
- processes/threads that are running in the MVS-OE address spaces
- files that are open for a process (including zFS files)
- summary information for mounted file systems
- detailed file information, including size, owner, and file permissions
- HFS global buffer information and file-system statistics
- address space information, including usage and delays
- users who are logged on to UNIX System Services
- system parameters in BPXPRMxx
- real-time IPC activity

In addition, with MAINVIEW for UNIX System Services, you can

- specify required processes so that you can determine when required processes are missing

MAINVIEW alarms can be set if any required processes are missing.

- specify that certain HFS or zFS files be mounted so that you can determine when required files are not mounted

MAINVIEW alarms can be triggered if important files are not mounted.

- improve integration and hyperlinks to other MAINVIEW products
- view system BPXPRMxx parameters and dynamically modify them
- view and change the HFS global buffer limits, specifically the virtual storage maximums and fixed storage minimums
- view and dynamically change external HFS file-size allocation
- perform many zFS administrative tasks

MAINVIEW Window Interface

The BMC Software MAINVIEW family of products relies on a common communications framework that operates across multiple machines in multiple locations. This framework is called the MAINVIEW window interface, a robust, easy-to-use extension of the standard ISPF interface. MAINVIEW products include

- CMF[®] MONITOR
- DATA ACCELERATOR Compression
- IMSplex System Manager
- MAINVIEW Alarm Manager
- MAINVIEW Alternate Access
- MAINVIEW AutoOPERATOR[™]
- MAINVIEW Explorer
- MAINVIEW FOCAL POINT
- MAINVIEW for CICS
- MAINVIEW for DB2[®]
- MAINVIEW for DBCTL
- MAINVIEW for IMS
- MAINVIEW for IP
- MAINVIEW for Linux
- MAINVIEW for OS/390 (replaces MAINVIEW for MVS)
- MAINVIEW for UNIX System Services
- MAINVIEW for VTAM
- MAINVIEW for WebSphere Application Server
- MAINVIEW for WebSphere MQ (replaces MAINVIEW for MQSeries)
- MAINVIEW SRM
- MAINVIEW SYSPROG Services
- MAINVIEW VistaPoint[™]
- Plex Manager (part of MAINVIEW architecture)

With the MAINVIEW window interface, you can use multiple products to control and monitor resources on multiple systems, all on just one screen.

Easy Menus

The MAINVIEW for UNIX System Services product has created a series of easy menus to offer a quick, convenient way to use the product with little introduction and without having to remember view names. The easy menus allow navigation to the various parts of MAINVIEW for UNIX System Services based on a feature that you want to monitor rather than on a specific view.

EZUSS is the primary easy menu for MAINVIEW for UNIX System Services. From the selections on this menu, you can access other high-level easy menus, such as EZUPRCS and EZUSYS, to quickly locate information about activities on your system.

For more information about how to use the MAINVIEW for UNIX System Services easy menus, refer to Chapter 3, “Using MAINVIEW for UNIX System Services Views.”

Chapter 2 Logging On to MAINVIEW for UNIX System Services

This chapter shows you how to log on to the MAINVIEW for UNIX System Services product. The chapter includes the following topics:

| | |
|--|-----|
| Logon Instructions | 2-2 |
| ISPF Session Control Parameters Panel | 2-4 |
| MAINVIEW for UNIX System Services Easy Menu | 2-5 |
| Panel Definition Created by Your Product Administrator | 2-5 |

Logon Instructions

To log on to the MAINVIEW for UNIX System Services product, follow these instructions:

Step 1 Display the MAINVIEW Selection Menu panel by performing one of the following steps:

- If your ISPF main panel contains an option for MAINVIEW products, select that option.
- From any ISPF panel, issue **TSO MAINVIEW**.

MAINVIEW is a CLIST that you or your product administrator created during AutoCustomization.

The MAINVIEW Selection Menu panel is displayed, as shown in Figure 2-1.

Figure 2-1 MAINVIEW Selection Menu Panel

```
----- MAINVIEW Selection Menu -----
OPTION  ==>>                                DATE   -- MM/DD/YY
                                           TIME   -- HH:MM:SS
      0 Parameters and Options              USERID -- BAOSRR1
      E Alerts and Alarms                  MODE   -- ISPF n.n
      P PLEX Management (PLEXMGR)
      U Utilities, Tools, and Messages

Solutions for
  A Automated Operations
  C CICS
  D DB2
  I IMS
  L Linux
  N Network Management
  S Storage Management
  T Application Management and Performance Tuning
  W WebSphere and MQSeries
  Z OS/390, z/OS, and USS

Enter X to Terminate

                                Copyright BMC Software, Inc. 2003
```

Step 2 Select Option **Z OS/390, z/OS, and USS**.

The OS/390, z/OS, and USS Solutions panel is displayed, as shown in Figure 2-2 on page 2-3.

Figure 2-2 OS/390, z/OS, and USS Solutions Panel

```

----- OS/390, z/OS, and USS Solutions -----
OPTION  ==>                                     DATE   -- MM/DD/YY
                                                TIME   -- HH:MM:SS
                                                USERID -- BAOSRR1
                                                MODE   -- ISPF n.n

Performance
  1 MV390      MAINVIEW for OS/390
  2 MVUSS      MAINVIEW for Unix System Services
  3 CMF        CMF MONITOR
  4 SYSPROG    MAINVIEW SYSPROG Services

Operations
  5 CSMON      Common Storage Monitor
  6 CMFMON     CMFMON realtime analysis
  7 CMFUTIL    CMF Extractor Online Utilities
  8 ANALYZER   Generate CMF Analyzer batch reports
  E ALERTS     Alert Management

General Services
  M MESSAGES   Messages and Codes
  P PARS       Parameters and Options

```

Step 3 Select Option 2 MVUSS.

One of the following panels is displayed:

- ISPF Session Control Parameters panel
- MAINVIEW for UNIX System Services Easy Menu
- panel definition that was created by your product administrator

These panels are described in the following sections.

ISPF Session Control Parameters Panel

The ISPF Session Control Parameters panel looks like Figure 2-3.

Figure 2-3 Session Control Parameters Panel

```
BMC SOFTWARE ----- SESSION CONTROL PARAMETERS -----  
COMMAND ==>>  
  
Subsystem ID   ==>> BBCS   (CAS Subsystem ID, ? for list of active SSIDs)  
  
XDM mode       ==>> NO     (Execute session in diagnostic mode, Yes/No)  
  
Press ENTER to confirm use of session parameters entered above.
```

If this panel is displayed, ensure that the **Subsystem ID** field contains the coordinating address space (CAS) identifier, and then press **Enter**. See your MAINVIEW for UNIX System Services product administrator if

- no default value is present
- you do not know the CAS identifier
- the default value results in an error message

When you see the message `Connecting...` in the upper right-hand corner of your screen, you are in the process of accessing MAINVIEW for UNIX System Services.

MAINVIEW for UNIX System Services Easy Menu

After you are logged on, the MAINVIEW for UNIX System Services Easy Menu (EZUSS) is displayed, as shown in Figure 2-4.

Figure 2-4 EZUSS Menu

```

DDMMYYYY  HH:MM:SS ----- MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS -----
COMMAND  ==>                               SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
W1 =EZUSS=====SJSC=====*=====DDMMYYYY==HH:MM:SS====MVUSS====D====1
                                MVUSS Easy Menu

  Activity                               Utilities
> System                                +-----+ > Alarm Management
> Processes                             | Place cursor on | > MAINVIEW Environment
> Filesystems                           | menu item and  | > MVUSS Fast Menu
> Users                                  | press ENTER    |
. USS Address Spaces                    +-----+ . Return...
. IPC Realtime Activity

  Action Views
> EZ Action Menu
> EZ zFS Administration

```

For more information about using MAINVIEW for UNIX System Services easy menus, refer to Chapter 3, “Using MAINVIEW for UNIX System Services Views.”

Panel Definition Created by Your Product Administrator

If your panel does not look like any of the preceding panels, you are looking at a panel definition that was created by your product administrator. You can still proceed with the exercises in this book; either

- choose the appropriate view name from your customized menu
- or*
- type the desired view name on the **COMMAND** line and press **Enter**

Chapter 3 Using MAINVIEW for UNIX System Services Views

To fully utilize the MAINVIEW for UNIX System Services product, you must know how to use views. Each view provides critical information about specific components of your UNIX System Services. This chapter describes how to perform basic view functions, examine views, and solve problems by using MAINVIEW for UNIX System Services views.

This chapter includes the following topics:

| | |
|---|------|
| Understanding MAINVIEW for UNIX System Services Views | 3-2 |
| Performing Basic View Functions | 3-4 |
| Using the Process Views | 3-7 |
| Examining the File System Views | 3-10 |
| Using System Views | 3-12 |
| Using User Views | 3-16 |

Understanding MAINVIEW for UNIX System Services Views

A view is a collection of data that is gathered by the MAINVIEW for UNIX System Services product and displayed in an easy-to-read format. It is the result of a query that is run by the MAINVIEW for UNIX System Services data selectors against the data that MAINVIEW for UNIX System Services has collected from the UNIX System Services. Using MAINVIEW for UNIX System Services, you can effectively move between different views to display the information that you need.

You can display views by performing one of the following actions:

- using a hyperlink
- choosing a menu item from an easy menu
- typing the view name on the **COMMAND** line

In most cases, the MAINVIEW for UNIX System Services product makes it easy for you to display views by using established hyperlinks between related views. You can position the cursor and press **Enter** to move from one view to the next view, because MAINVIEW for UNIX System Services has already determined which views you are likely to access next. You can also set your own hyperlinks to establish paths between views after you discover how to optimize the use of each view for your business needs. This procedure is explained in “Setting Hyperlinks” on page 5-9.

Note: To generate a list of most of the MAINVIEW for UNIX System Services views, type **VIEWS** on the **COMMAND** line. You can hyperlink to all of them.

To further simplify displaying the data that you need, MAINVIEW for UNIX System Services provides the EZUSS easy menu, a cursor-sensitive view that hyperlinks to an assortment of more specific views and menus. Options on this menu correspond to particular areas of system performance and have been given brief, descriptive names so that you can begin using MAINVIEW for UNIX System Services without having to remember the names of specific views.

In some cases, however, you might need to examine a particular area of system performance immediately, without using hyperlinks. To do so, type the name of a view on the **COMMAND** line and press **Enter**.

Before beginning the exercises in this chapter, review the basic view concepts in the next section.

How to Read the Window Information Line

The MAINVIEW for UNIX System Services window information line helps you keep track of the data that is displayed in a particular window. Here is a sample window information line:

```
>W1 =PSOVERZ=====SYSE=====*=====DDMMYYYY=====HH:MM:SS=====MVUSS=====D===20
```

where

| | |
|---------------------|--|
| > | Indicates that there is more data to the right of the screen. |
| < | Indicates data to the left. |
| + | Indicates data to the right and the left. Note: A blank indicates all data fits in the current window. |
| W1 | Indicates the number and status of the window. W1 means that window 1 is in Wait status. To see other possible statuses, place your cursor on W1 and press PF1 for help. |
| PSOVERZ | Indicates the name of the view. |
| <i>formName</i> | Appears next to the view name when you use the FORM command to display the data in a different format. In this example, the field is blank. For more information about the FORM command, refer to Chapter 7, "Redisplaying Data without Updating." |
| SYSE | Indicates the current context. This value can be the name of the current system or a predefined SSI context that can include certain targets. (For more information about using an SSI context, see chapter 3 in <i>Using MAINVIEW</i> .) |
| * | Indicates the current scope. The scope allows you to narrow down a particular system within an SSI context. If you are not using an SSI context, this field contains an asterisk (*). |
| DDMMYYYY | Indicates the date that data in the window was last updated. |
| HH:MM:SS | Indicates the time that data in the window was last updated. |
| <i>duration</i> | Appears next to the time field when you use the duration parameter on the TIME command. This field tells you how many minutes of historical data are displayed. In this example, the field is blank. For more information about historical data, see Chapter 4, "Displaying Historical Data." |
| MVUSS | Indicates the product identifier. |
| <i>formLocation</i> | Shows the location of the form that is being displayed: D—in a distributed library (is in its original form) U—in a user library (has been customized) |
| 20 | Indicates the number of rows available in the view. Note: For detail views (views that end in INFO), this number is always 1. |

Performing Basic View Functions

In this section, you will begin using the MAINVIEW for UNIX System Services product views.

Step 1 On the **COMMAND** line, type **RESet** and press **Enter**.

This action completely clears the screen.

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

The MAINVIEW for UNIX System Services Easy Menu is displayed, as shown in Figure 3-1.

Figure 3-1 Displaying Processes from the EZUSS Menu

```

DDMMYYYY   HH:MM:SS  -----  MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS  -----
COMMAND  ==>                                     SCROLL  ==>  CSR
CURR WIN ==> 1          ALT WIN ==>
W1 =EZUSS=====EUSSM====*=====DDMMYYYY==HH:MM:SS====MVUSS====D====1
          MVUSS Easy Menu
Activity                                     Utilities
> System                                     +-----+ > Alarm Management
> Processes                                 | Place cursor on | > MAINVIEW Environment
> Filesystems                             | menu item and   | > MVUSS Fast Menu
> Users                                   | press ENTER    |
. USS Address Spaces                       +-----+ . Return...
. IPC Realtime Activity

Action Views
> EZ Action Menu
> EZ zFS Administration
    
```

Step 3 To display Processes (under the Activity category), place the cursor on the **Processes** option and press **Enter**.

Displaying a view by placing the cursor on an option and pressing **Enter** is called hyperlinking. Hyperlinking allows you to quickly move from view to view to access additional information about an activity.

Note: You can hyperlink from any column with a highlighted header by placing your cursor on a data element within that column and pressing **Enter**.

The **Processes** option hyperlinks to the Processes Easy Menu, EZUPRCS, as shown in Figure 3-2 on page 3-5.

Figure 3-2 EZUPRCS Menu

```

DDMMYYYY  HH:MM:SS ----- MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS -----
COMMAND  ===>                               SCROLL  ===> PAGE
CURR WIN  ===> 1           ALT WIN  ===>
W1 =EZUPRCS=====SJSC=====*=====DDMMYYYY==HH:MM:SS====MVUSS====D====1
                Processes Easy Menu

Activity                                     General
. Overview                                     +-----+ . Current Status
. Resource Usage                             | Place cursor on | . Command Name
. Delays                                     | menu item and  | . Process Tree
. Execution State                            | press ENTER   |
                +-----+ . Return...
    
```

From EZUPRCS, you can hyperlink to views that contain data regarding process activities, such as resource usage and delays.

Step 4 Hyperlink from the **Overview** option.

PSOVERZ is displayed, as shown in Figure 3-3.

Figure 3-3 PSOVERZ View

```

DDMMYYYY  HH:MM:SS ----- MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS -----
COMMAND  ===>                               SCROLL  ===> CSR
CURR WIN  ===> 1           ALT WIN  ===>
>W1 =PSOVERZ=====SJSE=====*=====DDMMYYYY==HH:MM:SS====MVUSS====D====15
C ProcessId Command  Elapsed  Jobname  Stepname  Multi-  Total  Total  Total  Total
- -----  Name      ProcTime -----  -----  Thread  Dly%   Run%   Zomb%  Othr%
      1  BPXPINPR  05:40:28  BPXOINIT  BPXOINIT  Yes     100    0.00   0.00   0.00
      6  inetd      05:40:11  INETD4    BPXAS     No      0.00   0.00   0.00   100
      7  EZACFALG  05:38:30  DC$TCPIP  DC$TCPIP  No     100    0.00   0.00   0.00
      8  EZASASUB  05:38:30  DC$TCPIP  DC$TCPIP  No     100    0.00   0.00   0.00
      9  EZBTMST   05:38:26  DC$TCPIP  DC$TCPIP  No      0.00   100    0.00   0.00
     11  FTPD      05:38:14  FTPD1     BPXAS     No     100    0.00   0.00   0.00
     12  BBM9SZ20  05:38:09  DC$PAS    PAS       Yes     0.00   100    0.00   0.00
    16777218  BBM9SZ20  05:38:42  DC$CAS    CAS       No      0.00   100    0.00   0.00
    16777219  EZBTCPIP  05:38:39  DC$TCPIP  DC$TCPIP  Yes     0.00   100    0.00   0.00
    16777230  BBM9SZ20  04:32:12  SVSGD6FT  SVSGD6FT  No      0.00   100    0.00   0.00
    33554436  EZBTMCTL  05:38:30  DC$TCPIP  DC$TCPIP  No      0.00   100    0.00   0.00
    33554437  EZBTSSL   05:38:31  DC$TCPIP  DC$TCPIP  No      0.00   100    0.00   0.00
    50331658  BBM9SZ20  02:48:33  XJONLPAS  XJONLPAS  Yes     0.00   100    0.00   0.00
    83886095  BBM9SZ20  04:38:38  SVOS61FT  SVOS61FT  No      0.00   100    0.00   0.00
    
```

In PSOVERZ, you can see the total delay percentage, the system call rate, owning jobname, and other details for each listed process. You can use this view to determine whether any process has an unexpected delay or is executing more system calls than normal. To scroll to the right and see all of the fields, press **PF11** multiple times. To scroll back to the start of the fields, press **PF10**.

Step 5 Press **Enter** and notice how the data changes.

The data is refreshed every time you press **Enter** (unless you press **Enter** more frequently than the data-collection interval that was established for that view's data elements).

Note: If you are interested in a particular job that is not currently visible on PSOVERZ, rather than scrolling down, you can move this job to the top of the window by using the Locate (L) command.

To move any value to the top of the window, type **L value** on the **COMMAND** line, place the cursor on the appropriate column header, and press **Enter**. If the value is in the first column, you do not have to use the cursor at all; simply type **L value** on the **COMMAND** line.

Step 6 On the **COMMAND** line, type **L jobName** (where *jobName* is the job name for the process), position the cursor in the **Jobname** column, and then press **Enter**.

The process that you specify moves to the top of the view.

Step 7 (*optional*) To display online Help for a view, position the cursor on the view name on the window information line and press **PF1**.

Step 8 (*optional*) To display online Help for a field, position the cursor on the field name and press **PF1**.

Using the Process Views

Process views provide details regarding the process activity and resource utilization for single or multiple intervals. These views reveal delays, overuse of system calls, and other factors that can impact the performance of your system.

The following example illustrates only one use for the process views. For a complete list of process views and their purposes, refer to the *MAINVIEW for UNIX System Services User Guide and Reference*.

The two primary methods to display a process view are

- using the MAINVIEW for UNIX System Services Processes Easy Menu
- typing the actual name of the view on the **COMMAND** line

Both methods ultimately display the same view, but you use different paths to reach the view.

