

# **MAINVIEW<sup>®</sup> for IP User Guide**

**Version 2.2**

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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 detailed information about MAINVIEW for IP and is intended for network administrators, system administrators, and system programmers.

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

- 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 and how to perform common actions in a window environment (such as choosing menu items and resizing windows).

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# How This Book Is Organized

This book is organized as follows:

Chapter/Appendix	Description
Chapter 1, "Introduction"	provides an introduction to the features and functions of MAINVIEW for IP
Chapter 2, "Navigating in MAINVIEW for IP"	explains the MAINVIEW for IP menus and provides instructions for using the menus
Chapter 3, "Using MAINVIEW for IP"	explains the MAINVIEW for IP views that are displayed on the MAINVIEW console, and provides instructions for using the views
Chapter 4, "Displaying Historical Data"	provides instructions for using the TIME command to display historical data <b>Note:</b> For instructions on how to generate historical performance reports, see <i>Using MAINVIEW</i> .
Chapter 5, "Setting Alarms"	provides a list of sample alarms and a checklist with the steps that are required to set an alarm in MAINVIEW for IP
Chapter 6, "MAINVIEW for IP Messages"	explains the messages that can be displayed within the MAINVIEW for IP environment
Appendix A, "Operator Commands"	lists operator commands available for MAINVIEW for IP

In addition, an index appears at the end of the book.

## Related Documentation

BMC Software products are supported by several types of documentation:

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

In addition to this book and the online Help, you can find useful information in the following publications:

<b>Category</b>	<b>Document</b>	<b>Description</b>
installation documents	<i>Implementing Security for MAINVIEW Products</i>	describes how to implement MAINVIEW security with your external security manager to protect MAINVIEW product resources
	<i>MAINVIEW Common Customization Guide</i>	provides instructions for manually customizing the MAINVIEW environment for your products
	<i>MAINVIEW Installation Requirements Guide</i>	provides product-specific information such as software and storage requirements, product libraries, and FMIDs
	<i>OS/390 and z/OS Installer Guide</i>	provides instructions for using the installation system, and describes the Product Authorization utility and AutoCustomization
	<i>MAINVIEW for IP Customization Guide</i>	provides instructions for customizing and implementing MAINVIEW for IP
core documents	<i>MAINVIEW Administration Guide</i>	provides information about MAINVIEW operations, targets, single-system image contexts, MAINVIEW Alarm Manager, data sets, view customization, and diagnostic facilities
	<i>MAINVIEW Alarm Manager User Guide</i>	describes how to create and install alarm definitions that indicate when exceptions occur in a sysplex
	<i>MAINVIEW Alternate Access Implementation and User Guide</i>	explains how to configure, start, and stop VTAM and EXCP AutoLogon sessions to access MAINVIEW products without an active TSO subsystem
	<i>MAINVIEW Products General Information</i>	provides an overview of the MAINVIEW environment and the products that it supports
	<i>MAINVIEW Quick Reference</i>	provides a quick reference for MAINVIEW terminal sessions, logs, data sets, targets, contexts, windows mode, and full-screen mode and describes the functions, syntax, and parameters of the commands that are used to manage the MAINVIEW window environment
	<i>Using MAINVIEW</i>	provides information about working with MAINVIEW products in windows mode and full-screen mode
supplemental documents	release notes, flashes, technical bulletins	provide current information about MAINVIEW for IP

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## Online and Printed Books

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## Online Help

MAINVIEW for IP includes online Help. In the MAINVIEW for IP ISPF interface, you can access Help by pressing **F1** from any ISPF panel.

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Printed release notes accompany each BMC Software product. Release notes provide current information such as

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

In addition, BMC Software sometimes provides updated product information between releases (in the form of a flash or a technical bulletin, for example). The latest versions of the release notes and other notices are available on the Web at [http://www.bmc.com/support\\_home](http://www.bmc.com/support_home).

## Conventions

This book uses the following general conventions:

Item	Example
information that you are instructed to type	Type <b>SEARCH DB</b> in the designated field.
specific (standard) keyboard key names	Press <b>Enter</b> .
field names, text on a panel	Type the appropriate entry in the <b>Command</b> field.
directories, file names, Web addresses	The BMC Software home page is at <b>www.bmc.com</b> .
nonspecific key names, option names	Use the <b>HELP</b> function key. <b>KEEPDICTIONARY</b> option
MVS calls, commands, control statements, keywords, parameters, reserved words	Use the <b>SEARCH</b> command to find a particular object.
code examples, syntax statements, system messages, screen text	<code>//STEPLIB DD</code> The table <code>tableName</code> is not available.
emphasized words, new terms, variables	The instructions that you give to the software are called <i>commands</i> .  In this message, the variable <i>fileName</i> represents the file that caused the error.

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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 useful information that might improve product performance or make procedures easier to follow.

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# Chapter 1 Introduction

This chapter describes the features and functions of MAINVIEW for IP.