To access a view by using the Processes Easy Menu, follow these steps:

Step 1 On the **COMMAND** line, type **EZUSS**.

The EZUSS menu is displayed.

Step 2 In EZUSS, hyperlink from the **Processes** option.

EZUPRCS, the Processes Easy Menu, is displayed.

Step 3 Access **PSOVERZ** by using one of these methods:

- hyperlinking from the **Overview** option
- typing **PSOVERZ** on the **COMMAND** line

The **PSOVERZ** view is displayed, as shown in Figure 3-4 on page 3-8.

Figure 3-4 Looking at Process Activity Using the PSOVERZ View

```

DDMMYYYY  HH:MM:SS ----- MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =PSOVERZ=====SJSE=====*=====DDMMYYYY==HH:MM:SS====MVUSS====D===15
C ProcessId Command Elapsed Jobname Stepname Multi- Total Total Total Total
- ----- Name ProcTime ----- ----- Thread Dly% Run% Zomb% Othr%
      1 BPXPINPR 05:40:28 BPXOINIT BPXOINIT Yes 100 0.00 0.00 0.00
      6 inetd 05:40:11 INETD4 BPXAS No 0.00 0.00 0.00 100
      7 EZACFALG 05:38:30 DC$TCPIP DC$TCPIP No 100 0.00 0.00 0.00
      8 EZASASUB 05:38:30 DC$TCPIP DC$TCPIP No 100 0.00 0.00 0.00
      9 EZBTMST 05:38:26 DC$TCPIP DC$TCPIP No 0.00 100 0.00 0.00
     11 FTPD 05:38:14 FTPD1 BPXAS No 100 0.00 0.00 0.00
     12 BBM9SZ20 05:38:09 DC$PAS PAS Yes 0.00 100 0.00 0.00
    16777218 BBM9SZ20 05:38:42 DC$CAS CAS No 0.00 100 0.00 0.00
    16777219 EZBTCPIP 05:38:39 DC$TCPIP DC$TCPIP Yes 0.00 100 0.00 0.00
    16777230 BBM9SZ20 04:32:12 SVSGD6FT SVSGD6FT No 0.00 100 0.00 0.00
    33554436 EZBTMCTL 05:38:30 DC$TCPIP DC$TCPIP No 0.00 100 0.00 0.00
    33554437 EZBTSSL 05:38:31 DC$TCPIP DC$TCPIP No 0.00 100 0.00 0.00
    50331658 BBM9SZ20 02:48:33 XJONLPAS XJONLPAS Yes 0.00 100 0.00 0.00
    83886095 BBM9SZ20 04:38:38 SVOS61FT SVOS61FT No 0.00 100 0.00 0.00

```

The PSOVERZ view is a summarized view of process activity. You can use this view to analyze performance and utilization of resources for the selected processes. When studying the PSOVERZ view, you can find out process details, such as how many system calls a process is using or what type of delays have affected a process.

Suppose you scroll to the right, discover an unusual delay, and want to pinpoint the cause.

Step 4 From the **Total Dly%** column, hyperlink from the process with the delay.

The PSDELAYZ view, with information about that process, is displayed as shown in Figure 3-5 on page 3-9.

Figure 3-5 PSDELAYZ View

```

DDMMYYYY  HH:MM:SS ----- MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =PSOVERZ==PSDELAYZ=SJSC=====*****DDMMYYYY==HH:MM:SS====MVUSS====D=====
C  ProcessId Command  Elapsed  Jobname          Total Delay % Total Total %Delay
-  ----- Name      ProcTime -----  0...50...100 Zomb% Othr% MsgRcv
      6  inetd      08:45:54 INETD4   100.00 *****  0.00  0.00  0.00

```

With the PSDELAYZ view, you can see how much of the total delay is attributable to each of the major resource categories for the selected processes. (You will need to press **PF11** to scroll to the right to see additional resource categories.)

Examining the File System Views

You can use the file system views to monitor the files and directories of specified file systems, including hierarchical file systems.

To determine which file systems are currently mounted, follow these steps:

Step 1 On the **COMMAND** line, type **FSMOUNTZ**.

The **FSMOUNTZ** view is displayed, as shown in Figure 3-6.

Figure 3-6 FSMOUNTZ View

```
DDMMYYYY  HH:MM:SS ----- MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS -----
COMMAND  ==>                               SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
>W1 =FSMOUNTZ=====SJSC=====*=====DDMMYYYY==HH:MM:SS====MVUSS====D===53
C File System Dataset Name                    Type FS  Read   Total %Blks %B
- -----
*AMD/u                                         MVS  AUTO No     1  0.00
SYSI.IBMOEM.SMS.OS280.SJSC.OMVS.ROOT          MVS  HFS  No    198000 21.78
SYSI.IBMOEM.SMS.SYSC.USER.HFS                 MVS  HFS  No     63000 45.43
SYSI.IBMCIC13.SMS.SYSC.USERLIB                MVS  HFS  No     3600 52.17
SYSI.IBMOEM.SMS.USSMON.HFS                   MVS  HFS  No     45000 61.05
SYSI.IBMOEM.SMS.OS280.SJSC.ETC                MVS  HFS  No     10800 97.65
```

The **FSMOUNTZ** view lists all of the file systems that are currently mounted.

Step 2 Because everything appears to be normal, scroll to the right (**PF11**) several times to see more information, as shown in Figure 3-7.

Figure 3-7 FSMOUNTZ View (Scrolled to the Right)

```
DDMMYYYY  HH:MM:SS ----- MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS -----
COMMAND  ==>                               SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
+W1 =FSMOUNTZ=====SJSC=====*=====DDMMYYYY==HH:MM:SS====MVUSS====D===77
C File System Dataset Name                    FileSys  Mount Point
- -----
*AMD/u                                         Active  /u
SYSI.IBMOEM.SMS.OS280.SJSC.OMVS.ROOT          Active  /
SYSI.IBMOEM.SMS.SYSC.USER.HFS                 Active  /eng
SYSI.IBMCIC13.SMS.SYSC.USERLIB                Active  /usr/lpp/cicsts
SYSI.IBMOEM.SMS.USSMON.HFS                   Active  /ussmon
SYSI.IBMOEM.SMS.OS280.SJSC.ETC                Active  /etc
```

Using the S line command, you can display FSPACE for more information about the files and subdirectories within a specific directory.

- Step 3** Place an S in the line command column for one of the file systems that has a mount point of /eng, and then press **Enter**.

The FSPACE view is displayed, as shown in Figure 3-8.

Figure 3-8 FSPACE View

```
DDMMYYYY HH:MM:SS ----- MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =FSPACE=====SJS=====*=====DDMMYYYY==HH:MM:SS====MVUSS====D====27
C File or Dir Name Type   File Ser Number      Size Size Block      Owner
- - - - -
  .                   DIR                146      28672   7 4096      0
  ..                  DIR                 15       8192   2 4096      0
  baodmd1             DIR                 7         2       8192   2 4096      0
  baodmd2             DIR                 8         2       8192   2 4096      0
  baodmd3             DIR                 9         2       8192   2 4096      0
  baodmd4             DIR                10         2       8192   2 4096      0
  baodym1             DIR                11         2       8192   2 4096      0
  baodym2             DIR                12         2       8192   2 4096      0
  baodym3             DIR                13         2       8192   2 4096      0
  baodym4             DIR                14         2       8192   2 4096      0
  baodym5             DIR                15         2       8192   2 4096      0
  baodym6             DIR                16         2       8192   2 4096      0
  baoeuk1             DIR                17         2       8192   2 4096     3911
  baoeuk2             DIR                18         2       8192   2 4096      0
  baoeuk3             DIR                19         2       8192   2 4096      0
  baoeuk4             DIR                20         2       8192   2 4096      0
  baoexp1             DIR                21         2       8192   2 4096      0
  baoexp2             DIR                22         2       8192   2 4096      0
```

By looking at this view, you can determine more information about the contents of path /eng. You can continue to drill down into the directories for additional details about a file or subdirectory.

Note: When you request information, the MAINVIEW for UNIX System Services product might not provide an immediate response. For whatever reason, if a delay has occurred while completing the request, MAINVIEW for UNIX System Services places the process in the background so that you can continue to work rather than tying up your session while the request is handled.

- Step 4** To monitor the status of your requests at any time, type **REQSTAT** on the **COMMAND** line.

The REQSTAT view is displayed, as shown in Figure 3-9 on page 3-12.

Figure 3-9 REQSTAT View

```

DDMMYYYY  HH:MM:SS ----- MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS -----
COMMAND ==>                                     SCROLL ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =REQSTAT=====SJSC=====*=====DDMMYYYY==HH:MM:SS====MVUSS====D==1=====
C Request Request Request Start Create Last CPU View Parms
- Time Status Type Time Time Access Time -----
12:19:54 Completed Detail Dir 12:19:54 12:19:54 12:19:54 0.064880 FSPACE /bin/

```

By looking at the REQSTAT view, you can see that your request has been completed. From the **Request Time** field, you can hyperlink to the view that contains the completed request. If the request had not been completed, you could have returned to this view any number of times to monitor your request, or you could have purged the request if the information was no longer needed.

For information about the action commands that are associated with the REQSTAT view, place your cursor on the view name and press **PF1**. In the Help panel, hyperlink from Actions that are available from this view.

Using System Views

The address space views contain activity information about the address spaces, including delays and usage. The data is available in both summarized and tabular form.

In addition, the BPXPRM and IPCBXP views contain system parameter information.

To view the parameter settings, follow these steps:

- Step 1** On the **COMMAND** line, type **BPXPRM**.

The BPXPRM view is displayed, as shown in Figure 3-10 on page 3-13.

Figure 3-10 BPXPRM View

```

DDMMYYYY   HH:MM:SS ----- MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS -----
COMMAND ==>                                     SCROLL ==> CSR
CURR WIN ==> 1           ALT WIN ==>
Wl =BPXPRM=====SJSC=====*=====DDMMYYYY==HH:MM:SS====MVUSS====U====1
System Name.....          SJSC
Sysplex Name.....  BMCPLXEX  Change Config....
-Processes/System-
MAXPROCSYS.....          200 ---UIDs/System---
Current #.....          27  MAXUIDS.....          200
Current %.....          13.5 Current #.....          1
Interval Maximum.          27 Current %.....          0.5
Interval Average.          27 Interval Maximum.          1
Intvl Exceed Cnt.          0 Interval Average.          1
Intvl Exceed Rate          0.00 Intvl Exceed Cnt.          0
--Files/Process--
MAXFILEPROC.....          256 --Processes/UID--
Current #.....          1  MAXPROCUSER.....          100
Current %.....          0.4 Current #.....          4
Interval Maximum.          1  Current %.....          4.0
Interval Average.          1  Interval Maximum.          4
-Threads/Process--
MAXTHREADTASKS...          500 Intvl Exceed Cnt.          0
MAXTHREADS.....          10000 Intvl Exceed Rate          0.00
----MMap Pages----
MAXMMAPAREA.....          40960 MAXPTYS.....          256
Current #.....          0 ---Remote TTYS----
Current %.....          0.0 MAXRTYS.....          256
Interval Maximum.          0 MAXFILESIZE.....          UNLIMITED
Interval Average.          0 MAXCORESIZE.....          4.0Mi
Intvl Exceed Cnt.          0 MAXASSIZE.....          1.0Gi
Intvl Exceed Rate          0.00 MAXCPUTIME.....          7200
----SharePages----
MAXSHAREPAGES....          131072 --Shared Lib Rgn--
Current #.....          5284 MAXSHRLIBRGN.....          64
Current %.....          4.0 Current #.....          0
Interval Maximum.          5284 Interval Maximum.          0
Interval Average.          5284 Interval Average.          0
Intvl Exceed Cnt.          0 Intvl Exceed Cnt.          0
Intvl Exceed Rate          0.00 Intvl Exceed Rate          0.00
----QueuedSigs----
MAXQUEUEDSIGS....          1000 --SharedLibPages--
Intvl Exceed Cnt.          0 SHRLIBMAXPAGES...          4096
Intvl Exceed Rate          0.00

```

The BPXPRM view lists the UNIX system parameter settings, current counts, and number of attempts to exceed limits.

Step 2 To find out additional information, such as shared memory data or semaphores activity, display the IPCBXPX view by typing **IPCBXPX** on the **COMMAND** line, as shown in Figure 3-11.

Figure 3-11 IPCBXPX View

```

DDMMYYYY   HH:MM:SS  ----- MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS -----
COMMAND ==>                                     SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
W1 =IPCBXPX=====SJSC=====*=====DDMMYYYY==HH:MM:SS====MVUSS====D====1
System Name.....      SJSC
Sysplex Name.... BBPLEX01  Change Config..
-Msg Queue Ids..      -Shr Mem Segmnts          -Semaphore Sets.
IPCMSGNIDS.....      20000 IPCSHMNIDS.....      20000 IPCSEMNIIDS.....      20000
Current #.....        6 Current #.....        0 Current #.....        0
Current %.....        0.0 Current %.....        0.0 Current %.....        0.0
Interval Max...       6 Interval Max...       0 Interval Max...       0
Interval Avg...       6 Interval Avg...       0 Interval Avg...       0
Intvl Exceed Ct       0 Intvl Exceed Ct       0 Intvl Exceed Ct       0
Intvl Exceed Rt       0 Intvl Exceed Rt       0 Intvl Exceed Rt       0
-Messages/Msg Q.      -Shrd Mem Pages.      -Semaphores/Set.
IPCMSGQNUM....       10000 IPCSHMSPAGES...      262144 IPCSEMNSEMS....       25
-Bytes/Msg Queue      Current #.....        0 -Semaphores Ops.
IPCMSGQBYTES...      262144 Current %.....        0.0 IPCSEMNOPS.....      32767
Interval Max...       0
Interval Avg...       0
Intvl Exceed Ct       0
Intvl Exceed Rt       0
-ShrMemPags/Sgmt
IPCSHMMPAGES...      25600
-Segmnts/AddrSpc
IPCSHMNSEGS....      1000

```

How to Dynamically Change Parameter Settings

The BPXPRM and IPCBPXP views each have a hyperlink field called **Change Config** (see Figure 3-10 on page 3-13 and Figure 3-11 on page 3-14). This hyperlink goes to the panel that is shown in Figure 3-12.

Figure 3-12 Change UNIX Configuration Settings Panel

```

----- Change UNIX Configuration Settings -----
COMMAND ==>
Change one or more of the following limits.

MAXASSIZE          1073741824      IPCMSGQBYTES      2147483647
MAXCORESIZE        4194304         IPCMSGNIDS         500
MAXCPUPTIME        7200           IPCMSGQNUM        10000
MAXFILEPROC        256
MAXFILESIZE        UNLIMITED      IPCSEMNUM         500
MAXMMAPAREA        40960          IPCSEMSEMS        1000
MAXPROCSYS         200           IPCSEMNOPTS       25
MAXPROCUSER        100
MAXPTY             256           IPCSHMNUM         500
MAXQUEUEDEDSIGS   1000          IPCSHMMPAGES      8192
MAXSHAREPAGES     131072         IPCSHMNSEGS       500
MAXTHREADS         10000        IPCSHMSPAGES      262144
MAXTHREADTASKS    500
MAXUIDS            200
SHRLIBRGNSIZE     67108864        SHRLIBMAXPAGES    4096

Type END to modify any changed values,
      CANCEL to quit without making changes.

```

This panel is an ISPF panel. You can type over any value, and MAINVIEW for UNIX System Services will issue a SETOMVS operator command to change the setting when you type **END**.

Using User Views

The MAINVIEW for UNIX System Services product includes a series of user views that show you such things as the length of time that a user has been logged in for a single session, the number of processes that a user has running, or whether a user is currently idle.

To see the processes based on the user IDs, follow these steps:

Step 1 On the **COMMAND** line, type **USROVERZ**.

The USROVERZ view is displayed, as shown in Figure 3-13.

Figure 3-13 USROVERZ View

```

DDMMYYYY  HH:MM:SS ----- MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS -----
COMMAND  ===>                                     SCROLL ===> PAGE
CURR WIN ===> 1          ALT WIN ===>
W1 =USROVERZ=====SJSC=====DDMMYYYY==HH:MM:SS===MVUSS===D===10
SAF      Total Total Total Total  Sys Call Interval#  Avg#  Max#
Userid   Dly%  Run%  Zomb% Othr%   Rate Sys Calls  VNodes Vnodes
BITSTC   100.0  0.00  0.00  0.00   0.00000      0  0.00    0
BOLSTC   100.0  0.00  0.00  0.00   0.00000      0  0.00    0
IBMUSER   66.67  0.00  0.00 33.33   0.00000      0  0.00 200000
MQSSTC   12.50 87.50  0.00  0.00   0.00000      0  0.00    0
MVSSTC    0.00 100.0  0.00  0.00   3.45255    4622  0.00    0
NFSSTC   15.38 15.38  0.00 69.23   0.00155      9  0.00 200000
OLTSTC   50.00 50.00  0.00  0.00   0.18040     161  0.00    0
PASSTC    0.00 100.0  0.00  0.00   0.49973     446  0.00    0
TSGSTC   50.00 50.00  0.00  0.00   0.78489    1401  0.00    0
WEBSRV   42.86 57.14  0.00  0.00   0.15270     477  0.00    0

```

The USROVERZ view displays all information for a user session. After looking at USROVERZ, you might want to know which sessions the data is from.

Step 2 To hyperlink to the USRSESSZ view, place your cursor on a member of the **SAF Userid** field.

The USRSESSZ view is displayed, as shown in Figure 3-14 on page 3-17.

Figure 3-14 USRSESSZ View

```

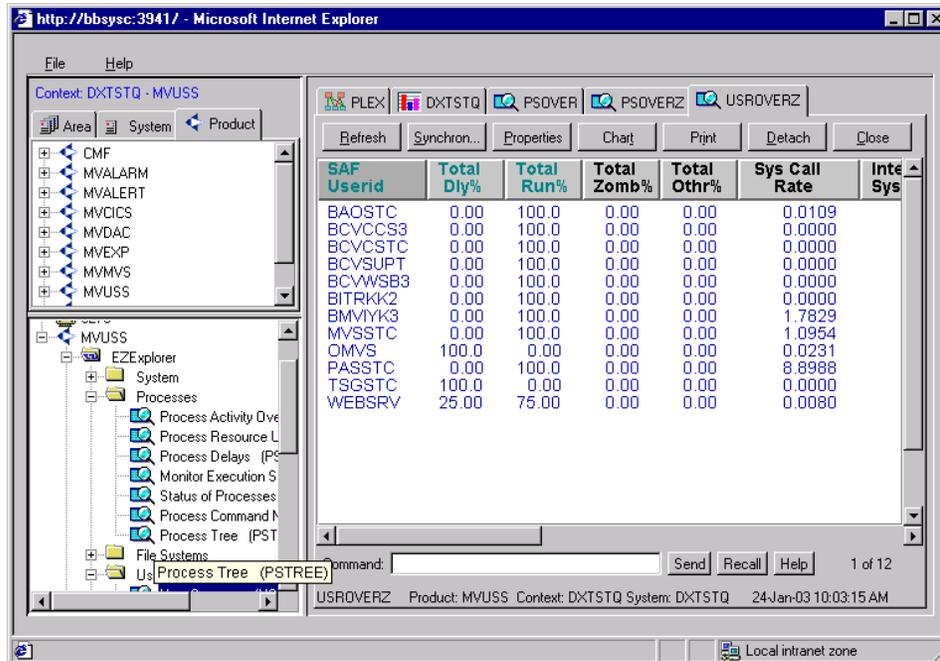
DDMMYYYY  HH:MM:SS ----- MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS -----
COMMAND ===>
CURR WIN ===> 1          ALT WIN ===>
W1 =USROVERZ=USRSESSZ=SJSC=====*=====DDMMYYYY==HH:MM:SS==MVUSS====D====2
SAF      Session Total Total Total Total Sys Call Interval# Avg# Max#
Userid   ID      Dly% Run%  Zomb% Othr%   Rate Sys Calls VNodes Vnodes
IBMUSER      6 100.0 0.00 0.00 0.00 0.00000      0 0.00 0
IBMUSER  33554436 0.00 0.00 0.00 100.0 0.00000      0 0.00 0
IBMUSER      1 100.0 0.00 0.00 0.00 0.00000      0 0.00 20000

```

The USRSESSZ view provides both the user ID and session ID for the processes.

Note: If MAINVIEW Explorer is installed on your system, you can access MAINVIEW for UNIX System Services views through a web browser. For example, Figure 3-15 illustrates the USROVERZ view accessed in this manner. Refer to *Using MAINVIEW* for information about using MAINVIEW Explorer to access MAINVIEW products.

Figure 3-15 USROVERZ View Accessed Using MAINVIEW Explorer



Chapter 4 Displaying Historical Data

The MAINVIEW for UNIX System Services product offers a version of data called historical data, which is described in this chapter. Historical data shows you the system as it existed an hour ago, yesterday, last week, last month, or last year.

This chapter includes the following topics:

| | |
|---|------|
| Determining Data Availability | 4-2 |
| Using the TIME Command. | 4-3 |
| Displaying Data from Multiple Intervals | 4-7 |
| Moving Quickly between Intervals. | 4-12 |
| Understanding the Time and Duration Fields. | 4-14 |
| Determining When Data Was Collected. | 4-15 |

Historical data consists of your data from a specified recent interval and its preceding intervals. Using the **TIME** command, you can specify intervals from any time frame for which data exists on your system. You can also use certain fields to determine when the data was collected and to hyperlink to particular time frames.

Determining Data Availability

When you need historical data, you must make sure that the data is available in one of the currently allocated historical data sets.

» To see available historical data, type **DSL** on the **COMMAND** line.

The **DSL** view is displayed, as shown in Figure 4-1.

Figure 4-1 DSL View

```
DDMMYYYY  HH:MM:SS  ----- MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS -----
COMMAND  ===>
CURR WIN  ===> 1      ALT WIN  ===>
>W1 =DSL:=====SJC=====*=====DDMMYYYY==HH:MM:SS====MVUSS====D====3
C DDNAME  From Date  Time  To Date  Time  Rec Status Pending  Data set name
-----
HISTDS02 22SEPYYYY 09:45 22SEPYYYY 11:45 Yes Active ***** BB.ENGK.IMAGSY
HISTDS01 21SEPYYYY 17:45 22SEPYYYY 09:45 Yes Closed ***** BB.ENGK.IMAGSY
HISTDS03 20SEPYYYY 21:45 21SEPYYYY 17:45 Yes Closed ***** BB.ENGK.IMAGSY
```

You should check **DSL** before using the **TIME** command because if you specify the **TIME** command for an unavailable date and time, you will get an error message.

Data from recording intervals between **From Date** and **To Date** might not be available for any of the following reasons:

- Data was not collected.
- Data is offline.
- Data was overwritten by new data.
- Data set has an error.

If you do not see the date or time that you want on the **DSL** view, the data set that you need might have been archived either on tape or in an offline data set. It can also mean that the data has been purged. To find out, see your product administrator. (If you are the administrator, see the discussion of archiving and retrieving historical data in the *MAINVIEW Administration Guide*.)

Using the TIME Command

You use the TIME command to specify the intervals of historical data that you want to display. The syntax for the command is

```
TIME [date time [duration | NEXT | PREV]] [dowMask todMask]
```

where *date* and *time* specify the date and time at the end of the interval at which you want to look (an interval being a 15-minute period). For example, to see data that was collected between 9:00 and 10:00, specify 10:00 as the time and 4I as the number of intervals (duration).

An alternate way to use the TIME command is to type **TIME** on the **COMMAND** line and press **Enter**. This action opens the Set Time Frame dialog box, as shown in Figure 4-2.

Figure 4-2 Set Time Frame Dialog Box

```
DDMMYYYY  HH:MM:SS ----- MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS -----
COMMAND  ==>                                     SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
>W1 =FSMOUNTZ=====SYSE====*=====DDMMYYYY==HH:MM:SS====MVUSS====D===30

----- SET TIME FRAME -----
COMMAND  ==>
Requested Time Frame:
End Date ==> *          (*, =, or ddmmYYYY)
End Time ==> *          (*, =, or hh:mm)
Duration ==> 1I        (*, =, NEXT, PREV, TODAY, MONTH,
                        nnnnI, nnnnM, nnnnH, nnnD, or nnW)
DOW Mask ==> EVERYDAY  (EVERYDAY, WEEKDAYS, WEEKENDS)
TOD Mask ==> ALLDAY    (ALLDAY, PRIMESHIFT, SWINGSHIFT,
                        GRAVEYARDSHIFT)

Data in the Requested Time Frame:
Interval ==> 1M        (Length, in minutes, of one interval)
End Date ==> 16SEPYYYY (End date of data)
End Time ==> 15:44     (End time of data)
Duration ==> 1M        (Minutes spanned by data)
DOW Mask ==> EVERYDAY  (Day-of-week mask)
TOD Mask ==> ALLDAY    (Time-of-day mask)

Type END to set the window's requested time frame
CANCEL to quit without setting
```

The default values (which specify current interval, not historical mode) are

- today's date
- current time
- duration of one recording interval
- day-of-week mask set to EVERYDAY
- time-of-day mask set to ALLDAY

To Look at Historical Data

In the Set Time Frame dialog box:

1. Change the value for **End Date**.
2. Change the value for **End Time**.
3. Change the value for **Duration**.
4. To specify the desired days and shifts, type over the current DOW Mask and TOD Mask.
5. To return to the view, press **PF3**.

Here is an example using the TIME command with date and time parameters:

Step 1 Display the FSMOUNTZ view.

Step 2 To open a second window:

2.A On the **COMMAND** line, type **HS**.

2.B Position the cursor where you want the next view to appear, and then press **Enter**.

The view splits horizontally, as shown in Figure 4-3.

Figure 4-3 FSMOUNTZ with an Open Window

```

17MARYYYY 15:36:32 ----- MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS -----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 2 ALT WIN ==>
>W1 -FSMOUNTZ-----SJSC-----*-----17MARYYYY--15:36:32---MVUSS---D---6
C File System Dataset Name Type FS Read Total %Blks %B
- -----
*AMD/u MVS AUTO No 1 0.00
SYSI.IBMOEM.SMS.OS280.SJSC.OMVS.ROOT MVS HFS No 198000 21.78
SYSI.IBMOEM.SMS.SYSC.USER.HFS MVS HFS No 63000 45.43
SYSI.IBMCI13.SMS.SYSC.USERLIB MVS HFS No 3600 52.17
SYSI.IBMOEM.SMS.USSMON.HFS MVS HFS No 45000 61.05
SYSI.IBMOEM.SMS.OS280.SJSC.ETC MVS HFS No 10800 97.65

T2 =====

```

In the window information line, the current time is displayed as 15:36:32.

Step 3 Display FSMOUNTZ in window 2.

Note: Make sure that yesterday's date and time are contained in one of the currently allocated historical data sets.

Step 4 On the **COMMAND** line, type **TIME** to set the time frame for window 2.

The Set Time Frame dialog box is displayed, as shown in Figure 4-4.

Figure 4-4 Setting the Time Using the Set Time Frame Dialog Box

```

17MARYYYY 15:36:32 ----- MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS -----
COMMAND ==>
CURR WIN ==> 2          ALT WIN ==>
>W1 -FSMOUNTZ-----SJSC-----*-----17MARYYYY--15:36:32---MVUSS---D---6

----- SET TIME FRAME -----
COMMAND ==>

Requested Time Frame:
  End Date ==> *          (*, =, or ddmmmyyyy)
  End Time ==> *          (*, =, or hh:mm)
  Duration ==> 1I        (*, =, NEXT, PREV, TODAY, MONTH,
                        nnnnI, nnnnM, nnnnH, nnnD, or nnW)
  DOW Mask ==> EVERYDAY  (EVERYDAY, WEEKDAYS, WEEKENDS)
  TOD Mask ==> ALLDAY    (ALLDAY, PRIMESHIFT, SWINGSHIFT,
                        GRAVEYARDSHIFT)

Data in the Requested Time Frame:
  Interval ==> 15M        (Length, in minutes, of one interval)
  End Date ==> 16MARYYYY (End date of data)
  End Time ==> 16:50     (End time of data)
  Duration ==> 15M        (Minutes spanned by data)
  DOW Mask ==> EVERYDAY  (Day-of-week mask)
  TOD Mask ==> ALLDAY    (Time-of-day mask)

Type END to set the window's requested time frame

```

Step 5 In the **End Date** field, type yesterday's date.

In this example, yesterday's date was March 16.

Note: Be sure to specify the date in the same format as the date in the upper left-hand corner of your panel (for example, 16MARYYYY).

Step 6 To return to the two-window view, press **PF3**. The resulting two versions of FSMOUNTZ can be seen in Figure 4-5 on page 4-6.

Figure 4-5 FSMOUNTZ in Two Time Periods

```

17MARYYYY 15:38:12 ----- MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS -----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 2 ALT WIN ==>
>W1 -FSMOUNTZ-----SJSC-----*-----17MARYYYY--15:36:32---MVUSS---D---
C File System Dataset Name Type FS Read Total %Blks %
- -----
*AMD/u MVS AUTO No 1 0.00
SYSI.IBMOEM.SMS.OS280.SJSC.OMVS.ROOT MVS HFS No 198000 21.78
SYSI.IBMOEM.SMS.SYSC.USER.HFS MVS HFS No 63000 45.43
SYSI.IBMCIC13.SMS.SYSC.USERLIB MVS HFS No 3600 52.17
SYSI.IBMOEM.SMS.USSMON.HFS MVS HFS No 45000 61.05
SYSI.IBMOEM.SMS.OS280.SJSC.ETC MVS HFS No 10800 97.65
>H2 =FSMOUNTZ=====SJSC=====16MARYYYY==17:00:00====MVUSS====D====
C File System Dataset Name Type FS Read Total %Blks %
- -----
*AMD/u MVS AUTO No 1 0.00
SYSI.IBMCIC13.SMS.SYSC.USERLIB MVS HFS No 1800 19.44
SYSI.IBMOEM.SMS.OS280.SJSC.OMVS.ROOT MVS HFS No 198000 21.78
SYSI.IBMOEM.SMS.SYSC.USER.HFS MVS HFS No 63000 45.43
SYSI.IBMOEM.SMS.USSMON.HFS MVS HFS No 45000 61.05
SYSI.IBMOEM.SMS.OS280.SJSC.ETC MVS HFS No 10800 97.65

```

In Figure 4-5, one version shows FSMOUNTZ as the system exists at this moment and the other version is FSMOUNTZ as it existed yesterday at the same time. Notice that the time for window 2 is actually 17:00, which is when the interval ended. With the two intervals displayed on the same screen, it is easy to compare the two versions to see whether a perceived problem is a regular occurrence or just an abnormality.

Note: Notice that the window status indicator for window 2 changed from W2 to H2. The H stands for *historical data*.

Step 7 Press **Enter**.

Notice that, although the data in window 1 is updated, the data in window 2 is not updated. Historical data cannot be updated because it represents the system at a fixed point in time.

Note: After you have used the TIME command or the Set Time Frame dialog box for a window, all of the views that are sent to that window reflect the system as it existed at the date and time that you specified. This condition remains true until you issue another TIME command, close the window, or press **PF3**.

For more examples of using the TIME command, see the *MAINVIEW for UNIX System Services User Guide and Reference*.

Displaying Data from Multiple Intervals

With the TIME command, you can look at data as it existed at the end of an interval. If you want to see data spanning a greater period of time, you can use the TIME duration parameter along with the date and time parameters.

The syntax for the TIME command is

```
TIME [date time [duration | NEXT | PREV]] [dowMask todMask]
```

where *duration* is the period of time over which you want to draw data.

The syntax for the duration parameter is

```
nnnnu
```

where

| | |
|-------------|---|
| <i>nnnn</i> | Indicates the number of hours, minutes, or intervals in the duration. |
| <i>u</i> | Indicates the unit of time: |
| | I (intervals) |
| | M (minutes) |
| | H (hours) |
| | D (up to 416 days) |
| | W (up to 59 weeks) |

Parameter values include

| | |
|---------------|--|
| TODAY OR TDAY | Specifies today's intervals since midnight. |
| MONTH | Specifies one month. |
| * | Changes the duration back to the default value, which is one interval. |
| = | Keeps the duration at its current value. |

Note: You can use an asterisk (*) or an equal (=) sign in place of the time, date, or duration parameters. An asterisk means that you want to return to the default value, which is the current date and time or one interval. An equal sign means that you want to keep whatever was previously specified.

Suppose you get a phone call from someone complaining that a process was using an excessive amount of resources between 9:45 A.M. and 10:00 A.M. today. The process tends to demonstrate the same amount of resource usage each day, so the complaint indicates a potential problem.

To see whether a problem existed yesterday at the same time, compare today's processes with command names beginning with CSQ between 9:45 A.M. and 10:00 A.M. to yesterday's processes with command names beginning with CSQ between 9:45 A.M. and 10:00 A.M. Perhaps something occurs regularly during this period that would explain the spike.

To Do a Comparison

Step 1 To clear the screen, type **RESet**.

Determine what the system was doing today between 9:45 A.M. and 10:00 A.M.

Step 2 To set the interval for window 1, type **PSUSE** on the **COMMAND** line and press **Enter**.

Because so many processes are listed, you decide to focus on the processes whose command names begin with CSQ*.

Step 3 On the **COMMAND** line, type **PSUSE CSQ*** and press **Enter**.

Only the processes with command names beginning with CSQ are displayed.

Step 4 On the **COMMAND** line, type the following command and press **Enter**:

```
TIME * 10:00 11
```

where

* indicates that you want today's date

10:00 11 indicates that you want to summarize data for the one interval period (11) ending at 10:00 A.M.

Step 5 Type **INclude TIme** and press **Enter**.

The displayed panel looks like Figure 4-6 on page 4-9.

Figure 4-6 PSUSE with a Duration of One Interval

```

DDMMYYYY  HH:MM:SS ----- MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS -----
COMMAND ==>>                               SCROLL ==>> PAGE
CURR WIN ==>> 1           ALT WIN ==>>
>H1 =PSUSE=====SJSC=====*=====DDMMYYYY==HH:MM:SS==MVUSS==D====8
C  ProcessId Intvl Command Elapsed Jobname Running % Sys Call Int
- - - - - Time- Name ProcTime - - - - - 0...50...100 Rate Sys
      63 10:00 CSQXJST 02:10:25 CSQACHIN 100.0 ***** 0.00000
      64 10:00 CSQXDISP 02:10:25 CSQACHIN 100.0 ***** 0.00000
      65 10:00 CSQXDISP 02:10:25 CSQACHIN 100.0 ***** 0.00000
      66 10:00 CSQXDISP 02:10:25 CSQACHIN 100.0 ***** 0.00000
      67 10:00 CSQXDISP 02:10:25 CSQACHIN 100.0 ***** 0.00000
      68 10:00 CSQXDISP 02:10:25 CSQACHIN 100.0 ***** 0.00000
      70 10:00 CSQXTNSV 02:10:25 CSQACHIN 100.0 ***** 0.00000
      69 10:00 CSQXRCTL 02:10:25 CSQACHIN 0.00 0.00000
    
```

Several things are important to note about this panel:

- One row of data is returned for each entity.
- The **Intvl Time** field indicates the ending time of the data collection interval for every row.

Note: To always display the **Intvl Time** field, refer to “To Automatically Include the Intvl Time Field” on page 4-11.
- The time field on the window information line contains the time that the specified interval ended.
- Because you are only studying one interval, no duration field is included. If you were looking at a longer period of time (for example, one hour), the duration field on the window information line would indicate how many minutes were spanned by the data in the view. For example, if you specified 1 hour, 4 intervals would be available. Because each interval is fifteen minutes, the number of minutes is 60 (60M).
- An arrow appears at the beginning of the window information line to indicate that the fields that were pushed to the right by the **Intvl Time** field are still available by scrolling.

- Step 6** Open a second window so that you can see what the CSQ processes were doing yesterday between 9:45 A.M. and 10:00 A.M.
- Step 7** Check to make sure that yesterday’s date and time are contained in one of the currently allocated historical data sets.
- Step 8** Display PSUSE in window 2.

Step 9 On the **COMMAND** line, type **TIME**.

The Set Time Frame dialog box appears, as shown in Figure 4-7.

Figure 4-7 Changing the Date in the Set Time Frame Dialog Box

```

DDMMYYYY  HH:MM:SS ----- MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS -----
COMMAND  ==>>                                     SCROLL ==>> PAGE
CURR WIN ==>> 2           ALT WIN ==>>
>H1 -PSUSE-----SJSC-----*-----DDMMYYYY==HH:MM:SS----MVUSS----D----8

----- SET TIME FRAME -----
COMMAND  ==>>

Requested Time Frame:
End Date ==>> 16MARYYYY      (*, =, or ddmmmyyyy)
End Time ==>> 10:00         (*, =, or hh:mm)
Duration ==>> 1I           (*, =, NEXT, PREV, TODAY, MONTH,
                           nnnnI, nnnnM, nnnnH, nnnD, or nnW)
DOW Mask ==>> EVERYDAY      (EVERYDAY, WEEKDAYS, WEEKENDS)
TOD Mask ==>> ALLDAY        (ALLDAY, PRIMESHIFT, SWINGSHIFT,
                           GRAVEYARDSHIFT)

Data in the Requested Time Frame:
Interval ==>> 15M           (Length, in minutes, of one interval)
End Date ==>> 17MARYYYY      (End date of data)
End Time ==>> 17:13         (End time of data)
Duration ==>> 15M           (Minutes spanned by data)
DOW Mask ==>> EVERYDAY      (Day-of-week mask)
TOD Mask ==>> ALLDAY        (Time-of-day mask)

Type END to set the window's requested time frame
Type CANCEL to quit without setting
    
```

Step 10 In the Set Time Frame dialog box, change the date to yesterday's date.