This chapter contains the following sections:

Overview . . . . .	1-2
Features and Functions . . . . .	1-3
Sample SAS Programs . . . . .	1-4

## Overview

MAINVIEW for IP provides a way to monitor OS/390 and z/OS mission-critical application performance. MAINVIEW for IP collects application-performance data from the Transmission Control Protocol/Internet Protocol (TCP/IP) stack. This data is displayed on the MAINVIEW console.

**Note:** You cannot manipulate the collected data; you can only view the data.

# Features and Functions

MAINVIEW for IP provides monitoring and management of TCP/IP stacks. Table 1-1 describes the features and functions of MAINVIEW for IP.

For information about using these features and functions, see Chapter 3, “Using MAINVIEW for IP.”

**Table 1-1 Features and Functions (Part 1 of 2)**

Feature	Description
actions	initiate specific actions in a view, such as dropping a connection, pinging a device, or performing a Traceroute
activity	display information about the availability and activity of application and stack connections
configuration	display configuration information by TCP, UDP, IP, SMF, and port
connections	display information about the devices that are connected to an application by domain name, IP address, and remote port number
diagnostics	display information about a ping or a Traceroute that you requested; perform packet tracing and socket tracing
dynamic VIPA	display information about dynamic Virtual IP Addresses (DVIPA)
FTP statistics	display file transfer protocol (FTP) information
historical data	display information about previous performance (to compare with current performance)
interfaces	display information about network devices, network links, and Open Systems Adapter (OSA) cards
IP pacing	delay (or “pace”) outbound data from any TCP/IP application to provide more processing time to business-critical applications and display information about applications that have been paced
IP resource links	hyperlink to views in MAINVIEW for OS/390, MAINVIEW for UNIX System Services, MAINVIEW for VTAM, and MAINVIEW for WebSphere Application Server
routers	specify every IP node that you want to monitor; display information about TCP, UDP, IP, system, interface router, OSPF, and CISCO router performance; and display information about network routes
service levels	display information about application availability and about your Web servers to help ensure that you are meeting your service level agreements
storage	display statistics about Communication Storage Manager (CSM), Virtual Telecommunications Access Method (VTAM), and Common Storage Area (CSA) buffer pools and storage usage

**Table 1-1 Features and Functions (Part 2 of 2)**

Feature	Description
threshold/alarm conditions	utilize sample alarms and threshold conditions that use color or highlighting to add visual indicators that instantly show when resources are reaching a critical state
traffic/response times	display information about the amount of data that is being sent and received (as well as connection detail), and display information about host and network response times by station (IP address or domain name), port, subnet, or TN3270 session

## Sample SAS Programs

BMC Software provides sample Statistical Analysis System (SAS) programs in *hilevel.BBSAMP*. You can use these programs to view the information that is recorded to system management facility (SMF).

The default startup parameters for SMF recording are provided in *hilevel.BBSAMP(TACPARM)*. Each field in the sample SAS programs is defined in the comments. For more information about the TACPARM data set member and SMF recording startup parameters, see the *MAINVIEW for IP Customization Guide*.

For information about SMF records, setting up the SMF data set, and specifying the SMF record type numbers, see the *IBM System Management Facilities* documentation.

Table 1-2 describes the SAS program members that are available in *hilevel.BBSAMP*.

**Table 1-2 SAS Program Members (Part 1 of 2)**

Member	Description
SMF252A	service level agreement information
SMF252B	stack statistics
SMF252C	connections and response-time information
SMF252D	device and link information
SMF252F	configuration information
SMF252H	Web cache analysis information
SMF252I	SNMP IP information
SMF252N	SNMP interface information
SMF252O	OSA information
SMF252P	port information

**Table 1-2 SAS Program Members (Part 2 of 2)**

<b>Member</b>	<b>Description</b>
SMF252R	router information
SMF252S	SNMP system information
SMF252T	SNMP TCP information
SMF252U	SNMP UDP information
SMF252V	Virtual IP Address (VIPA) information
SMF252X	SNMP Open Shortest Path First (OSPF) information
SMF252Y	SNMP Cisco information



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# Chapter 2 Navigating in MAINVIEW for IP

This chapter contains the following sections:

Overview .....	2-2
Easy Menus .....	2-2
Accessing MAINVIEW for IP .....	2-3
MAINVIEW Explorer .....	2-6
Navigating in MAINVIEW for IP .....	2-6
Working with MAINVIEW for IP .....	2-7

## Overview

MAINVIEW windows mode technology provides views that summarize data from multiple subsystems. Within MAINVIEW for IP, you can display detailed and summary views of collected data. To display a list of all MAINVIEW for IP views, select **Select View** on the EZIP Menu. For more information about the Select View feature, see the *Using MAINVIEW* manual.

**Note:** The online Help contains information about MAINVIEW for IP views and the fields in them. To access Help, position the cursor over the applicable field and press the HELP key (usually **PF1**).

MAINVIEW for IP views summarize application performance data that is collected by MAINVIEW for IP. You can monitor applications by job name, IP address, and port. You can analyze which enterprise resources have priority access to critical data.

## Easy Menus

MAINVIEW for IP offers a series of easy menus that provide a quick, convenient way to use the product with little introduction and without having to remember view names. Easy menus allow navigation to the parts of MAINVIEW for IP, based on a feature that you want to monitor rather than on a specific view.