Note: When changing the date, follow the format in the parentheses to the right of the field.

Step 11 Verify that **End Time** is still 10:00.

Step 12 Press **PF3** to return to the main window.

Step 13 Type **INclude TIME** and press **Enter**.

Step 14 Study the panel to determine whether there was also high resource usage for the processes running the CSQ command yesterday between 9:45 A.M. and 10:00 A.M. and try to determine the cause of the activity.

Note: Pay particular attention to the **Sys Call Rate** column. A higher system call rate indicates greater resource usage.

To Automatically Include the Intvl Time Field

If you want to automatically include the **Intvl Time** field in every view, complete the following steps:

- Step 1** From the MAINVIEW Selection Menu, select Option **0 Parameters and Options**.
- Step 2** From the Terminal Session Parameter Select Menu, select Option **1 Windows Mode**.
- Step 3** From the MAINVIEW Parameter Editors Menu, select Option **2 Display**.
- Step 4** Press **Tab** to move to the **Show Time** field.
- Step 5** Type **Y**.
- Step 6** To save your updates, press **End**.

To hide the field from views when you do not want it displayed, type **EXclude TIME** on the **COMMAND** line. To redisplay the field, type **INclude TIME**.

Note: If you want to see the date on which the data was gathered, use the **INclude DATE** command to reveal the **Intvl Date** field. This command is primarily useful if your time frame spans more than a 24-hour period.

Moving Quickly between Intervals

In order to effectively compare intervals and associated system performances, you must be able to move quickly between intervals to determine how long an abnormal activity lasted or what intervals it affected. You can use the **NEXT** and **PREV** parameters to move quickly between intervals.

Both **NEXT** and **PREV** use the duration that was last specified to move the interval either forward (**NEXT**) or backward (**PREV**) by the same amount.

To Move the Intervals

For example, you might notice something while studying **PSUSE** and want to see what the system was doing in the previous interval.

- Step 1** Split the window horizontally.
- Step 2** In window 2, display **PSUSE**.
- Step 3** On the **COMMAND** line, type **TIME = = PREV** and press **Enter**.

Note: Be sure to insert a space between each parameter.

The panel looks like Figure 4-8 on page 4-13.

Figure 4-8 Using TIME PREV to Cycle through Intervals

```

DDMMYYYY  HH:MM:SS ----- MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS -----
COMMAND ==>>                                     SCROLL ==>> PAGE
CURR WIN ==>> 2          ALT WIN ==>>
>W1 -PSUSE-----SJSC-----*-----DDMMYYYY--17:41:15----MVUSS----D---44
C ProcessId Command Elapsed Jobname          Running %          Sys Call Interval#
- - - - - Name ProcTime - - - - - 0...50...100 Rate Sys Calls
      8 EZBTCPIP 17:28:11 DC$TCPIP 100.0 ***** 0.00000 0
      9 EZBTSSL 17:28:06 DC$TCPIP 100.0 ***** 0.00000 0
     10 EZBTMCTL 17:28:05 DC$TCPIP 100.0 ***** 0.00000 0
     27 TCPMOMVS 17:27:59 XTSTIPAS 100.0 ***** 0.99173 681
     30 BBM9SZ20 17:27:46 DC$PAS 100.0 ***** 3.01159 2068
     63 CSQXJST 09:52:01 CSQACHIN 100.0 ***** 0.00000 0
     64 CSQXDISP 09:52:01 CSQACHIN 100.0 ***** 0.00000 0
     65 CSQXDISP 09:52:01 CSQACHIN 100.0 ***** 0.00000 0
     66 CSQXDISP 09:52:01 CSQACHIN 100.0 ***** 0.00000 0
>H2 =PSUSE=====SJSC=====*=====DDMMYYYY==17:30:03====MVUSS====D===47
C ProcessId Command Elapsed Jobname          Running %          Sys Call Interval#
- - - - - Name ProcTime - - - - - 0...50...100 Rate Sys Calls
      8 EZBTCPIP 17:16:44 DC$TCPIP 100.0 ***** 0.00000 0
      9 EZBTSSL 17:16:39 DC$TCPIP 100.0 ***** 0.00000 0
     10 EZBTMCTL 17:16:38 DC$TCPIP 100.0 ***** 0.00000 0
     27 TCPMOMVS 17:16:32 XTSTIPAS 100.0 ***** 0.99221 897
     30 BBM9SZ20 17:16:19 DC$PAS 100.0 ***** 3.28857 2973
     63 CSQXJST 09:40:34 CSQACHIN 100.0 ***** 0.00000 0
     64 CSQXDISP 09:40:34 CSQACHIN 100.0 ***** 0.00000 0
     65 CSQXDISP 09:40:34 CSQACHIN 100.0 ***** 0.00000 0
     66 CSQXDISP 09:40:34 CSQACHIN 100.0 ***** 0.00000 0
     67 CSQXDISP 09:40:34 CSQACHIN 100.0 ***** 0.00000 0
     68 CSQXDISP 09:40:34 CSQACHIN 100.0 ***** 0.01659 15
     70 CSQXTNSV 09:40:34 CSQACHIN 100.0 ***** 0.00000 0
     76 TCPMHFSS 07:18:11 XTSTJPAS 100.0 ***** 0.00221 2
    16777218 GFSCMAIN 17:16:32 DC$NFSC 100.0 ***** 0.00000 0
    16777219 BPXVCLNY 17:16:33 DC$NFSC 100.0 ***** 0.00000 0

```

The current window was set to 2, so check the window 2 information line. It now shows 17:30, while window 1 shows 17:41.

In this example, you compared the current time to a previous time. You can also compare two historical times and continue to type NEXT and PREV to move around the different intervals.

Note: If you are looking at the current time, you cannot look at the NEXT time because no data has been created yet.

You might want to define a PF key to TIME == PREV or TIME == NEXT so that you can step through subsequent intervals in historical mode with a single key to access the data more quickly.

Understanding the Time and Duration Fields

You might find that the time and duration fields on the window information line do not always contain the values that you expect. The fields reflect the actual displayed data, which might not be the same as what you requested on the TIME command.

For example, if it is 9:00 A.M. and you want to look at PSOVERZ to determine which processes were active between 5:00 A.M. and 8:00 A.M. this morning, display PSOVERZ, and then type this command:

TIME * 8:00 3h

After doing so, you expect the window information line to look like this:

```
>W1 =PSOVERZ=====SJSC=====*****14SEPYYYY==08:00=180M====MVUSS====D==59=====
```

8:00 is the last interval in the duration that you requested; the three-hour period that you are interested in is equivalent to 180 minutes.

However, the window information line actually looks like this:

```
>W1 =PSOVERZ=====SJSC=====*****14SEPYYYY==07:15=115M====MVUSS====D==59=====
```

Data is not always available for the intervals that you request. Sometimes the PAS is shut down in the middle of a recording interval. These kinds of events create gaps in the data that is recorded to the historical data set. The data that appears on the window information line represents the data that is *actually displayed*.

In our example, 7:15 A.M. was the last interval within the interval for which data was recorded. No data was recorded at 7:30 A.M., 7:45 A.M., and 8:00 A.M., so the window information shows 7:15 A.M. instead of 8:00 A.M.

Some other gaps might exist in the record between 5:15 A.M. and 7:15 A.M. If so, the gaps were too short to have a significant impact on the displayed data. MAINVIEW makes adjustments so that you get the most accurate picture possible of the data that is actually displayed in the view.

Note: The time field always contains the end of the last interval for which data was available, and the number of intervals for which data was actually available (normalized over the time frame that you requested).

Determining When Data Was Collected

When viewing summary data (represented by views ending with the letter Z) or most kinds of tabular data, you can easily determine when the data was collected. The **Intvl Time**, **Interval Date**, and **Hr** (Hour) fields contain this information. However, they are excluded from the views by default.

Note: Historical data is available for any tabular view whose data is written to historical data sets. For more details, see the *MAINVIEW for UNIX System Services User Guide and Reference*.

To Display the Intvl Time, Interval Date, and Hr Fields

Step 1 On the **COMMAND** line, type **PSOVER** and press **Enter**.

The **PSOVER** view is displayed.

Step 2 On the **COMMAND** line, type **CUST** and press **Enter** to enter the View Customization facility.

Step 3 On the **COMMAND** line, type **E** and press **Enter**.

The excluded fields are now included, as shown in Figure 4-9 on page 4-16.

Figure 4-9 PSOVER View with Time, Date, and Hour Fields Included

```

----- VIEW CUSTOMIZATION - PSOVER -----
OPTION ==> E                                SCROLL ==> PAGE
Options: (that require column selection)    Other options:
F - Format      M - Move      I - Include      G - Graph      S - Save view
O - Order      R - Repeat    X - Exclude    P - Parameters E - Hide excluded
L - Filter     T - Threshold H - Hyperlink  Z - Summarize K - Show template

-----< Show excluded columns >-----
The view is now displaying all the excluded (or hidden) columns. Excluded
columns are marked with highlighted column letters. You can customize an
excluded column (for instance, place a filter on it). You may also make the
column permanently displayable by using the Include option.
If you select E - Hide excluded, the excluded columns will again be hidden.
-----
  A      B      C      D E      F      G      H      I      J
C ProcessId Interval Intvl Hr Command Elapsed Jobname Stepname Status Mul
- - - - - Date----- Time- -- Name      ProcTime -----
  1 09SEPYYYY 15:53 15 BPXPINPR 05:45:33 BPXOINIT BPXOINIT ACTIVE Yes
  6 09SEPYYYY 15:53 15 inetd    05:45:16 INETD4   BPXAS    ACTIVE No
  7 09SEPYYYY 15:53 15 EZACFALG 05:43:35 DC$TCPIP DC$TCPIP ACTIVE No
  8 09SEPYYYY 15:53 15 EZASASUB 05:43:35 DC$TCPIP DC$TCPIP ACTIVE No
  9 09SEPYYYY 15:53 15 EZBTMST  05:43:31 DC$TCPIP DC$TCPIP ACTIVE No
 11 09SEPYYYY 15:53 15 FTPD    05:43:19 FTPD1    BPXAS    ACTIVE No
 12 09SEPYYYY 15:53 15 BBM9SZ20 05:43:14 DC$PAS   PAS      ACTIVE Yes
16777218 09SEPYYYY 15:53 15 BBM9SZ20 05:43:47 DC$CAS   CAS      ACTIVE No
16777219 09SEPYYYY 15:53 15 EZBTCPIP 05:43:44 DC$TCPIP DC$TCPIP ACTIVE Yes
16777230 09SEPYYYY 15:53 15 BBM9SZ20 04:37:17 SVSGD6FT SVSGD6FT ACTIVE No
33554436 09SEPYYYY 15:53 15 EZBTMCTL 05:43:35 DC$TCPIP DC$TCPIP ACTIVE No
33554437 09SEPYYYY 15:53 15 EZBTTSSL 05:43:36 DC$TCPIP DC$TCPIP ACTIVE No
50331658 09SEPYYYY 15:53 15 BBM9SZ20 02:53:38 XJONLPAS XJONLPAS ACTIVE Yes
83886095 09SEPYYYY 15:53 15 BBM9SZ20 04:43:58 SVOS61FT SVOS61FT ACTIVE No

```

Columns B, C, and D display fields that are normally excluded. For more information about them, place your cursor on the desired column and press **PF1** (Help).

Intvl Time and **Interval Date** are dynamic fields that are displayed automatically under certain circumstances. For more information about dynamic fields, see Chapter 4, “Comparing Performances with Historical Data,” in the *MAINVIEW for UNIX System Services User Guide and Reference*.

Chapter 5 Customizing Views

You can use the View Customization feature to perform the following activities:

- create your own views by using MAINVIEW for UNIX System Services views as a base
- change the appearance and content of MAINVIEW for UNIX System Services views

This chapter includes the following topics:

| | |
|--|------|
| Creating a Partitioned Data Set | 5-2 |
| Creating Your Own View | 5-3 |
| Setting Hyperlinks | 5-9 |
| Including Excluded Fields | 5-12 |
| Renaming Fields | 5-15 |
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Creating a Partitioned Data Set

Before you begin to customize views, you need to create a standard partitioned data set called *userId.BBVDEF* to serve as your personal view library. Use a record format of fixed block (FB) and a record length of 80. If your prefix is different from your user ID, name the data set *prefix.userId.BBVDEF*.

If you use the MAINVIEW CLIST to access MAINVIEW for UNIX System Services, the data set that you just created will be allocated to your user address space because the BBVDEF attribute in the MAINVIEW CLIST procedure has been set to YES by your system administrator. If you use another access method, however, you must modify your TSO logon procedure so that it contains the following concatenation:

```
//BBVDEF DD DSN=userId.BBVDEF  
//          DD DSN=hiLevel.SBBVDEF
```

The *hiLevel.SBBVDEF* library contains customized views for use by everyone at your site. Your personal view library, *userId.BBVDEF*, is available only to your user ID.

Note: Your MAINVIEW for UNIX System Services product administrator maintains the *hiLevel.SBBVDEF* library; see your administrator if you want to contribute to the library.

This concatenation ensures that when you type a view on the **COMMAND** line, the MAINVIEW for UNIX System Services product looks for the view in your personal view library first, and then in the sitewide library, and finally in the MAINVIEW for UNIX System Services view distribution library.

Creating Your Own View

This section shows you how to create your own view, using the PSOVERZ view as a model. By placing a filter on the Process Group column, you can exclude any processes not belonging to that group.

Filters are created by supplying an operator (=, >, <, >=, <=, <>) and a constant in the **Filter** field. The combination of the operator and constant is called a *condition*. An asterisk (*) can be used as a wildcard character.

To Create Your Own View Using Filters

- Step 1** On the **COMMAND** line, type **RESet** and press **Enter** to clear the screen.
- Step 2** On the **COMMAND** line, type **PSOVERZ** and press **Enter**.

The PSOVERZ view is displayed, as shown in Figure 5-1.

Figure 5-1 Using the PSOVERZ View to Create Your Own View

```

DDMMYYYY   HH:MM:SS  -----  MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS  -----
COMMAND  ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =PSOVERZ=====SJSC=====*=====DDMMYYYY==HH:MM:SS====MVUSS====D===40
C ProcessId Command  Elapsed  Jobname  Stepname Multi- Total Total Total Total
- - - - - Name      ProcTime  - - - - - Thread  Dly%  Run%  Zomb%  Othr%
1  BPXPINPR  05:40:28  BPXOINIT  BPXOINIT  Yes   100  0.00  0.00  0.00
6  inetd    05:40:11  INETD4    BPXAS     No    0.00  0.00  0.00  100
7  EZACFALG 05:38:30  DC$TCPIP  DC$TCPIP  No    100  0.00  0.00  0.00
8  EZASASUB 05:38:30  DC$TCPIP  DC$TCPIP  No    100  0.00  0.00  0.00
9  EZBTMST  05:38:26  DC$TCPIP  DC$TCPIP  No    0.00  100  0.00  0.00
11 FTPD     05:38:14  FTPD1     BPXAS     No    100  0.00  0.00  0.00
12 BBM9SZ20 05:38:09  DC$PAS    PAS       Yes   0.00  100  0.00  0.00
16777218  BBM9SZ20 05:38:42  DC$CAS    CAS       No    0.00  100  0.00  0.00
16777219  EZBTCPIP 05:38:39  DC$TCPIP  DC$TCPIP  Yes   0.00  100  0.00  0.00
16777230  BBM9SZ20 04:32:12  SVSGD6FT  SVSGD6FT  No    0.00  100  0.00  0.00
33554436  EZBTMCTL 05:38:30  DC$TCPIP  DC$TCPIP  No    0.00  100  0.00  0.00
33554437  EZBTSSL  05:38:31  DC$TCPIP  DC$TCPIP  No    0.00  100  0.00  0.00
50331658  BBM9SZ20 02:48:33  XJONLPAS  XJONLPAS  Yes   0.00  100  0.00  0.00
83886095  BBM9SZ20 04:38:38  SVOS61FT  SVOS61FT  No    0.00  100  0.00  0.00

```

The PSOVERZ view provides a summarized view that you can use to analyze the performance and use of resources for the selected processes over multiple intervals.

In this example, the view will be filtered by the **Process Group** column.

Step 3 On the **COMMAND** line, type **CUSTom** and press **Enter**.

The **CUSTom** command invokes the View Customization facility, as shown in Figure 5-2.

Figure 5-2 View Customization Facility

```

----- VIEW CUSTOMIZATION - PSOVERZ -----
OPTION ==>>                                SCROLL ==>> CSR
Options: (that require column selection)      Other options:
F - Format      M - Move      I - Include      G - Graph      S - Save view
O - Order      R - Repeat    X - Exclude    P - Parameters E - Show excluded
L - Filter     T - Threshold  H - Hyperlink  Z - Summarize  K - Show template
-----

Some options ask you to select a target column. To do so, either type the
option with the column id on the OPTION line (as in: f e to format column E),
or type just the option, move the cursor to the target column and press ENTER.
Your changes are implemented every time you press ENTER. You can save the
modified view definition with any name you choose and specify where thresholds
-----

  A          C          D          E          F          H          I          J          K          L
C ProcessId Command Elapsed Jobname Stepname Multi- Total Total Total Total
- - - - - Name ProcTime - - - - - Thread Dly% Run% Zomb% Othr%
1 BPXPINPR 05:47:50 BPXOINIT BPXOINIT Yes 100 0.00 0.00 0.00
6 inetd 05:47:33 INETD4 BPXAS No 0.00 0.00 0.00 100
7 EZACFALG 05:45:52 DC$TCPIP DC$TCPIP No 100 0.00 0.00 0.00
8 EZASASUB 05:45:52 DC$TCPIP DC$TCPIP No 100 0.00 0.00 0.00
9 EZBTMST 05:45:48 DC$TCPIP DC$TCPIP No 0.00 100 0.00 0.00
11 FTPD 05:45:36 FTPD1 BPXAS No 100 0.00 0.00 0.00
12 BBM9SZ20 05:45:31 DC$PAS PAS Yes 0.00 100 0.00 0.00
16777218 BBM9SZ20 05:46:04 DC$CAS CAS No 0.00 100 0.00 0.00
16777219 EZBTCPIP 05:46:01 DC$TCPIP DC$TCPIP Yes 0.00 100 0.00 0.00
16777230 BBM9SZ20 04:39:34 SVSGD6FT SVSGD6FT No 0.00 100 0.00 0.00
33554436 EZBTMCTL 05:45:52 DC$TCPIP DC$TCPIP No 0.00 100 0.00 0.00
33554437 EZBTSSL 05:45:53 DC$TCPIP DC$TCPIP No 0.00 100 0.00 0.00
50331658 BBM9SZ20 02:55:55 XJONLPAS XJONLPAS Yes 0.00 100 0.00 0.00
83886095 BBM9SZ20 04:46:15 SVOS61FT SVOS61FT No 0.00 100 0.00 0.00

```

The top half of the view provides a list of customization options and instructions. The filter option is L.

The bottom half of the view contains a working version of the screen. Each column is identified by an alphabetic character at the top of the column.

If you press **PF11** to scroll to the right, you see the **Process Group** column, identified by R.

Step 4 On the **COMMAND** line, type **L R** and press **Enter** to begin the filtering process.

Step 5 Determine which Process Group you want to be listed.

For this example, 11 is the desired Process Group.

Step 6 In the **Filter condition** field, type =11.

Step 7 Press **Enter**.

Your results should appear similar to the screen that is shown in Figure 5-3.

Figure 5-3 Creating Your Own View

```

----- VIEW CUSTOMIZATION - PISOVERZ -----
OPTION ==> L                                SCROLL ==> CSR
Options: (that require column selection)    Other options:
F - Format      M - Move      I - Include      G - Graph      S - Save view
O - Order      R - Repeat    X - Exclude    P - Parameters E - Show excluded
L - Filter     T - Threshold  H - Hyperlink Z - Summarize K - Show template

-----< Filter - column: R element: PRGPGP >-----
Filter condition => R = 11
Parameter position => (optional: 1 to 8; blank means not used positionally)
A condition consists of the column id, an operator, and a value. This value
can be overridden by requesting this view with a keyword parameter (using the
element name as keyword) or a positional parameter (if you assign a position).
-----
  A      L      M      N      O      P      Q      R      S
C ProcessId Total Sys Call Latch Interval# Avg# Max# Process Pro
- ----- Othr% Rate Wait PID Sys Calls VNodes Vnodes Group Grou
          11 0.00 0.00000 0 0 0.00 0 11

```

In this example, the screen is still scrolled to the right, so that you can see the results of the filter. The view at the bottom of the customization screen has been updated and now lists only processes belonging to Process Group 11. The other processes are no longer listed.

Step 8 To exit View Customization, press **PF3**.

The Exit View Customization panel in the middle of the screen prompts you to save your changes. (See Figure 5-4 on page 5-6.)

Figure 5-4 Exit View Customization Panel

```

----- VIEW CUSTOMIZATION - PSOVERZ --- FILTERS WERE CHANGED
OPTION ==>
Options: (that require column selection)          Other options:
F - Format      M - Move          I - Include      G - Graph      S - Save view
O - Order      R - Repeat        X - Exclude      P - Parameters E - Show excluded
L - Filter     T - Threshold    H - Hyperlink   Z - Summarize K - Show template

-----< Exit View Customization >-----
View: PSOVERZ has been modified. Do you wish to save your changes?

Save changes ==> YES If you reply YES , you will be prompted for a view name.
                    If you reply NO , the view will appear in its original
                    state the next time you request the view by name.

-----
  A          L      M          N          O          P          Q          R          S
C ProcessId Total  Sys Call Latch   Interval#  Avg#    Max#    Process  Pro
- ----- Othr%      Rate Wait PID Sys Calls VNodes Vnodes      Group  Grou
          11  0.00  0.00000      0          0  0.00    0          11
    
```

To Save Your New View

Step 1 To select **YES** in the **Save changes** field, press **Enter**.

The Save View definition panel is displayed in the middle of the screen, as shown in Figure 5-5.

Figure 5-5 Save View Definition Panel

```

----- VIEW CUSTOMIZATION - PSOVERZ -----
OPTION ==>
Options: (that require column selection)          Other options:
F - Format      M - Move          I - Include      G - Graph      S - Save view
O - Order      R - Repeat        X - Exclude      P - Parameters E - Show excluded
L - Filter     T - Threshold    H - Hyperlink   Z - Summarize K - Show template

-----< Save View definition >-----
View name ==> PSOVERZ          This view definition will be saved as a member in
Replace ==> YES (Yes/No)      the data set allocated to DD statement BBVDEF .
Description ==> Overview of all processes      Dynamic fields ==> YES (Yes/No)
Summary View ==>              (for tabular view only)
Threshold Location ==> VIEW      (View/Central)
Press ENTER to save the view; enter END (PF3) to end without saving.

-----
  A          L      M          N          O          P          Q          R          S
C ProcessId Total  Sys Call Latch   Interval#  Avg#    Max#    Process  Pro
- ----- Othr%      Rate Wait PID Sys Calls VNodes Vnodes      Group  Grou
          11  0.00  0.00000      0          0  0.00    0          11
    
```

To save the view, you need to rename the view to a unique name that you can remember.

- Step 2** In the **View name** field, type a name for this view, such as RSOVERZ.
- Step 3** In the **Description** field, add a description for the view by typing over the existing description.
- Step 4** To return to PSOVERZ, press **Enter**.

The filters for the Process Group are still in effect. When you exit View Customization, your changes remain in the original view until you redisplay the view.

- Step 5** To return to the original PSOVERZ view, type **PSOVERZ** on the **COMMAND** line.
- Step 6** Press **Enter**.
- Step 7** To verify that RSOVERZ is now a part of your MAINVIEW for UNIX System Services view set, type **VIEWS R*** on the **COMMAND** line and press **Enter**.

The VIEWS command lists all views that are part of the MAINVIEW for UNIX System Services view set. By adding R* after the command, you limit the data to only those views that begin with R. (See Figure 5-6.)

Figure 5-6 Views Starting with R

```
DDMMYYYY  HH:MM:SS ----- MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS -----
COMMAND  ==>                               SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
W1 =VIEWS=====SJSC=====*=====DDMMYYYY==HH:MM:SS====MVUSS====D====2
C View Name Product Area Description
-----
REQSTAT  MVUSS  STATUS  Request status pending & complete
RSOVERZ  MVUSS  User    Customization of PSOVERZ
```

In this example, two views begin with R. The **Area** column of the Views window contains the value *User* for a user-created view and *STATUS* for a view that is distributed by MAINVIEW for UNIX System Services.

- Step 8** To verify that RSOVERZ contains the specified information, position your cursor on the RSOVERZ **View Name** field and press **Enter** to hyperlink to the RSOVERZ view.

RSOVERZ is displayed, as shown in Figure 5-7 on page 5-8.

Figure 5-7 RSOVERZ View

```

DDMMYYYY  HH:MM:SS ----- MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS -----
COMMAND ==>                                     SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
>W1 =RSOVERZ=====SJSC=====*=====DDMMYYYY==HH:MM:SS====MVUSS====D====1
C  ProcessId Interval#  Avg#  Max# Multi-  Process  Process  Parent
-  ----- Sys Calls VNodes Vnodes Thread  Group  Group(F) Process ID Pr
      11 0  0.00  0 No  10  10  1
    
```

The view looks correct.

Note: If you do not create your own library in which to store RSOVERZ, RSOVERZ will be stored in your sitewide library. If you do not allocate a library to your user address space, you will receive an error message.

Setting Hyperlinks

This section shows you how to create a hyperlink from a particular field in PSOVERZ to RSOVERZ, the view that you just created.

To Set the Hyperlink

Step 1 Display PSOVERZ, as shown in Figure 5-8.

Figure 5-8 Using the PSOVERZ View to Create a Hyperlink

```
DDMMYYYY   HH:MM:SS ----- MAINVIEW WINDOW INTERFACE(Vv.r.tmm)MVUSS -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =PSOVERZ=====SJSC=====*=====DDMMYYYY==HH:MM:SS====MVUSS====D====40
C  ProcessId Command  Elapsed  Jobname  Stepname  Multi-  Total  Total  Total  Total
-  -----  Name      ProcTime -----  -----  Thread  Dly%   Run%   Zomb%  Othr%
      1 BPXPINPR 06:00:19 BPXOINIT BPXOINIT Yes      100    0.00  0.00  0.00
      6 inetd    06:00:02 INETD4   BPXAS   No       0.00   0.00  0.00  100
      7 EZACFALG 05:58:21 DC$TCPIP DC$TCPIP No      100    0.00  0.00  0.00
      8 EZASASUB 05:58:21 DC$TCPIP DC$TCPIP No      100    0.00  0.00  0.00
      9 EZBTMST 05:58:17 DC$TCPIP DC$TCPIP No      89.0   100    0.00  0.00
     11 FTPD    05:58:05 FTPD1    BPXAS   No      100    0.00  0.00  0.00
     12 BBM9SZ20 05:58:00 DC$PAS   PAS     Yes     0.00   100    0.00  0.00
    16777218 BBM9SZ20 05:58:33 DC$CAS   CAS     No     0.00   100    0.00  0.00
    16777219 EZBTCPIP 05:58:30 DC$TCPIP DC$TCPIP Yes     0.00   100    0.00  0.00
    16777230 BBM9SZ20 04:52:03 SVSGD6FT SVSGD6FT No     0.00   100    0.00  0.00
    33554436 EZBTMCTL 05:58:21 DC$TCPIP DC$TCPIP No     0.00   100    0.00  0.00
    33554437 EZBTSSL 05:58:22 DC$TCPIP DC$TCPIP No     0.00   100    0.00  0.00
    50331658 BBM9SZ20 03:08:24 XJONLPAS XJONLPAS Yes     0.00   100    0.00  0.00
    83886095 BBM9SZ20 04:58:29 SVOS61FT SVOS61FT No     0.00   100    0.00  0.00
```

In Figure 5-8, you see that job name DC\$TCPIP with a Process ID of 9 has a **Total Dly%** value of 89%.

Step 2 To enter View Customization, type **CUSTOM** on the **COMMAND** line.

The View Customization - PSOVERZ panel is displayed, as shown in Figure 5-9 on page 5-10.

Figure 5-9 View Customization for PSOVERZ

```

----- VIEW CUSTOMIZATION - PSOVERZ -----
OPTION ==>>
Options: (that require column selection)      Other options:
F - Format      M - Move      I - Include      G - Graph      S - Save view
O - Order      R - Repeat      X - Exclude      P - Parameters E - Show excluded
L - Filter      T - Threshold H - Hyperlink  Z - Summarize  K - Show template

-----
Some options ask you to select a target column. To do so, either type the
option with the column id on the OPTION line (as in: f e to format column E),
or type just the option, move the cursor to the target column and press ENTER.
Your changes are implemented every time you press ENTER. You can save the
modified view definition with any name you choose and specify where thresholds
-----

```

| A | C | D | E | F | H | I | J | K | L |
|-----------|----------|----------|-----------|-----------|--------|-------|-------|-------|-------|
| ProcessId | Command | Elapsed | Jobname | Stepname | Multi- | Total | Total | Total | Total |
| Name | ProcTime | ----- | ----- | ----- | Thread | Dly% | Run% | Zomb% | Othr% |
| 1 | BXPINPR | 06:00:19 | BPXOINIT | BPXOINIT | Yes | 100 | 0.00 | 0.00 | 0.00 |
| 6 | inetd | 06:00:02 | INETD4 | BPXAS | No | 0.00 | 0.00 | 0.00 | 100 |
| 7 | EZACFALG | 05:58:21 | DC\$TCPIP | DC\$TCPIP | No | 100 | 0.00 | 0.00 | 0.00 |
| 8 | EZASASUB | 05:58:21 | DC\$TCPIP | DC\$TCPIP | No | 100 | 0.00 | 0.00 | 0.00 |
| 9 | EZBTMST | 05:58:17 | DC\$TCPIP | DC\$TCPIP | No | 89.0 | 100 | 0.00 | 0.00 |
| 11 | FTPD | 05:58:05 | FTPD1 | BPXAS | No | 100 | 0.00 | 0.00 | 0.00 |
| 12 | BBM9SZ20 | 05:58:00 | DC\$PAS | PAS | Yes | 0.00 | 100 | 0.00 | 0.00 |
| 16777218 | BBM9SZ20 | 05:58:33 | DC\$CAS | CAS | No | 0.00 | 100 | 0.00 | 0.00 |
| 16777219 | EZBTCPIP | 05:58:30 | DC\$TCPIP | DC\$TCPIP | Yes | 0.00 | 100 | 0.00 | 0.00 |
| 16777230 | BBM9SZ20 | 04:52:03 | SVSGD6FT | SVSGD6FT | No | 0.00 | 100 | 0.00 | 0.00 |
| 33554436 | EZBTMCTL | 05:58:21 | DC\$TCPIP | DC\$TCPIP | No | 0.00 | 100 | 0.00 | 0.00 |
| 33554437 | EZBTSSL | 05:58:22 | DC\$TCPIP | DC\$TCPIP | No | 0.00 | 100 | 0.00 | 0.00 |
| 50331658 | BBM9SZ20 | 03:08:24 | XJONLPAS | XJONLPAS | Yes | 0.00 | 100 | 0.00 | 0.00 |
| 83886095 | BBM9SZ20 | 04:58:29 | SVOS61FT | SVOS61FT | No | 0.00 | 100 | 0.00 | 0.00 |

Step 3 Determine which alphabetic column identifier represents the **Total Dly%** field.

In this example, the **Total Dly%** column is I.

Step 4 In the **OPTION** field, type **H I** and press **Enter**. (H is the Hyperlink option and I is the column from which you want to create a hyperlink.)

The view changes to display new hyperlink fields in the middle of the view, as shown in Figure 5-10 on page 5-11. Hyperlinks consist of two parts: a condition that must be satisfied before the associated command is issued and the command itself.

Step 5 In the **Condition** field, type **I = ***.

The asterisk means that the hyperlink condition should be met all the time.

- Step 10** To determine whether the hyperlink works correctly, position the cursor on the highlighted **Total Dly%** field and press **Enter**.

RSOVERZ should be displayed.

Including Excluded Fields

A number of MAINVIEW for UNIX System Services views contain more fields than can fit in one view, and you might want to look at a field that is not currently included in the view. This section shows you how to include an excluded field.

To Include a Field

- Step 1** Display the PSUSEZ view, as shown in Figure 5-11.

Figure 5-11 PSUSEZ View

```

DDMMYYYY  HH:MM:SS ----- MAINVIEW WINDOW INTERFACE(Vv.r.mmm)MVUSS -----
COMMAND  ===>                                     SCROLL ===> PAGE
CURR WIN ===> 1          ALT WIN ===>
>W1 =PSUSEZ=====SJSC=====DDMMYYYY==HH:MM:SS====MVUSS====D===41
C  ProcessId Command  Elapsed  Jobname      Running %      Sys Call Interval#
-  -----  Name      ProcTime -----  0...50...100      Rate Sys Calls
      8 EZBTCPIP  13:21:50 DC$TCPIP  100.0 *****  0.0000      0
      9 EZBTSSL  13:21:45 DC$TCPIP  100.0 *****  0.0000      0
     10 EZBTMCTL 13:21:44 DC$TCPIP  100.0 *****  0.0000      0
     27 TCPMOMVS 13:21:38 XTSTIPAS  100.0 *****  0.9971      312
     30 BBM9SZ20 13:21:25 DC$PAS    100.0 *****  3.1542      987
     63 CSQXJST  05:45:40 CSQACHIN  100.0 *****  0.0000      0
     64 CSQXDISP 05:45:40 CSQACHIN  100.0 *****  0.0000      0
     65 CSQXDISP 05:45:40 CSQACHIN  100.0 *****  0.0000      0
     66 CSQXDISP 05:45:40 CSQACHIN  100.0 *****  0.0000      0
     67 CSQXDISP 05:45:40 CSQACHIN  100.0 *****  0.0000      0
     68 CSQXDISP 05:45:40 CSQACHIN  100.0 *****  0.0000      0
     70 CSQXTNSV 05:45:40 CSQACHIN  100.0 *****  0.0000      0
     76 TCPMHFSS 03:23:17 XTSTJPAS  100.0 *****  0.0064      2
    16777218 GFSCMAIN  13:21:38 DC$NFSC   100.0 *****  0.0000      0
    16777219 BPXVCLNY  13:21:39 DC$NFSC   100.0 *****  0.0000      0
    16777223 DSIMNT    13:21:54 CNMPROCC 100.0 *****  0.0000      0
    16777289 BBM9SZ20  04:33:39 ENGKPAS  100.0 *****  3.5218      1102
    16777290 BBM9SZ20  03:38:59 CANDKPAS 100.0 *****  3.4195      1070

```

- Step 2** To invoke the View Customization facility, type **CUSTom** on the **COMMAND** line.

- Step 3** Press **Enter**.

Step 4 To show the fields that have been excluded for PSUSEZ, type **E** in the **OPTION** field and press **Enter**.

The excluded fields are displayed, as shown in Figure 5-12.

Figure 5-12 PSUSEZ View Displaying Excluded Fields

```

----- VIEW CUSTOMIZATION - PSUSEZ -----
OPTION ==> E                                SCROLL ==> CSR
Options: (that require column selection)    Other options:
F - Format      M - Move      I - Include      G - Graph      S - Save view
O - Order      R - Repeat    X - Exclude    P - Parameters E - Hide excluded
L - Filter     T - Threshold  H - Hyperlink Z - Summarize  K - Show template

-----< Show excluded columns >-----
The view is now displaying all the excluded (or hidden) columns.  Excluded
columns are marked with highlighted column letters.  You can customize an
excluded column (for instance, place a filter on it).  You may also make the
column permanently displayable by using the Include option.
If you select E - Hide excluded, the excluded columns will again be hidden.
-----
  A      B      C      D      E      F      G      H      I
C ProcessId Record Command Elapsed Jobname Status      Running %      Sys
- - - - - Count Name ProcTime -----
  8      1 EZBTCPIP 13:21:50 DC$TCPIP ACTIVE 100.0 ***** 0.
  9      1 EZBTTSSL 13:21:45 DC$TCPIP ACTIVE 100.0 ***** 0.
 10      1 EZBTMCTL 13:21:44 DC$TCPIP ACTIVE 100.0 ***** 0.
 27      1 TCPMOMVS 13:21:38 XTSTIPAS ACTIVE 100.0 ***** 0.
 30      1 BBM9SZ20 13:21:25 DC$PAS  ACTIVE 100.0 ***** 3.
 63      1 CSQXJST  05:45:40 CSQACHIN ACTIVE 100.0 ***** 0.
 64      1 CSQXDISP 05:45:40 CSQACHIN ACTIVE 100.0 ***** 0.