EZIP is the primary easy menu for MAINVIEW for IP. You can use the selections on this menu to access other high-level easy menus, such as EZIPRESP, to locate information quickly. Table 2-1 describes the easy menus that are provided in MAINVIEW for IP.

**Table 2-1** MAINVIEW for IP Easy Menus

Menu	Description
EZIPCONF	configuration details
EZIPCONS	connection details
EZIPOSA	Open Systems Adapter (OSA) card details
EZIPRESP	response-time details
EZIPSNMP	Simple Network Management Protocol and router details
EZIPSTK	stack details
EZIPSUBN	subnet response-time summary details
EZIPVIPA	dynamic Virtual IP Address details

## Accessing MAINVIEW for IP

MAINVIEW for IP can be accessed from the MAINVIEW Selection Menu (Figure 2-1).

**Figure 2-1** MAINVIEW Selection Menu

```

----- MAINVIEW Selection Menu -----
OPTION  ==>>>                                DATE   -- 2003/03/11
                                           TIME   -- 09:40:54
                                           USERID -- RCHLXM2
                                           MODE   -- ISPF 5.2

    0   Parameters and Options
    E   Alerts and Alarms
    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

```

To access MAINVIEW for IP, perform the following steps from the MAINVIEW Selection Menu:

**Step 1** On the option line, type **N** to select **Network Management**, and then press **Enter**.

The Network Management Solutions menu is displayed.

**Step 2** Type **1** to select MAINVIEW for IP, and then press **Enter**.

The Session Control Parameters panel (Figure 2-2 on page 2-4) is displayed.

**Figure 2-2 Session Control Parameters Panel**

```
BMC SOFTWARE ----- SESSION CONTROL PARAMETERS -----  
COMMAND ==>  
  
Subsystem ID   ==> BBIP (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.
```

**Step 3** In the **Subsystem ID** field, type **BBIP**, and then press **Enter**.

The EZIP Menu (Figure 2-3 on page 2-5) is displayed.

**Figure 2-3 EZIP Menu**

```

28MAR2003 14:49:14 ----- MAINVIEW WINDOW INTERFACE(V4.1.05)-----
COMMAND ==>                                SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
>W1 =EZIP=====MCBESAJ==*=====28MAR2003==14:43:08====MVIP=====D=====1
      MAINVIEW for IP Menu

      Activity                Routers                Diagnostics

> TCP/IP Monitor            . Define                . Ping Information
. Application Monitor      . TCP                    . Tracerte Information
                           . UDP                    . Packet Tracing
      Traffic/Response Times . IP                     . Socket Tracing
                           . System
. by Job                   . Interface              IP Pacing
. by Port                  . Network Routes
. by Connection            . OSPF                   . Configuration
> by TN3270 session        . Cisco                   . Statistics

      Connections            Interfaces              Dynamic VIPA

. TCP                      . Network Devices       . General Information
. UDP                      . Network Links         > Configuration
. All                      > OSA Cards              . Connection Routing Table
                           . Distribution Port Table

. Configuration            Storage

. TCP                      . CSM Buffer Pools       Service Levels
. UDP                      . VTAM Buffer Pools     . SLA Policy Information
. IP                       . CSA Information       . Cache Info (WebSphere)
. SMF                      . FTP Statistics        > Response Times
. Port                     . Server File Info      > Subnet Response Times
                           . Server Userid Info   Tools and Menus
                           . Server IPaddr Info  . Batch Reports
                           . Control Connections . Historical Data Sets
                           . Data Connections     . Select View
                           . Return....

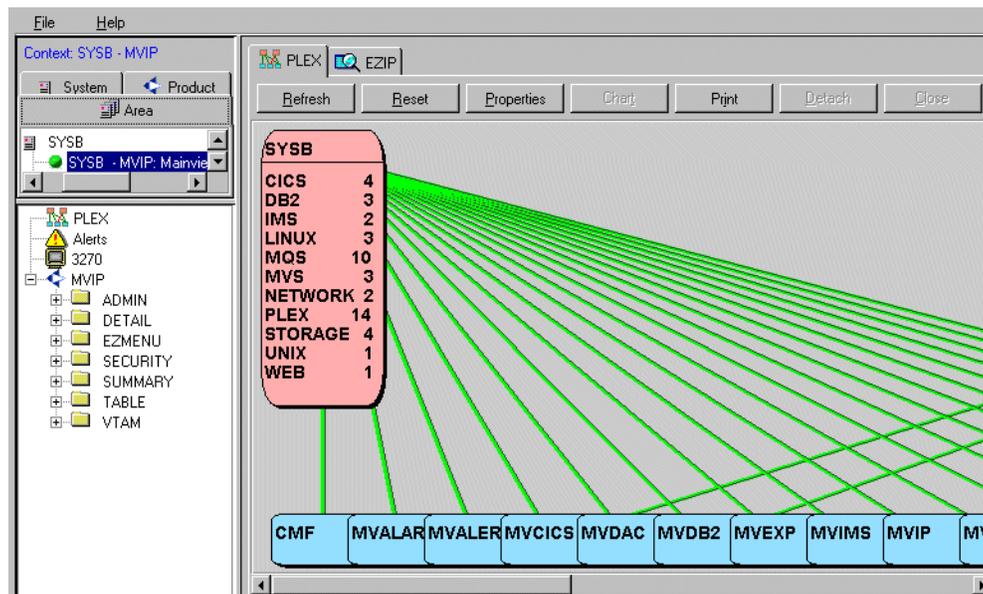

```

To display a list of all MAINVIEW for IP easy menus and views, select **Select View** (Tools and Menus) from the EZIP Menu.