```

The column headers of the excluded fields appear in a different color. If the number of columns is too large, there are three separate naming schemes: A-Z, AA-ZZ, and AAA-ZZZ.

Step 5 Press **PF11** multiple times to scroll to the right and see all of the fields, and then press **PF10** multiple times to return to the start of the fields.

In this example, you will add the **Status** field to PSUSEZ so that the process status is displayed.

Step 6 In the **OPTION** field, type **I n** and press **Enter**

where

I is the command to include fields

n is the alphabetic column identifier for the **Status** field

In this example, **F** is the column identifier.

Step 7 To hide the remaining excluded fields, type **E** in the **OPTION** field, and then press **Enter**.

Your screen should now look like Figure 5-13.

Figure 5-13 Including the Status Field

```

----- VIEW CUSTOMIZATION - PSUSEZ -----
OPTION ==>
Options: (that require column selection)      Other options:
F - Format      M - Move      I - Include      G - Graph      S - Save view
O - Order      R - Repeat      X - Exclude      P - Parameters E - Show excluded
L - Filter      T - Threshold  H - Hyperlink   Z - Summarize  K - Show template

-----< Hide excluded columns >-----
The view has now removed all the excluded (or hidden) columns from the display.
An excluded column that has a filter associated with it will still be used in
the selection of data to be displayed.

If you select E - Show excluded, the excluded columns will again be displayed.
-----
  A          C          D          E          F          G          H          I          J
C ProcessId Command Elapsed Jobname Status      Running %      Sys Call In
- - - - - Name      ProcTime -----
  8 EZBTCPIP 13:21:50 DC$TCPIP ACTIVE 100.0 *****
  9 EZBTSSL 13:21:45 DC$TCPIP ACTIVE 100.0 *****
 10 EZBTMCTL 13:21:44 DC$TCPIP ACTIVE 100.0 *****
 27 TCPMOMVS 13:21:38 XTSTIPAS ACTIVE 100.0 *****
 30 BBM9SZ20 13:21:25 DC$PAS  ACTIVE 100.0 *****
 63 CSQXJST 05:45:40 CSQACHIN ACTIVE 100.0 *****
 64 CSQXDISP 05:45:40 CSQACHIN ACTIVE 100.0 *****
 0...50...100      Rate Sy
0.0000
0.0000
0.0000
0.9971
3.1542
0.0000
0.0000

```

Step 8 Do not press **PF3** because you will continue to modify PSUSEZ in the next section, “Renaming Fields” on page 5-15.

Renaming Fields

This section describes how to change the name of a field. The command to change the field name or appearance is F (Format).

To change the **Status** field to the **Active Status** field in the PSUSEZ view, follow these steps:

Step 1 In the **OPTION** field, type over the E with **F n**

where *n* is the column identifier for the **Status** field. In this example, F is the column identifier.

Step 2 Press **Enter**.

Your screen looks like Figure 5-14.

Figure 5-14 Renaming Fields

```

----- VIEW CUSTOMIZATION - PSUSEZ -----
OPTION ==> F                                SCROLL ==> CSR
Options: (that require column selection)    Other options:
F - Format      M - Move      I - Include      G - Graph      S - Save view
O - Order      R - Repeat    X - Exclude    P - Parameters E - Show excluded
L - Filter     T - Threshold  H - Hyperlink  Z - Summarize  K - Show template

-----< Format - column: F element: PRGFLGC >-----
Data type: Character      Display Mode => 1 ( 1 as is 2 as graph 3 as hex )
Width => 6                Graph range (for 2): Low => 0      High => 0
Decimals => 0 (for numeric data)      Display zero values => N (Yes/No)
Heading1 => Status                Summarization type => X (A/S/M/X/C/L/P)
Heading2 => -----                Condition (for C) =>

-----
  A      C      D      E      F      G      H      I      J
C ProcessId Command Elapsed Jobname Status      Running %      Sys Call In
- - - - - Name ProcTime -----
  8 EZBTCPIP 13:21:50 DC$TCPIP ACTIVE 100.0 ***** 0.0000
  9 EZBTSSL 13:21:45 DC$TCPIP ACTIVE 100.0 ***** 0.0000
 10 EZBTMCTL 13:21:44 DC$TCPIP ACTIVE 100.0 ***** 0.0000
 27 TCPMOMVS 13:21:38 XTSTIPAS ACTIVE 100.0 ***** 0.9971
 30 BBM9SZ20 13:21:25 DC$PAS  ACTIVE 100.0 ***** 3.1542
 63 CSQXJST 05:45:40 CSQACHIN ACTIVE 100.0 ***** 0.0000
 64 CSQXDISP 05:45:40 CSQACHIN ACTIVE 100.0 ***** 0.0000

```

The first part of the field's current name, **Status**, appears in **Heading1**, and dashes appear in **Heading2**.

Step 3 Type **Active** in **Heading1** and type **Status** directly over the dashes in **Heading2**.

Step 4 Press **Enter**.

The **Status** column at the bottom of the screen immediately changes to **Active Status**, as shown in Figure 5-15.

Figure 5-15 **Displaying a Field with a New Name**

```

----- VIEW CUSTOMIZATION - PSUSEZ -----
OPTION ==> F                                SCROLL ==> CSR
Options: (that require column selection)    Other options:
F - Format      M - Move      I - Include    G - Graph      S - Save view
O - Order      R - Repeat    X - Exclude    P - Parameters E - Show excluded
L - Filter     T - Threshold  H - Hyperlink  Z - Summarize  K - Show template

-----< Format - column: F element: PRGFLGC >-----
Data type: Character      Display Mode => 1 ( 1 as is 2 as graph 3 as hex )
Width => 6                Graph range (for 2): Low => 0      High => 0
Decimals => 0 (for numeric data)      Display zero values => N (Yes/No)
Heading1 => Active                Summarization type => L (A/S/M/X/C/L/P)
Heading2 => Status                Condition (for C) =>

-----
  A          C          D          E          F          G          H          I          J
C ProcessId Command Elapsed Jobname Active      Running %      Sys Call In
- ----- Name ProcTime ----- Status      0...50...100 Rate Sy
      8 EZBTCPIP 13:21:50 DC$TCPIP ACTIVE 100.0 ***** 0.0000
      9 EZBTSSL 13:21:45 DC$TCPIP ACTIVE 100.0 ***** 0.0000
     10 EZBTMCTL 13:21:44 DC$TCPIP ACTIVE 100.0 ***** 0.0000
     27 TCPMOVMS 13:21:38 XTSTIPAS ACTIVE 100.0 ***** 0.9971
     30 BBM9SZ20 13:21:25 DC$PAS  ACTIVE 100.0 ***** 3.1542
     63 CSQXJST 05:45:40 CSQACHIN ACTIVE 100.0 ***** 0.0000
     64 CSQXDISP 05:45:40 CSQACHIN ACTIVE 100.0 ***** 0.0000

```

Step 5 Do not press **PF3**, because you will continue to modify the screen in “Moving Fields” on page 5-17.

Moving Fields

This section explains how to move fields inside a view. The command to move fields is M.

To move the **Active Status** field so that it follows the **Process ID** field in the PSUSEZ view, follow these steps:

Step 1 In the **OPTION** field, type **M n1 n2**

where *n1* is the column identifier of the field that you want to move (**Active Status**) and *n2* is the column identifier of the field preceding the new location (**ProcessId**). For this example, *n1* is F and *n2* is A.

Step 2 Press **Enter** to see a screen that is similar to Figure 5-16.

Figure 5-16 Moving a Field

```

----- VIEW CUSTOMIZATION - PSUSEZ -----
OPTION  ==> M                                SCROLL ==> CSR
Options: (that require column selection)      Other options:
F - Format      M - Move      I - Include      G - Graph      S - Save view
O - Order      R - Repeat     X - Exclude     P - Parameters E - Show excluded
L - Filter     T - Threshold  H - Hyperlink  Z - Summarize  K - Show template

-----< Move      - column: B  element: PRGFLGC  >-----
The column has been moved.  Note that the affected columns have been
assigned new column identifiers.

-----
  A          B          D          E          F          G          H          I          J
C ProcessId Active Command Elapsed Jobname      Running %      Sys Call In
- - - - - Status Name      ProcTime ----- 0...50...100 Rate Sy
8 ACTIVE EZBTCPIP 13:21:50 DC$TCPIP 100.0 ***** 0.0000
9 ACTIVE EZBTTSSL 13:21:45 DC$TCPIP 100.0 ***** 0.0000
10 ACTIVE EZBTMCTL 13:21:44 DC$TCPIP 100.0 ***** 0.0000
27 ACTIVE TCPMOMVS 13:21:38 XTSTIPAS 100.0 ***** 0.9971
30 ACTIVE BBM9SZ20 13:21:25 DC$PAS 100.0 ***** 3.1542
63 ACTIVE CSQXJST 05:45:40 CSQACHIN 100.0 ***** 0.0000
64 ACTIVE CSQXDISP 05:45:40 CSQACHIN 100.0 ***** 0.0000

```

The **Active Status** column now follows the **ProcessID** column. It also has a new column identifier of B.

By using the M command, you determined that the column that was specified by *n1* should be placed to the right of the column that was specified by *n2*.

Step 3 To exit View Customization, press **PF3**.

Step 4 To save your changes, press **Enter** to accept the **YES** in the **Save Changes** field in the middle of the panel.

Step 5 On the Save View definition panel, modify **View name** and press **Enter**.

Setting Thresholds

All views for the MAINVIEW for UNIX System Services product use centralized thresholds. When saving a customized view, MAINVIEW automatically saves the default threshold values, and you must override this command to save the customized view.

This section shows you how to set thresholds for PSDELAYZ's **Total Delay%** column in numeric form.

In this example, you will specify thresholds for the **Total Delay%** column so that

- values between 1 and 50 percent appear green
- values between 50 and 80 percent appear yellow
- values between 80 and 100 percent appear red

Note: If you are using a 3270 emulator package on a PC, the package might or might not enable all colors.

The **Total Delay%** column specifies how much of a delay a particular process is experiencing. The higher the percentage is, the longer the delay. If the delay is too high, there could be a problem with a process.

To Set the Thresholds for PSDELAYZ

Step 1 Display PSDELAYZ.

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

Your screen should look similar to Figure 5-17 on page 5-19.

Figure 5-17 Setting Thresholds

```

----- VIEW CUSTOMIZATION - PSDELAYZ -----
OPTION ==>                                SCROLL ==> PAGE
Options: (that require column selection)   Other options:
F - Format      M - Move      I - Include      G - Graph      S - Save view
O - Order      R - Repeat    X - Exclude     P - Parameters E - Show excluded
L - Filter     T - Threshold H - Hyperlink    Z - Summarize  K - Show template
-----

Some options ask you to select a target column. To do so, either type the
option with the column id on the OPTION line (as in: f e to format column E),
or type just the option, move the cursor to the target column and press ENTER.
Your changes are implemented every time you press ENTER. You can save the
modified view definition with any name you choose and specify where thresholds
-----

  A      C      D      E      G      H      I      K      M
C ProcessId Command Elapsed Jobname      Total Delay % Total Total %Delay
- - - - - Name      ProcTime  - - - - - 0...50...100 Zomb% Othr% MsgRcv
1  BPXPINPR 28:35:50 BPXOINIT 100.00 ***** 0.00 0.00 0.00
6  inetd    28:35:40 INETD4   100.00 ***** 0.00 0.00 0.00
17 EZACFALG 28:35:16 DC$TCPIP 100.00 ***** 0.00 0.00 0.00
18 EZASASUB 28:35:15 DC$TCPIP 100.00 ***** 0.00 0.00 0.00
20 BBSDTCPL 28:35:13 DC$SVIEW 100.00 ***** 0.00 0.00 0.00
21 FTPD     28:35:13 DC$FTSRV 100.00 ***** 0.00 0.00 0.00
22 PORTMAP  28:35:11 DC$PMAP  100.00 ***** 0.00 0.00 0.00
24 GFSAMAIN 28:35:10 DC$NFS   100.00 ***** 0.00 0.00 0.00
92 SMLoad   01:40:36 MQMRK300 100.00 ***** 0.00 0.00 0.00
93 CSQXRCTL 01:40:29 CSQ1CHIN 100.00 ***** 0.00 0.00 0.00
16777235  BBW9IC00 28:35:01 XTSTJMKP 100.00 ***** 0.00 0.00 0.00
33554462  IOAXTSRV 00:54:11 DC$OSASR 100.00 ***** 0.00 0.00 0.00
8  GFSCRPCD 28:35:16 DC$NFSC   0.00      0.00 100.0 100.00
9  GFSCRPCD 28:35:16 DC$NFSC   0.00      0.00 100.0 100.00
10 GFSCRPCD 28:35:16 DC$NFSC   0.00      0.00 100.0 100.00
11 GFSCRPCD 28:35:16 DC$NFSC   0.00      0.00 100.0 100.00
12 GFSCRPCD 28:35:16 DC$NFSC   0.00      0.00 100.0 100.00
13 GFSCRPCD 28:35:16 DC$NFSC   0.00      0.00 100.0 100.00
14 GFSCRPCD 28:35:16 DC$NFSC   0.00      0.00 100.0 100.00

```

Pay particular attention to the **Total Delay%** column.

Note: The alphabetic column headers might be different for all or some of your field names. Locate the alphabetic column header character identifying the field that is used in each command that follows in this section. Substitute the alphabetic character that matches each field name that is used in each command.

The command for establishing thresholds is T.

Step 3 In the **OPTION** field, type **T n** and press **Enter**

where *n* is the alphabetic column identifier for the **Total Delay%** field for your system. In this example, H is the column identifier. Your screen should look like Figure 5-18 on page 5-20.

Figure 5-18 Completing the Threshold Fields

```

----- VIEW CUSTOMIZATION - PSDELAYZ -----
OPTION ==> T                                SCROLL ==> PAGE
Options: (that require column selection)    Other options:
F - Format      M - Move      I - Include      G - Graph      S - Save view
O - Order      R - Repeat    X - Exclude    P - Parameters E - Show excluded
L - Filter     T - Threshold H - Hyperlink   Z - Summarize K - Show template

-----< Threshold - column: H  element: PRIDLYP  >-----
Condition:      Attr:  Sub:  Inherit from => F  0: GREEN  5: GREEN
1st =>          =>    =>          1: BLUE   6: BLUE
2nd =>          =>    =>          2: YELLOW 7: YELLOW
3rd =>          =>    =>          3: PINK   8: PINK
4th =>          =>    =>          4: RED    9: RED
5th =>          =>    =>
6th =>          =>    =>
7th =>          =>    =>
8th =>          =>    =>

-----
      A      C      D      E      G      H      I      K      M
C ProcessId Command Elapsed Jobname      Total Delay % Total Total %Delay
- - - - - Name ProcTime - - - - - 0...50...100 Zomb% Othr% MsgRcv
      1 BXPINPR 28:35:50 BFXOINIT 100.00 ***** 0.00 0.00 0.00
      6 inetd 28:35:40 INETD4 100.00 ***** 0.00 0.00 0.00
     17 EZACFALG 28:35:16 DC$TCPIP 100.00 ***** 0.00 0.00 0.00
     18 EZASASUB 28:35:15 DC$TCPIP 100.00 ***** 0.00 0.00 0.00
     20 BBSDTCPL 28:35:13 DC$SVIEW 100.00 ***** 0.00 0.00 0.00
     21 FTPD 28:35:13 DC$FTSRV 100.00 ***** 0.00 0.00 0.00
     22 PORTMAP 28:35:11 DC$PMAP 100.00 ***** 0.00 0.00 0.00
     24 GFSAMAIN 28:35:10 DC$NFS 100.00 ***** 0.00 0.00 0.00
     92 SMLoad 01:40:36 MQMRK300 100.00 ***** 0.00 0.00 0.00
     93 CSQXRCTL 01:40:29 CSQ1CHIN 100.00 ***** 0.00 0.00 0.00
16777235 BBW9IC00 28:35:01 XTSTJMX 100.00 ***** 0.00 0.00 0.00
33554462 IOAXTSRV 00:54:11 DC$OSASR 100.00 ***** 0.00 0.00 0.00
      8 GFSCRPCD 28:35:16 DC$NFSC 0.00 0.00 100.0 100.00
      9 GFSCRPCD 28:35:16 DC$NFSC 0.00 0.00 100.0 100.00
     10 GFSCRPCD 28:35:16 DC$NFSC 0.00 0.00 100.0 100.00
     11 GFSCRPCD 28:35:16 DC$NFSC 0.00 0.00 100.0 100.00
     12 GFSCRPCD 28:35:16 DC$NFSC 0.00 0.00 100.0 100.00
     13 GFSCRPCD 28:35:16 DC$NFSC 0.00 0.00 100.0 100.00
     14 GFSCRPCD 28:35:16 DC$NFSC 0.00 0.00 100.0 100.00

```

In the Threshold section, the numbers on the right represent the colors that you can specify in the **Attr** fields (on the left).

Remember, you want

- values between 1 and 50 percent to appear green
- values between 50 and 80 percent to appear yellow
- values between 80 and 100 percent to appear red

Two conditions cannot be specified in the same **Condition** field because threshold conditions are satisfied in descending order. That is, **>=10** and **<50** are entered in two separate fields, rather than combining them in a single field.

Step 4 Add all three thresholds at once, using these steps:

- 4.A** In the **1st Condition** field, type **>= 80**.
- 4.B** In the corresponding **Attr** field, type **4**.
- 4.C** In the **2nd Condition** field, type **>= 50**.
- 4.D** In the corresponding **Attr** field, type **2**.
- 4.E** In the **3rd Condition** field, type **>= 0**.
- 4.F** In the corresponding **Attr** field, type **0**.
- 4.G** Press **Enter**.

Moving down the **Condition** field, the MAINVIEW for UNIX System Services product first changes any values that are equal to or greater than 80 to red, changes all values between 50 and 80 to yellow, and then finally changes values below 50 to green. The results are displayed in Figure 5-19 on page 5-22.

Figure 5-19 Adding Three Thresholds Simultaneously

```

----- VIEW CUSTOMIZATION - PSDELAYZ -----
OPTION ==> T                                SCROLL ==> PAGE
Options: (that require column selection)    Other options:
F - Format      M - Move      I - Include      G - Graph      S - Save view
O - Order      R - Repeat    X - Exclude     P - Parameters E - Show excluded
L - Filter     T - Threshold  H - Hyperlink  Z - Summarize  K - Show template

-----< Threshold - column: H  element: PRIDLYP  >-----
Condition:      Attr:  Sub:  Inherit from =>  0: GREEN  5: GREEN
1st => H >= 80      => 4 =>      1: BLUE   6: BLUE
2nd => H >= 50      => 2 =>      2: YELLOW 7: YELLOW
3rd => H >= 0       => 0 =>      3: PINK   8: PINK
4th =>              =>  =>      4: RED    9: RED
5th =>              =>  =>
6th =>              =>  =>
7th =>              =>  =>
8th =>              =>  =>

-----
      A      C      D      E      G      H      I      K      M
C ProcessId Command Elapsed Jobname      Total Delay % Total Total %Delay
- - - - - Name ProcTime - - - - - 0...50...100 Zomb% Othr% MsgRcv
      1 BPXPINPR 28:35:50 BPXOINIT 100.00 ***** 0.00 0.00 0.00
      6 inetd    28:35:40 INETD4   100.00 ***** 0.00 0.00 0.00
     17 EZACFALG 28:35:16 DC$TCPIP 100.00 ***** 0.00 0.00 0.00
     18 EZASASUB 28:35:15 DC$TCPIP 100.00 ***** 0.00 0.00 0.00
     20 BBSDTCPL 28:35:13 DC$SVIEW 100.00 ***** 0.00 0.00 0.00
     21 FTPD     28:35:13 DC$FTSRV 100.00 ***** 0.00 0.00 0.00
     22 PORTMAP 28:35:11 DC$PMAP  100.00 ***** 0.00 0.00 0.00
     24 GFSAMAIN 28:35:10 DC$NFS   100.00 ***** 0.00 0.00 0.00
     92 SMLoad   01:40:36 MQMRK300 100.00 ***** 0.00 0.00 0.00
     93 CSQXRCTL 01:40:29 CSQ1CHIN 100.00 ***** 0.00 0.00 0.00
16777235 BBW9IC00 28:35:01 XTSTJMX 100.00 ***** 0.00 0.00 0.00
33554462 IOAXTSRV 00:54:11 DC$OSASR 100.00 ***** 0.00 0.00 0.00
      8 GFSCRPCD 28:35:16 DC$NFSC   0.00          0.00 100.0 100.00
      9 GFSCRPCD 28:35:16 DC$NFSC   0.00          0.00 100.0 100.00
     10 GFSCRPCD 28:35:16 DC$NFSC   0.00          0.00 100.0 100.00
     11 GFSCRPCD 28:35:16 DC$NFSC   0.00          0.00 100.0 100.00
     12 GFSCRPCD 28:35:16 DC$NFSC   0.00          0.00 100.0 100.00
     13 GFSCRPCD 28:35:16 DC$NFSC   0.00          0.00 100.0 100.00
     14 GFSCRPCD 28:35:16 DC$NFSC   0.00          0.00 100.0 100.00

```

The values in the **Total Delay%** column immediately assume the thresholds that you set and change color. This feature makes it especially easy to locate any trouble areas.

Step 5 To exit View Customization, press **PF3**.

Note: You can save your changes if you want. By default, the **Threshold Location** field is set to **VIEW**, and the thresholds are saved only for your view.

To save the thresholds for all users, type **CENTRAL** in the **Threshold Location** field, as shown in Figure 5-20 on page 5-23.

Figure 5-20 Threshold Location Field

```

----- VIEW CUSTOMIZATION - PSDELAYZ -----
OPTION ==>
Options: (that require column selection)          Other options:
F - Format      M - Move      I - Include      G - Graph      S - Save view
O - Order      R - Repeat    X - Exclude    P - Parameters E - Show excluded
L - Filter     T - Threshold  H - Hyperlink Z - Summarize  K - Show template

-----< Save View definition >-----
View name ==> PSDELAYZ          This view definition will be saved as a member in
Replace ==> YES (Yes/No)      the data set allocated to DD statement BBVDEF .
Description ==> Delays experienced by processe Dynamic fields ==> YES (Yes/No)
Summary View ==>              (for tabular view only)
Threshold Location ==> CENTRAL (View/Central)
Press ENTER to save the view; enter END (PF3) to end without saving.

```

Step 6 Press **Enter** to save the view, or press **PF3** to end without saving the view.

Deleting a Customized View

To delete a view that you have customized, follow these steps:

Step 1 Access the **VIEWS** view.

Step 2 In the line command field to the left of your view name, type **D**.

Step 3 Press **Enter**.

A confirmation panel is displayed.

Step 4 On the **COMMAND** line of the confirmation panel, type **END** and press **Enter**.

Performing Other Customization Tasks

In addition to the tasks that are already described, you can also use View Customization to perform the customization tasks that are listed in the following table.

| Activity | Use Option |
|--|----------------|
| change a column width, change a column header, or move a decimal point | F (Format) |
| alter the full-screen graphical display of the view | G (Graph) |
| sort rows of data by ascending or descending values | O (Order) |
| find out which fields have been specified as <i>positional parameters</i> for a view | P (Parameters) |

If you need help in using these options or any other options, press **PF1** while in View Customization or refer to the *MAINVIEW for UNIX System Services User Guide and Reference*.

Chapter 6 Using Summarized Views

The MAINVIEW for UNIX System Services product provides several summarized views to present a general overview of certain activities or information. However, you might encounter a situation in which you want to summarize additional information that does not already appear in a summarized view.

Sometimes it is hard to grasp the significance of the view's information when there are many rows of data to examine. To make things easier, you can use MAINVIEW for UNIX System Services to create your own summarized views by compressing several rows of data into a single line that represents the data for all of the compressed rows.

This chapter includes the following topics:

| | |
|----------------------------------|-----|
| Creating a Summary View | 6-2 |
| Formatting Summarized Data | 6-5 |
| Saving Formatted Data | 6-8 |
| Expanding a Summary View | 6-9 |

Creating a Summary View

Summarized views are created from tabular views. As an example, this section shows you how to summarize a field in PSOVER.

To Create a Summary View

Step 1 Display PSOVER.

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

Your screen looks like Figure 6-1, although your column identifiers might be different.

Figure 6-1 View Customization for PSOVER

```

----- VIEW CUSTOMIZATION - PSOVER -----
OPTION ==>
Options: (that require column selection)      Other options:
F - Format      M - Move      I - Include      G - Graph      S - Save view
O - Order      R - Repeat      X - Exclude      P - Parameters E - Show excluded
L - Filter      T - Threshold  H - Hyperlink   Z - Summarize  K - Show template
-----

Some options ask you to select a target column. To do so, either type the
option with the column id on the OPTION line (as in: f e to format column E),
or type just the option, move the cursor to the target column and press ENTER.
Your changes are implemented every time you press ENTER. You can save the
modified view definition with any name you choose and specify where thresholds
-----
  A      E      F      G      H      J      K      L      M      N
C ProcessId Command Elapsed Jobname Stepname Multi- Total Total Total Total
- - - - - Name ProcTime - - - - - - - - - Thread Dly% Run% Zomb% Othr%
  1 BPXPINPR 06:11:41 BPXOINIT BPXOINIT Yes 100 0.00 0.00 0.00 0.00
  6 inetd 06:11:24 INETD4 BPXAS No 0.00 0.00 0.00 0.00 100
  7 EZACFALG 06:09:43 DC$TCPIP DC$TCPIP No 100 0.00 0.00 0.00 0.00
  8 EZASASUB 06:09:43 DC$TCPIP DC$TCPIP No 100 0.00 0.00 0.00 0.00
  9 EZBTMST 06:09:39 DC$TCPIP DC$TCPIP No 0.00 100 0.00 0.00 0.00
 11 FTPD 06:09:27 FTPD1 BPXAS No 100 0.00 0.00 0.00 0.00
 12 BBM9SZ20 06:09:22 DC$PAS PAS Yes 0.00 100 0.00 0.00 0.00
16777218 BBM9SZ20 06:09:55 DC$CAS CAS No 0.00 100 0.00 0.00 0.00
16777219 EZBTCPIP 06:09:52 DC$TCPIP DC$TCPIP Yes 0.00 100 0.00 0.00 0.00
16777230 BBM9SZ20 05:03:25 SVSGD6FT SVSGD6FT No 0.00 100 0.00 0.00 0.00
33554436 EZBTMCTL 06:09:43 DC$TCPIP DC$TCPIP No 0.00 100 0.00 0.00 0.00
33554437 EZBTSSL 06:09:44 DC$TCPIP DC$TCPIP No 0.00 100 0.00 0.00 0.00
50331658 BBM9SZ20 03:19:46 XJONLPAS XJONLPAS Yes 0.00 100 0.00 0.00 0.00
83886095 BBM9SZ20 05:10:06 SVOS61FT SVOS61FT No 0.00 100 0.00 0.00 0.00

```

Given the number of rows in PSOVER, it might be useful to compress the view into just a few lines.

To determine a good candidate for summarization, look at the information in each row. You want to select a field that has the same value for multiple rows. For example, a number of processes have the same job name. Therefore, you could summarize a number of rows based on the job name.

Begin creating your summary view by using Option Z - Summarize.

Step 3 In the **OPTION** field, type **Z** and press **Enter**.

The summarize input fields on PSOVER are displayed, as shown in Figure 6-2.

Figure 6-2 Selecting the Summarize Option

```

----- VIEW CUSTOMIZATION - PSOVER -----
OPTION ==> Z                                SCROLL ==> CSR
Options: (that require column selection)    Other options:
F - Format      M - Move      I - Include      G - Graph      S - Save view
O - Order      R - Repeat      X - Exclude      P - Parameters E - Show excluded
L - Filter      T - Threshold  H - Hyperlink   Z - Summarize  K - Show template

-----< Summarize - Specify columns for summarization >-----
If you want to summarize rows of data, specify at least one column to group by:
Group by 1=>      To further customize a summarized view:
                2=>      Use option X to exclude a column from the summarized view.
                3=>      Use option F to modify the type of summarization for a column
                4=>      ( S sum, A avg, M min, X max, C count, L any, P percent)
-----
  A      E      F      G      H      J      K      L      M      N
C ProcessId Command Elapsed Jobname Stepname Multi- Total Total Total Tota
- - - - - Name ProcTime - - - - - Thread Dly% Run% Zomb% Othr
1 BPXPINPR 06:11:41 BPXOINIT BPXOINIT Yes 100 0.00 0.00 0.0
6 inetd 06:11:24 INETD4 BPXAS No 0.00 0.00 0.00 100
7 EZACFALG 06:09:43 DC$TCPIP DC$TCPIP No 100 0.00 0.00 0.0
8 EZASASUB 06:09:43 DC$TCPIP DC$TCPIP No 100 0.00 0.00 0.0
9 EZBTMST 06:09:39 DC$TCPIP DC$TCPIP No 0.00 100 0.00 0.0
11 FTPD 06:09:27 FTPD1 BPXAS No 100 0.00 0.00 0.0
12 BBM9SZ20 06:09:22 DC$PAS PAS Yes 0.00 100 0.00 0.0
16777218 BBM9SZ20 06:09:55 DC$CAS CAS No 0.00 100 0.00 0.0
16777219 EZBTCPIP 06:09:52 DC$TCPIP DC$TCPIP Yes 0.00 100 0.00 0.0
16777230 BBM9SZ20 05:03:25 SVSGD6FT SVSGD6FT No 0.00 100 0.00 0.0
33554436 EZBTMCTL 06:09:43 DC$TCPIP DC$TCPIP No 0.00 100 0.00 0.0
33554437 EZBTSSL 06:09:44 DC$TCPIP DC$TCPIP No 0.00 100 0.00 0.0
50331658 BBM9SZ20 03:19:46 XJONLPAS XJONLPAS Yes 0.00 100 0.00 0.0
83886095 BBM9SZ20 05:10:06 SVOS61FT SVOS61FT No 0.00 100 0.00 0.0

```

Step 4 To summarize the data by the **Jobname** field, type **G** in the **Group by 1** field and press **Enter**, where G is the alphabetic column identifier for the **Jobname** field on your system.

PSOVER is now summarized by the **Jobname** field, which is now column A, as shown in Figure 6-3 on page 6-4.

Figure 6-3 Summarizing PSOVER

```

----- VIEW CUSTOMIZATION - PSOVER -----
OPTION ==> Z                                SCROLL ==> CSR
Options: (that require column selection)    Other options:
F - Format      M - Move      I - Include      G - Graph      S - Save view
O - Order      R - Repeat    X - Exclude     P - Parameters E - Show excluded
L - Filter     T - Threshold H - Hyperlink Z - Summarize K - Show template

-----< Summarize - Specify columns for summarization >-----
If you want to summarize rows of data, specify at least one column to group by:
Group by 1=> A    To further customize a summarized view:
          2=>    Use option X to exclude a column from the summarized view.
          3=>    Use option F to modify the type of summarization for a column
          4=>    ( S sum, A avg, M min, X max, C count, L any, P percent)
-----

```

| A | B | F | G | H | J | K | L | M | N |
|-----------|-----------|----------|----------|-----------|--------|-------|-------|-------|-------|
| C Jobname | ProcessId | Command | Elapsed | Stepname | Multi- | Total | Total | Total | Total |
| | | Name | ProcTime | | Thread | Dly% | Run% | Zomb% | Othr% |
| BPXOINIT | 1 | BPXPINPR | 06:11:41 | BPXOINIT | Yes | 100 | 0.00 | 0.00 | 0.00 |
| DC\$CAS | 16777218 | BBM9SZ20 | 06:09:55 | CAS | No | 0.00 | 100 | 0.00 | 0.00 |
| DC\$PAS | 12 | BBM9SZ20 | 06:09:22 | PAS | Yes | 0.00 | 100 | 0.00 | 0.00 |
| DC\$TCPIP | 13981019 | EZ***** | 06:09:39 | DC\$TCPIP | **** | 33.33 | 66.67 | 0.00 | 0.00 |
| FTPD1 | 11 | FTPD | 06:09:27 | BPXAS | No | 100 | 0.00 | 0.00 | 0.00 |
| INETD4 | 6 | inetd | 06:11:24 | BPXAS | No | 0.00 | 0.00 | 0.00 | 100 |
| SVOS61FT | 83886095 | BBM9SZ20 | 05:10:06 | SVOS61FT | No | 0.00 | 100 | 0.00 | 0.00 |
| SVSGD6FT | 16777230 | BBM9SZ20 | 05:03:25 | SVSGD6FT | No | 0.00 | 100 | 0.00 | 0.00 |
| XJONLPAS | 50331658 | BBM9SZ20 | 03:19:46 | XJONLPAS | Yes | 0.00 | 100 | 0.00 | 0.00 |

By summarizing the view, you can better pinpoint areas of delay or excessive system calls because you do not have to scroll through rows and rows of data to locate a problem.

Step 5 If you would like to save your changes, press **PF3** and follow the prompts.

Formatting Summarized Data

To make the information more usable, you can use the MAINVIEW for UNIX System Services product to specify how the data on a summary view is treated, such as averaging the values, summing the data, or expanding the field.

Step 1 Display PSOVERZ.

Step 2 On the **COMMAND** line, type **CUST**.

The View Customization panel is displayed.

Step 3 Press **PF11** to scroll to the right so that you can see the **Sys Call Rate** column, as shown in Figure 6-4.

Figure 6-4 View Customization Panel for PSOVERZ

```

----- VIEW CUSTOMIZATION - PSOVERZ -----
OPTION  ===> _                               SCROLL ===> CSR
Options: (that require column selection)      Other options:
F - Format      M - Move      I - Include      G - Graph      S - Save view
O - Order      R - Repeat    X - Exclude    P - Parameters E - Show excluded
L - Filter     T - Threshold  H - Hyperlink  Z - Summarize  K - Show template

-----< Format -      column: not selected >-----
Some options ask you to select a target column. To do so, either type the
option with the column id on the OPTION line (as in: f e to format column E),
or type just the option, move the cursor to the target column and press ENTER.
Your changes are implemented every time you press ENTER. You can save the
modified view definition with any name you choose and specify where thresholds
-----
  A      L      M      N      O      P      Q      R      S
C ProcessId Total  Sys Call Latch  Interval#  Avg#  Max#  Process  Pro
- - - - - Othr%      Rate Wait PID  Sys Calls VNodes Vnodes  Group  Grou
      1 0.00 0.00000 0 0 0 0.00 2.0M 1
      6 100 0.00000 0 0 0 0.00 0 6
      7 0.00 0.01924 0 14 0.00 0 7
      8 0.00 0.02474 0 18 0.00 0 8
      9 0.00 0.00000 0 0 0.00 0 9
     11 0.00 0.00000 0 0 0.00 0 11
     12 0.00 2.24324 0 1632 0.00 0 12
16777218 0.00 0.00000 0 0 0.00 0 16777218 1677
16777219 0.00 0.00000 0 0 0.00 0 16777219 1677
16777230 0.00 0.00000 0 0 0.00 0 16777230 1677
33554436 0.00 0.00000 0 0 0.00 0 33554436 3355
33554437 0.00 0.00000 0 0 0.00 0 33554437 3355
50331658 0.00 2.37794 0 1730 0.00 0 50331658 5033
83886095 0.00 0.00000 0 0 0.00 0 83886095 8388

```

Step 4 In the **OPTION** field, type **F M** and press **Enter**, where **M** is the alphabetic column identifier for the **Sys Call Rate** column.

Your panel should now look like Figure 6-5, with the middle section giving you information about the **Sys Call Rate** column.

Figure 6-5 Formatting a Field

```

OPTION ==> F                                SCROLL ==> CSR
Options: (that require column selection)    Other options:
F - Format      M - Move      I - Include      G - Graph      S - Save view
O - Order      R - Repeat    X - Exclude    P - Parameters E - Show excluded
L - Filter     T - Threshold  H - Hyperlink  Z - Summarize  K - Show template

-----< Format - column: M element: PRINSCR >-----
Data type: Numeric      Display Mode => 1 ( 1 as is 2 as graph 3 as hex )
Width => 9              Graph range (for 2): Low => 0      High => 0
Decimals => 5 (for numeric data)      Display zero values => Y (Yes/No)
Heading1 => Sys Call      Summarization type => A (A/S/M/X/C/L/P)
Heading2 => Rate          Condition (for C) =>

-----
A          L      M          N          O          P          Q          R          S
C ProcessId Total  Sys Call Latch  Interval# Avg#  Max#  Process  Pro
- - - - - Othr%      Rate Wait PID Sys Calls VNodes Vnodes  Group  Grou
1 0.00 0.00000 0 0 0.00 2.0M 1
6 100 0.00000 0 0 0.00 0 6
7 0.00 0.01924 0 14 0.00 0 7
8 0.00 0.02474 0 18 0.00 0 8
9 0.00 0.00000 0 0 0.00 0 9
11 0.00 0.00000 0 0 0.00 0 11
12 0.00 2.24324 0 1632 0.00 0 12
16777218 0.00 0.00000 0 0 0.00 0 16777218 1677
16777219 0.00 0.00000 0 0 0.00 0 16777219 1677
16777230 0.00 0.00000 0 0 0.00 0 16777230 1677
33554436 0.00 0.00000 0 0 0.00 0 33554436 3355
33554437 0.00 0.00000 0 0 0.00 0 33554437 3355
50331658 0.00 2.37794 0 1730 0.00 0 50331658 5033
83886095 0.00 0.00000 0 0 0.00 0 83886095 8388
    
```

Notice that the width for the **Sys Call Rate** column is set to 9 with 5 decimal places. You can change the formatting for this column by changing the information in the middle section.