## MAINVIEW Explorer

When MAINVIEW Explorer is installed on your system, you can access MAINVIEW for IP through a Web browser, as shown in Figure 2-4. For information about using MAINVIEW Explorer to access MAINVIEW products, see *Using MAINVIEW*.

Figure 2-4 Accessing MAINVIEW for IP through MAINVIEW Explorer



## Navigating in MAINVIEW for IP

Select the menu or view that you want to display by performing one of the following actions:

- Place the cursor on the menu or view name you want to view, and then press **Enter**.
- On the COMMAND line, type the name of the easy menu or view (for example, EZIPSNMP), and then press **Enter**.

As part of the MAINVIEW environment, MAINVIEW for IP functions as an extension of the standard ISPF panel interface. For a description of the common window interface, and for details on how to use the features and services that are available within the MAINVIEW environment, see *Using MAINVIEW*.

## Working with MAINVIEW for IP

You can display MAINVIEW for IP views and manage the panels in which the views are displayed in the same way you do with any MAINVIEW product. You can display multiple panels of different sizes simultaneously, and you can direct actions from one panel to another panel, all on one terminal.



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## Chapter 3 Using MAINVIEW for IP

This chapter helps you interpret the views that are provided with MAINVIEW for IP. These views display application performance data that is collected by MAINVIEW for IP.

This chapter contains the following sections:

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## Overview

MAINVIEW for IP views summarize application performance data that is collected by MAINVIEW for IP. You can monitor applications by job name, IP address, and port. You can analyze which enterprise resources have priority access to critical data.

## MAINVIEW for IP Views

MAINVIEW for IP views display information that helps you monitor and manage your network. To access detailed or summary information about application availability, traffic, sessions (or connections), configuration, routers, service levels, and so on, use the EZIP Menu (Figure 2-3 on page 2-5).

In several views, you can drill down functions to view more detailed information about an item.

You can drill down in any view where a field name is highlighted. Some highlighted field names are hyperlinks to other applications or resources. For sample instructions on how to perform a drill-down function, see “Accessing More Traceroute Information” on page 3-18. For a description of the hyperlinks that are available in MAINVIEW for IP, see “IP Resource Links” on page 3-34.

Sample alarms and threshold conditions are provided in many MAINVIEW for IP views. You can use color or highlighting to add visual indicators to show when resources are reaching a critical state. For more information, see Chapter 5, “Setting Alarms.”

## Activity

The activity feature provides statistical information for each application and TCP/IP stack that is detected on an OS/390 or z/OS platform. By using the Application Monitor view, you can monitor the application status for any address space that is associated with a TCP/IP stack. By using the TCP/IP Monitor views, you can quickly monitor the status and activity of your TCP/IP stacks.

Table 3-1 describes the views that provide detailed information about application or TCP/IP stack activity.

**Table 3-1 Activity Views**

View	Description
TACAPPL	displays throughput information for each remote application
TACSTIP	displays IP statistics
TACSTIC	displays Internet Control Message Protocol (ICMP) statistics
TACSTTC	displays TCP statistics
TACSTUD	displays User Datagram Protocol (UDP) statistics
TACSTCP	displays CPU and paging statistics
TACTCSB	displays statistical information for each TCP/IP stack that is detected on an OS/390 or z/OS platform

## Configuration

The configuration feature provides configuration information for the PROFILE data set for each TCP/IP stack on your system. For real-time configuration data about the programs that make up your system, subsystem, or network, access the TCP, UDP, IP, SMF, or PORT configuration views. With these views, you can see configuration information without searching through several data sets.

Table 3-2 describes the views that provide detailed or summary information about your system configurations.

**Table 3-2 Configuration Views**

View	Description
TCPCONF	displays configuration information for each TCP/IP stack on your system
UDPCONF	displays configuration information for each UDP on your system
IPCONF	displays configuration information for each IP stack on your system
SMFCONF	displays configuration information for each system management facility (SMF) that is defined on your system <b>Note:</b> For information about viewing the SMF logs in your system, see "Sample SAS Programs" on page 1-4.
TACPORT	displays configuration information for each port on your system

# Connections

The connections feature provides real-time data about all TCP and UDP connections on your system. A connection is a path between two protocol applications that provides reliable data-stream-delivery service. You can use the connections views to see what information is being accessed and to assess application performance.

Table 3-3 describes the views that provide detailed information about all TCP and UDP connections on your system. You can use the views to quickly see real-time data about the IP stack. You can also use the views to perform the following line commands:

- DRop
- Ping
- TRaceroute

**Table 3-3**      **Connections Views**

<b>View</b>	<b>Description</b>
TCPCONS	displays TCP connection information for each remote IP address on your system
UDPCONS	displays UDP connection information for each remote IP address on your system
ALLCONS	displays all TCP and UDP connections for each remote IP address on your system

## Dropping a Connection by Using a Line Command

---

**Summary:** In this task, you will drop a connection by using the DR line command.

---

### Before You Begin

Users who connect to your MVS system through TN3270 or FTP sessions can encounter various problems, such as a connection that is hung. You can determine information about a problem connection by using the ping and Traceroute commands. To resolve the problem, you might decide to terminate the connection that is hung. MAINVIEW for IP provides a line command to quickly terminate (or drop) a connection.

**Warning!** Performing this line command terminates a connection immediately. Anyone who can access the monitor has authority to drop connections. Before you perform this line command, ensure that you have notified the person whose connection you are terminating.

### To Issue the DR Line Command from a Connections View

**Step 1** From the EZIP Menu (Figure 2-3 on page 2-5), select one of the following types of connections from the **Connections** section:

- **TCP**
- **UDP**
- **All**

**Step 2** Press **Enter**.

**Step 3** In the **CMD** field, type **DR** next to the connection that you want to terminate, and then press **Enter**.

Write-to-operator (WTO) message BMC256615I is displayed to confirm that the DR line command has been performed. A return code of 0 indicates that the connection was terminated successfully.

## Pinging a Device by Using a Line Command

---

**Summary:** In this task, you will ping a device by using the P line command.

---

### Before You Begin

A ping is a diagnostic echo packet that measures and displays the round-trip time and percentage of returned packets. For more information about pings, see “Diagnostics” on page 3-11.

You can ping a device by using one of the following methods:

- Select an IP address that is displayed in the **Ping IPAddr** field of the PCONS view. For more information, see “Pinging a Device” on page 3-13.
- Type a ping command on the COMMAND line. For more information, see “Pinging a Device” on page 3-13.
- Issue the P line command from a Connections view.
- Issue the P line command from a Ping Information view. For more information, see “Pinging a Device” on page 3-13.

### To Issue the P Line Command from a Connections View

**Step 1** From the EZIP Menu (Figure 2-3 on page 2-5), select one of the following types of connections from the **Connections** section:

- **TCP**
- **UDP**
- **All**

**Step 2** Press **Enter**.

**Step 3** In the **CMD** field, type **P** next to the device, and then press **Enter**.

The PING view (Figure 3-1) is displayed.

**Figure 3-1 PING Information View**

```

15APR2003 12:18:39 ----- MAINVIEW WINDOW INTERFACE(V4.1.05)-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =PING=====ESAM=====*=====15APR2003==12:18:39====MVIP=====D=====1

Ping Information....

Domain Name.....          sysp
Ping IPAddr.....          172.17.4.175
Ping Count.....          1
Ping Bufsize.....          256
Ping Status.....          Successful

Ping Response Times.

Ping Resp 1 (sec)...          0.0043
Ping Resp 2 (sec)...
Ping Resp 3 (sec)...
Ping Resp 4 (sec)...
Ping Resp 5 (sec)...
Ping Resp 6 (sec)...
Ping Resp 7 (sec)...
Ping Resp 8 (sec)...
    
```

## Performing a Traceroute on a Device by Using a Line Command

---

**Summary:** In this task, you will perform a Traceroute on a device by using the TR line command.

---

### Before You Begin

A Traceroute is a series of pings that progress outward in incremental hops from the MAINVIEW for IP client to the final destination for which the trace was requested. By default, each hop is sent three requests; the response time is determined from these requests.

You can perform a Traceroute on a device by using one of the following methods:

- Select an IP address that is displayed in the **Tracerte IPAddr** field. For more information, see “Performing a Traceroute on a Device” on page 3-15.
- Type a Traceroute command on the COMMAND line. For more information, see “Performing a Traceroute on a Device” on page 3-15.
- Issue the TR line command from a Connections view.
- Issue the TR line command from a Tracerte Information view. For more information, see “Performing a Traceroute on a Device” on page 3-15.

### To Issue the TR Line Command from a Connections View

**Step 1** From the EZIP Menu (Figure 2-3 on page 2-5), select one of the following types of connections from the **Connections** section:

- **TCP**
- **UDP**
- **All**

**Step 2** Press **Enter**.

**Step 3** In the **CMD** field, type **TR**, and then press **Enter**.

The **TRACE** view (Figure 3-2) is displayed.