Note: For a complete list of formatting options, place your cursor on the **Summarization type** field and press **PF1**. To return to the main panel, press **PF3**.

Step 5 To expand the **Sys Call Rate** column, for example, change the **Width** field to **11**, change the **Decimals** field to **7**, and then press **Enter**.

The data in the **Sys Call Rate** column is now 11 characters wide with 7 decimal places, as shown in Figure 6-6 on page 6-7.

Figure 6-6 Displaying an Expanded Field

```

----- VIEW CUSTOMIZATION - PSOVERZ -----
OPTION ==> F                                SCROLL ==> CSR
Options: (that require column selection)      Other options:
F - Format      M - Move      I - Include      G - Graph      S - Save view
O - Order      R - Repeat    X - Exclude    P - Parameters E - Show excluded
L - Filter     T - Threshold  H - Hyperlink  Z - Summarize  K - Show template

-----< Format - column: M element: PRINSCR >-----
Data type: Numeric      Display Mode => 1 ( 1 as is 2 as graph 3 as hex )
Width => 11             Graph range (for 2): Low => 0 High => 0
Decimals => 7 (for numeric data)      Display zero values => Y (Yes/No)
Heading1 => Sys Call      Summarization type => A (A/S/M/X/C/L/P)
Heading2 => Rate         Condition (for C) =>
-----

```

| A | L | M | N | O | P | Q | R | S | | |
|---|-----------|-------|-----------|-------|-----------|-----------|--------|----------|-------|----|
| C | ProcessId | Total | Sys Call | Latch | Interval# | Avg# | Max# | Process | | |
| - | ----- | Othr% | Rate | Wait | PID | Sys Calls | VNodes | Vnodes | Group | Gr |
| | 1 | 0.00 | 0.0000000 | 0 | 0 | 0.00 | 2.0M | 1 | | |
| | 6 | 100 | 0.0000000 | 0 | 0 | 0.00 | 0 | 6 | | |
| | 7 | 0.00 | 0.0192435 | 0 | 14 | 0.00 | 0 | 7 | | |
| | 8 | 0.00 | 0.0247416 | 0 | 18 | 0.00 | 0 | 8 | | |
| | 9 | 0.00 | 0.0000031 | 0 | 0 | 0.00 | 0 | 9 | | |
| | 11 | 0.00 | 0.0000014 | 0 | 0 | 0.00 | 0 | 11 | | |
| | 12 | 0.00 | 2.2432375 | 0 | 1632 | 0.00 | 0 | 12 | | |
| | 16777218 | 0.00 | 0.0000000 | 0 | 0 | 0.00 | 0 | 16777218 | 16 | |
| | 16777219 | 0.00 | 0.0000000 | 0 | 0 | 0.00 | 0 | 16777219 | 16 | |
| | 16777230 | 0.00 | 0.0000000 | 0 | 0 | 0.00 | 0 | 16777230 | 16 | |
| | 33554436 | 0.00 | 0.0000000 | 0 | 0 | 0.00 | 0 | 33554436 | 33 | |
| | 33554437 | 0.00 | 0.0000000 | 0 | 0 | 0.00 | 0 | 33554437 | 33 | |
| | 50331658 | 0.00 | 2.3779411 | 0 | 1730 | 0.00 | 0 | 50331658 | 50 | |
| | 83886095 | 0.00 | 0.0000000 | 0 | 0 | 0.00 | 0 | 83886095 | 83 | |

With the expanded field, you can see that processes 9 and 11 are actually issuing system calls at a very low rate.

Saving Formatted Data

After you have formatted the data in the most usable way, such as in the examples from Chapters 5 and 6, you can save your new views.

To Save the Formatted Data

Step 1 In the **OPTION** field, type **S**.

Step 2 Press **Enter**.

The Save View definition panel is displayed.

Step 3 Fill out the panel with the appropriate information.

Step 4 Press **Enter**.

A message is displayed in the upper right-hand corner to confirm that your view was successfully saved.

Step 5 To exit, press **PF3**.

To Create a Summarized View

Step 1 Select a tabular view to use as a base.

For an example, refer to “Creating a Summary View” on page 6-2.

Step 2 Choose one or more columns by which to group.

For an example, refer to the steps on page 6-3.

Step 3 Change its **Summarization type** (under Format) to reflect more meaningful data.

For an example, refer to “Formatting Summarized Data” on page 6-5.

Step 4 Make sure you have the summarization types that you want for each field.

Step 5 Rename any fields as necessary.

For an example, refer to “Renaming Fields” on page 5-15.

Expanding a Summary View

After you create a summary view, you can tailor it to monitor particular items that are provided in the view. Using this customization, you can focus on potential problems and track the status of certain fields.

A summary view is particularly useful if it is tailored to your site and left to run in automatic screen update (ASU) mode throughout the day. The view regularly updates itself and immediately indicates when something has gone wrong, so that you can begin the debugging process.

To help you begin debugging from a summary view, a hyperlink is established automatically for the first field of every summary view.

Note: The first hyperlink in a summary view expands the selected row into all of its constituent rows.

To Expand a Summary View

- Step 1** To clear any changes that were made in the previous example, type **RESet** and press **Enter**.
- Step 2** Display **ASOVERZ**, as shown in Figure 6-7.

Figure 6-7 ASOVERZ View

```
DDMMYYYY  HH:MM:SS ----- MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS -----
COMMAND  ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =ASOVERZ=====SJSC=====*=====DDMMYYYY==HH:MM:SS====MVUSS====D==17
C Jobname  Hex  T Service  Total Total Idle%  %Delay  Prcs Total      PrcsTot
- - - - - ASID - Class    Dly%  Use%          Unknown AvgMem CPU Time      CPU%
AOPD      4E O OMVSNRM  0.00  0.00  0.00  100.00  8.6M 00:00:00.07  0.00
BPXOINIT  43 S SYSTEM    0.00  0.00 100.0  0.00  94208 00:00:00.03  0.00
CANDKPAS  7D S STCNRM   0.00  7.50 92.50  0.00  6.9M 00:00:23.47  0.25
CMQ30PAS  52 S STCPAS   0.00  0.00 100.0  0.00  3.0M 00:00:10.45  0.01
CNMPROCC  56 S STCLOW   0.00  0.00 100.0  0.00 765952 00:00:07.62  0.00
CTSGATE   1A S STCNRM   0.00  0.00 100.0  0.00 933888 00:00:02.69  0.00
DC$FTSRV  44 O SYSSTC   0.00  0.00 100.0  0.00  4.8M 00:00:00.02  0.00
DC$NFS    23 S STCNRM   0.00  0.00 100.0  0.00 17.0M 00:00:00.27  0.00
DC$NFSC   45 S SYSSTC   0.00  0.00  0.00 100.00  6.7M 00:00:00.15  0.00
DC$PAS    4F S STCNRM   0.00  7.50 92.50  0.00  7.6M 00:03:49.24  0.18
DC$PMAP   78 S STCNRM   0.00  0.00 100.0  0.00  4.2M 00:00:00.16  0.00
DC$SVIEW  79 S STCSYS   0.00  0.00 100.0  0.00 593920 00:00:00.13  0.00
DC$TCPIP  70 S SYSSTC   0.00  0.00 100.0  0.00 13.5M 00:00:38.84  0.03
INETD4    51 O OMVSNRM  0.00  0.00 100.0  0.00  4.6M 00:00:00.02  0.00
XTSTJMXP  77 S SYSSTC   0.00  0.00 100.0  0.00 974848 00:00:00.77  0.00
XTSTJPAS  74 S SYSSTC   0.00  2.50 97.50  0.00  7.8M 00:03:40.62  0.20
XTSTKPAS  6E S SYSSTC   0.00  2.50 97.50  0.00 10.9M 00:07:05.33  0.36
```

Step 3 To discover more information about the processes that are running in a particular job, place the cursor on the **Jobname** field of the job that you want to expand and press **Enter**.

Depending on the number of processes with a particular job, either PSOVERZ or EZUPRD is displayed.

For example, to discover more information about the process with job name BPXOINIT, place your cursor on that job name and press **Enter**.

The EZUPRD easy menu is displayed, as shown in Figure 6-8.

Figure 6-8 EZUPRD Menu, the Process Easy Menu

```

DDMMYYYY  HH:MM:SS  ----- MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS -----
COMMAND  ===>                                           SCROLL ===> CSR
CURR WIN ===> 1      ALT WIN ===>
W1 =ASOVERZ==EZUPRD==SJSC=====*=====DDMMYYYY==HH:MM:SS====MVUSS====D====1
                                     Process Easy Menu

Current Pid ->                                     1
Dubbed Time ->                                     05:24:23
Dubbed Date ->                                     DDMMYYYY

Activity                                                                 General
. Overview                                     +-----+ . Current Status
. Resource Usage                               | Place cursor on | . Command Name
. Delays                                       | menu item and  | . Detail
                                               | press ENTER   |
                                               +-----+

                                                                 . Return...

```

From here, you can hyperlink to other process views to show additional important information about the process.

Chapter 7 Redisplaying Data without Updating

The data in a window is generally updated each time you press **Enter**. Sometimes, however, you do not want the data updated, especially when you want to debug a problem that lasts only for a minute or two. You need a way to use the MAINVIEW for UNIX System Services product to debug a problem without updating the data. You need alternate forms, as described in this chapter.

This chapter includes the following topics:

| | |
|---------------------------------------|-----|
| Understanding Queries and Forms | 7-2 |
| Using Commands | 7-3 |

Understanding Queries and Forms

Every view consists of one query and one form. The query instructs the MAINVIEW for UNIX System Services product to display the data that you have requested. The form determines how the data is summarized and displayed.

To Determine the Field to be Queried

Step 1 Display PSOVER, as shown in Figure 7-1.

Figure 7-1 PSOVER View

```

DDMMYYYY  HH:MM:SS ----- MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS -----
COMMAND  ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =PSOVER=====SJSC=====DDMMYYYY==HH:MM:SS====MVUSS====D===32
C  ProcessId Command  Elapsed  Jobname  Stepname Multi- Total Total Total Total
-  ----- Name      ProcTime ----- Thread  Dly%  Run%  Zomb% Othr%
      1 BPXPINPR 07:56:06 BPXOINIT BPXOINIT Yes    100  0.00  0.00  0.00
      6 inetd    07:55:42 INETD4  BPXAS   No     0.00  0.00  0.00  100
      7 EZACFALG 07:54:12 DC$TCPIP DC$TCPIP No    100  0.00  0.00  0.00
      8 EZASASUB 07:54:12 DC$TCPIP DC$TCPIP No    100  0.00  0.00  0.00
      9 EZBTMST 07:54:08 DC$TCPIP DC$TCPIP No     0.00  100  0.00  0.00
     11 FTPD    07:53:58 FTPD1   BPXAS   No    100  0.00  0.00  0.00
     12 BBM9SZ20 07:53:57 DC$PAS  PAS     Yes   0.00  100  0.00  0.00
  16777218 BBM9SZ20 07:54:27 DC$CAS  CAS     No    0.00  100  0.00  0.00
  16777219 EZBTCPIP 07:54:21 DC$TCPIP DC$TCPIP Yes   0.00  100  0.00  0.00
  16777231 OMVS    01:09:44 BMVJOJ2 BMVJOJ2 Yes   0.00  100  0.00  0.00
  33554436 EZBTMCTL 07:54:12 DC$TCPIP DC$TCPIP No    0.00  100  0.00  0.00
  33554437 EZBTSSL 07:54:13 DC$TCPIP DC$TCPIP No    0.00  100  0.00  0.00
  33554445 BBM9SZ20 02:02:55 XJONLPAS XJONLPAS Yes   0.00  100  0.00  0.00

```

While looking at PSOVER, you notice that one process (with a Process ID of 1) is delayed for a large portion of the interval. You could type `PSDELAY fieldName` on the **COMMAND** line, but the data would be immediately updated. Because you want to study the data without updating it, you can hyperlink from the **Total Dly%** field.

Step 2 Place your cursor on the **Total Dly%** field for Process ID 1 and press **Enter**.

The new output is displayed, as shown in Figure 7-2 on page 7-3.

Figure 7-2 PSDELAY View

```

DDMMYYYY  HH:MM:SS  -----  MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS  -----
COMMAND  ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =PSOVER==PSDELAY==SJSC=====*=====DDMMYYYY==HH:MM:SS==MVUSS====D====1
C  ProcessId Command  Elapsed  Jobname          Total Delay % Total Total %Delay
-  -----  Name      ProcTime  -----          0...50...100  Zomb%  Othr%  MsgRcv
      1  BPXPINPR  07:56:06  BPXOINIT  100.00          0.00  0.00  0.00

```

The window information line contains a new form field to indicate that you are using an alternate form of PSDELAY. By comparing the **Total Dly%** field, you can determine that the data has not been updated. You can now see the details of the process at the time that the problem occurred.

Using Commands

The following table briefly describes the commands that are available for debugging. If you need more information about a command, type **HELP *commandName*** on the **COMMAND** line.

| To Do This Action | Use This Command |
|--|--------------------|
| Cycle forward to the next form in the stack. | FNEXT |
| Cycle back to the previous form in the stack. | FPREV |
| Return to the previous form (or, if there are no more forms in the stack, return to the last query). | END |
| Delete the current query and all of its forms, and then return to the previous view. | ENDQuery |
| Change the parameters of a form (without updating the data). | PARm |
| Change the parameters of a query and update the data. | QPARm |
| Display a list of the filters currently in effect for both the query and the form. | SHOWFilt |
| Update the data in one window without updating data in the other windows. | DATARefresh |

Chapter 8 Filtering Data

You can use the L-Filter option in View Customization to filter data so that only certain rows are displayed. This technique works well when you want to restrict the display to something very simple.

To avoid using View Customization while filtering data based on more than one set of criteria, you can use the **WHERE** command.

Using the WHERE Command

To Use the WHERE Command

Step 1 Display PSOVER, as shown in Figure 8-1.

Figure 8-1 Filtering PSOVER

```

DDMMYYYY   HH:MM:SS  ----- MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS -----
COMMAND  ==>                               SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
>W1 =PSOVER=====SJSC=====DDMMYYYY==HH:MM:SS====MVUSS====D=====4
C  ProcessId Command  Elapsed  Jobname  Stepname Multi- Total Total Total Total
-  ----- Name      ProcTime ----- Thread  Dly%  Run%  Zomb% Othr%
      1 BPXPINPR 06:36:56 BPXOINIT BPXOINIT Yes    100  0.00  0.00  0.00
      6 inetd    06:36:39 INETD4   BPXAS    No     0.00  0.00  0.00  100
     11 FTPD    06:34:42 FTPD1   BPXAS    No     100  0.00  0.00  0.00
     12 BBM9SZ20 06:34:37 DC$PAS  PAS      Yes    0.00  100  0.00  0.00
13981019 EZ***** 06:34:54 DC$TCPIP DC$TCPIP ****  33.33 66.67  0.00  0.00
16777218 BBM9SZ20 06:35:10 DC$CAS  CAS      No     0.00  100  0.00  0.00
16777230 BBM9SZ20 05:28:40 SVSGD6FT SVSGD6FT No     0.00  100  0.00  0.00
50331658 BBM9SZ20 03:45:01 XJONLPAS XJONLPAS Yes    0.00  100  0.00  0.00
83886095 BBM9SZ20 05:35:21 SVOS61FT SVOS61FT No     0.00  100  0.00  0.00

```

In this example, you want to determine which processes have a significant delay so that you know which processes might need your attention.

Before using the WHERE command, you must know the element name of the field on which you want to place a filter.

To determine the element name, follow these steps:

Step 1 Place the cursor on the column heading of the fields that you want to filter, and press **PF1** (Help).

For this example, you want to filter the **Total Dly%** fields. You will see the Help for **Total Dly%**, as shown in Figure 8-2 on page 8-3.

Figure 8-2 Determining the Element Name

```

DDMMYYYY  HH:MM:SS ----- MAINVIEW WINDOW INTERFACE(Vv.r.mm)MVUSS -----
COMMAND ==>                               SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
>W1 =PSOVER=====SJSC=====*=====DDMMYYYY==HH:MM:SS====MVUSS====D====42
C ProcessId Command Elapsed Jobname Stepname Multi- Total Total Total Total
- ----- Name ProcTime ----- Thread Dly% Run% Zomb% Othr%
      1 BPXPINPR 06 +-----+
      6 inetd 06 | Help Total Process Delay Percent(Average) Help |
     11 FTPD 06 | Command ==>                               Scroll ==> CSR |
     12 BBM9SZ20 06 |-----|
13981019 EZ***** 06 |
16777218 BBM9SZ20 06 | The Total Process Delay Percent is the sum of
16777218 BBM9SZ20 05 | fields that indicate delays beyond the users
50331658 BBM9SZ20 03 | control such as filesystem kernel wait.
83886095 BBM9SZ20 05 |
|
| Note that this field contains the average of any
| row of data with the same Jobname.
|
| The element name for this field is PRIDLYP.
|
| Extended Information
|
| This element hyperlinks to:
|
| Condition:          Command:
|
| K = *              FORM PDELAY;WHERE PRGKTKN =
|                    UU
|
| There are no filters defined for this element.
|
| There are no thresholds defined for this element.
+-----+

```

Step 2 Write down the element name.

For **Total Dly%**, the element name is PRIDLYP.

Step 3 To return to the view, press **PF3**.

Step 4 On the **COMMAND** line, type **WHERE**.

The Set Where Filter panel is displayed, as shown in Figure 8-3 on page 8-4.

The following list shows statements that you can use with the WHERE command:

- AND
- BETWEEN
- IN
- NOT BETWEEN
- NOT IN
- OR

You can use the statements in conjunction with these operands:

- =
- <> (NOT EQUAL TO)
- >
- >=
- <
- <=

The WHERE equation can include an element and a constant, or it can include two elements.

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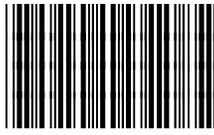
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