**Figure 3-2 TRACE Information View**

```

15APR2003 12:21:54 ----- MAINVIEW WINDOW INTERFACE(V4.1.05)-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =TRACE=====ESAM=====15APR2003==12:21:53====MVIP====D===12
Cur Hop          Hop          Min Max Avg Total Hop  Tracerte
Hop DNS          IPaddr      Rsp Rsp Rsp Hops Delay Status
 1 gatel7ha1.bmc.com 172.17.2.8    0  1  0   12   0 In progre
 2 atmwanrtr.bmc.com 172.25.1.49   0  1  0    0   0
 3 rtr-sanjose-atm.bmc.c 192.168.97.162 188 202 197   188
 4 fp-us-sjcl.bmc.com 172.20.250.251 171 223 200    0
 5 * NO RESPONSE *   0.0.0.0      0  0  0    0   0
 6 * NO RESPONSE *   0.0.0.0      0  0  0    0   0
 7 svl-edge-15.inet.qwes 208.46.223.97  0 205 133    0
 8 svl-core-01.inet.qwes 205.171.14.146 0 209 69    0
 9 sjp-brdr-01.inet.qwes 205.171.214.42 54 125 101   54
10 so-2-0-0.edgel.SanJos 209.245.146.229 0 170 57    0
11 so-5-0-0.gar1.SanJose 209.244.3.137  0 187 62    0
12 gige9-0.ipcolo3.SanJo 64.159.2.9    0 197 65    0
    
```

**Step 4** If the status in the **Tracerte Status** field is **In progress**, refresh the data by pressing **Enter**.

**Note:** To see the **Tracerte Status** field, scroll to the right by pressing **F11**.

# Diagnostics

In MAINVIEW for IP, you can perform actions that provide diagnostic information.

- In the Ping Information view, you can perform a ping and view information about the ping. A ping is a diagnostic echo packet that measures and displays the round-trip time of returned packets.

When performing a ping in the Ping Information view, you can control the ping by also specifying the size of the ping (up to 65 kilobytes) and the number of repetitions (up to 32 echo messages).

Pings help you determine the following information:

- network connectivity (whether the IP address is considered valid)
- destination host status (whether the destination host is operational)
- network loading and speed (how long it takes the replies to return)
- network errors (percentage of packets that are lost)

- In the Traceroute Information view, you can perform a Traceroute and view information about the Traceroute. Traceroute information helps you pinpoint delays in your network.

A Traceroute is a series of pings that progress outward in incremental hops from the MAINVIEW for IP product address space (PAS) to the final destination for which the trace was requested. By default, each hop is sent three requests; the time taken to respond is determined from these requests.

- In the Packet Tracing views, you can quickly start, stop, write, or display a trace on a packet. The Packet Tracing views provide all of the TCP/IP header and packet data to help you diagnose a problem on your network.

**Note:** The Packet Tracing view will display all of the packet data *or* the amount of data that has been specified in the **Pkt Len** field.

- In the Socket Tracing views, you can start, stop, write, or display a trace on a socket. The Socket Tracing views provide detailed information about a socket call, including all socket parameters and return codes.

**Note:** If you are tracing a packet or a socket, and you cancel the PAS, you might receive an abend.

Table 3-4 describes the views that provide detailed information about pings, packet traces, socket traces, and Traceroutes.

**Table 3-4**      **Diagnostics Views**

<b>View</b>	<b>Description</b>
PCONS	lets you perform a ping, then displays information about the ping
PING	displays information about a ping that you have performed
PKTTRACD	displays details about a packet that has been traced
PKTTRACF	lets you specify the filtering parameters for displaying or writing packet traces
PKTTRACS	lets you start, stop, write, or display a trace on a packet
SKTTRACD	displays details about a socket that has been traced
SKTTRACF	lets you specify the filtering parameters for displaying or writing socket traces
SKTTRACS	lets you start, stop, write, or display a trace on a socket
TCONS	lets you perform a Traceroute, then displays information about the Traceroute
TRACE	displays information about the number of hops that were required to trace the IP address, and the time (in milliseconds) that was required to perform each hop
TRACEDET	displays more Traceroute information

---

## Pinging a Device

---

**Summary:** In this task, you will ping a device.

---

### Before You Begin

You can ping a device by using one of the following methods:

- Select an IP address that is displayed in the **Ping IPAddr** field.
- Type a ping command on any **COMMAND** line when using **MAINVIEW** for IP.
- Issue the **P** line command from a Ping Information view.
- Issue the **P** line command from a Connections view. For more information, see “Pinging a Device by Using a Line Command” on page 3-7.

### To Use the Ping Line Command

**Step 1** From the EZIP Menu (Figure 2-3 on page 2-5), select **Ping Information** from the **Diagnostics** section, and then press **Enter**.

**Step 2** Type **P** in the **CMD** (line command) field. In the **Ping IPAddr** field, type an IP address or a domain name that you want to ping.

**Tip:** Press the Space bar to delete any characters that are not part of the IP address or domain name that you want to ping.

To specify the size of the ping or the number of echo messages, type the ping size in bytes (up to 65 kilobytes) in the **Ping Size** field, and the number of repetitions (up to 32 echo messages) in the **Ping Count** field.

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

## To Select an IP Address in the Ping IPAddr Field

- Step 1** From the EZIP Menu (Figure 2-3 on page 2-5), select **Ping Information** from the Diagnostics section, and then press **Enter**.

The Ping Information view (PCONS) is displayed, as shown in Figure 3-3.

**Figure 3-3 Ping Information Detail View**

```

15APR2003 12:16:58 ----- MAINVIEW WINDOW INTERFACE(V4.1.05)-----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
>W1 =PCONS=====ESAM=====*=====15APR2003==12:16:58====MVIP====D====1
CMD Ping Ping Ping Domain
--- IPAddr Count Size Name
    0.0.0.0 1 256 default.host.name

```

- Step 2** From the **Ping IPAddr** field, select the IP address of the device that you want to ping, and then press **Enter**.

The PING view (Figure 3-1 on page 3-8) is displayed.

## To Type a Ping Command on a Command Line

- Step 1** When using MAINVIEW for IP, type one of the following commands on any command line:

- **PING *IPAddress***
- **PING *domainName***

*IPAddress* is the IP address of the device that you want to ping. *domainName* is the domain name of the device that you want to ping.

- Step 2** Press **Enter**.

The PING view (Figure 3-1 on page 3-8) is displayed.

---

## Performing a Traceroute on a Device

---

**Summary:** In this task, you will perform a Traceroute on a device.

---

### Before You Begin

You can perform a Traceroute on a device by using one of the following methods:

- Select an IP address that is displayed in the **Tracerte IPAddr** field.
- Type a Traceroute command on a **COMMAND** line.
- Issue the **TR** line command from a **Tracerte Information** view.
- Issue the **TR** line command from a **Connections** view. For more information, see “Performing a Traceroute on a Device by Using a Line Command” on page 3-9.

**Note:** The data that is displayed on the **Tracerte Information** view might not be complete data or real-time data. The Traceroute task is asynchronous; because a Traceroute might take several minutes to complete, **MAINVIEW** for IP may display data while the Traceroute is running. To determine the status of the Traceroute request, see the **Tracerte Status** field.

### To Issue the Traceroute Line Command

- Step 1** From the **EZIP** Menu (Figure 2-3 on page 2-5), select **Tracerte Information** from the **Diagnostics** section, and then press **Enter**.
- Step 2** Type **TR** in the **CMD** (line command) field. In the **Tracerte IPAddr** field, type an IP address or a domain name for which you want to perform the Traceroute.
- Tip:** Press the Space bar to delete any characters that are not part of the IP address or domain name.
- Step 3** Press **Enter**.

## To Select an IP Address in the Tracerte IPAddr Field

- Step 1** From the EZIP Menu (Figure 2-3 on page 2-5), select **Tracerte Information** from the **Diagnostics** section, and press **Enter**.

The Traceroute Information view (TCONS) is displayed, as shown in Figure 3-4.

**Figure 3-4 Traceroute Information Detail View**

```

15APR2003 12:41:01 ----- MAINVIEW WINDOW INTERFACE(V4.1.05)-----
COMMAND ==>                                     SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
W1 =TCONS=====MCBIMSA==*=====15APR2003==12:41:01====MVIP====D====1
CMD Tracerte                                     Domain
--- IPAddr                                       Name
    172.17.4.175                                sysp
    
```

- Step 2** From the **Tracerte IPAddr** field, select the IP address of the device that you want to trace, and then press **Enter**.

The TRACE view (Figure 3-2 on page 3-10) is displayed, showing information about the number of hops that were required to trace the IP address and the time (in milliseconds) that was required to perform each hop.

- Step 3** To refresh the data on the TRACE view, press **Enter**.

**Note:** To access more information about the Traceroute, see “Accessing More Traceroute Information” on page 3-18.

**To Type a Traceroute Command on a COMMAND Line**

**Step 1** Type one of the following commands on a COMMAND line:

- **TRACE *IPAddress***
- **TRACE *domainName***

*IPAddress* is the IP address of the device that you want to trace. *domainName* is the domain name of the device that you want to trace.

**Step 2** Press **Enter**.

The TRACE view (Figure 3-2 on page 3-10) is displayed.

**Note:** To access more information about the Traceroute, see “Accessing More Traceroute Information” on page 3-18.

## Accessing More Traceroute Information

**Summary:** In this task, you will drill down in the TRACE view to access more information about a specific hop on a Traceroute.

**Step 1** From the TRACE view (Figure 3-2 on page 3-10), position the cursor over the hop in the **Current Hop** field for which you want to see more information.

**Tip:** To see ping information for the hop, position the cursor over the **Hop IPaddr** field and press **Enter** to display the PING view (Figure 3-1 on page 3-8).

**Step 2** Press **Enter**.

More Traceroute information (TRACEDET) is displayed, as shown in Figure 3-5.

**Figure 3-5 Traceroute Details**

```

15APR2003 12:42:28 ----- MAINVIEW WINDOW INTERFACE(V4.1.05)-----
COMMAND ==>> SCROLL ==>> PAGE
CURR WIN ==>> 1 ALT WIN ==>>
W1 =TRACE====TRACEDET=MCBIMSA==*=====15APR2003==12:42:06====MVIP====D====1

Tracerte Information....

Tracerte IP addr..... 172.17.4.175
Domain Name..... sysposa.bmc.com
Total Hops.....
Hop Delay (ms).....

Tracerte Hop Analysis...

Hop Sequence Number..... 2
Hop IP addr..... 172.17.4.175
Hop Domain Name..... sysposa.bmc.com

Tracerte Response Times.

Min Response (ms)..... 0
Max Response (ms)..... 2
Avg Response (ms)..... 1
    
```

## Starting a Packet Trace

**Summary:** In this task, you will start a packet trace.

**Note:** If you are tracing a packet (or a socket), and you cancel the PAS, you might encounter an abend. BMC Software recommends that you shut down the PAS normally *or* stop the trace.

**Step 1** From the EZIP Menu (Figure 2-3 on page 2-5), select **Packet Tracing** from the **Diagnostics** section, and then press **Enter**.

The Packet Tracing view (PKTTRACS) is displayed, as shown in Figure 3-6.

**Note:** To see more fields, scroll to the right by pressing **F11**.

**Figure 3-6 Packet Tracing View**

```

11MAR2003 15:21:17 ----- MAINVIEW WINDOW INTERFACE(V4.1.04)-----
COMMAND ====>                                SCROLL ====> PAGE
CURR WIN ====> 1          ALT WIN ====>
>W1 =PKTTRACS=====MCBSYS1=*=====11MAR2003==15:21:17====MVIP====D====3
Command Stack  Trace  Userid  Nbr  Prot IP          Src  Dest  Pk
----- Name   Status  Started Recs  Type Address         Port Port  Le
          TCPIP  ACTIVE  ROHDXX3    149  192.168.38.4
          TCPIP  STOPPED ROHDXX3     0
          TCPIP  STOPPED ROHDXX3     6    192.168.38.4

```

**Step 2** To trace all packets, type **STA** or **START** in the **Command** field, and then press **Enter**.

**Tip:** Before pressing **Enter**, you can limit the parameters of the packet trace by typing an entry in one or more of the following fields: **Userid Started**, **Prot Type**, **IP Address**, **Src Port**, **Dest Port**, **Pkt Length**, **Start date**, **Start time**, **Stop date**, or **Stop time**.

Message TACI9210I is displayed to indicate that the trace has been activated.

**Step 3** Press **Enter** to return to the PKTTRACS view.

ACTIVE is displayed in the **Trace Status** field.

---

## Writing a Packet Trace to a Data Set

---

**Summary:** In this task, you will write a packet trace to a sequential data set.

---

**Note:** To specify whether the packet trace wraps to the end of the trace table, use the PKTWRAP or PKTNWRAP startup parameter. For more information, see the *MAINVIEW for IP Customization Guide*.

**Step 1** From the EZIP Menu (Figure 2-3 on page 2-5), select **Packet Tracing** from the **Diagnostics** section, and then press **Enter**.

The Packet Tracing view (PKTTRACS) is displayed, as shown in Figure 3-6.

**Step 2** In the **Command** field, type **F**, and the press **Enter**.

The PKTTRACF view is displayed.

**Step 3** In the **Command** field, type **WRITE**; in the **Data Set Name** field, type the name of a sequential data set; and then press **Enter**.

**Tip:** Before pressing **Enter**, you can limit the parameters of the packet trace by typing an entry in one or more of the following fields, **Start Date**, **Start Time**, **Stop Date**, or **Stop Time**.

Message TACI9608I is displayed to indicate that the trace is being written to the specified data set.

**Note:** If you are using a Model 2 emulator, you must press **F11** to scroll right, type **WRITE** in the **Command** field, type the data set name in the **Data Set Name** field, and then press **Enter**.

## Stopping a Packet Trace

---

**Summary:** In this task, you will stop a packet trace.

---

**Step 1** On the PKTTRACS view (Figure 3-6 on page 3-19), verify that **ACTIVE** is displayed in the **Trace Status** field.

**Step 2** In the **Command** field, type **STO** or **STOP**, and press **Enter**.

Message TACI9211I is displayed to indicate that the trace has been terminated.

**Step 3** Press **Enter** to return to the PKTTRACS view.

STOPPED or NOT **ACTIVE** is displayed in the **Trace Status** field.

## Displaying a Packet Trace

**Summary:** In this task, you will display a packet trace.

To display information about the first 10,000 traced packets from the PKTRACS view (Figure 3-6 on page 3-19), type **D** in the **Command** field and press **Enter**.

**Tip:** To display information about a packet that was traced at a particular time or on a particular date, type an entry in one or more of the following fields: **Start Date**, **Start Time**, **Stop Date**, or **Stop Time**.

To display the information in Greenwich Mean Time, type **GMT** in the **Local/GMT** field. To display the information in local time, type **Local** in the **Local/GMT** field.

The Packet Tracing Details (PKTTRACD) view is displayed, as shown in Figure 3-7.

**Figure 3-7 Packet Tracing Details View**

```

15APR2003 12:44:50 ----- MAINVIEW WINDOW INTERFACE(V4.1.05)-----
COMMAND ==>
CURR WIN ==> 1 ALT WIN ==>
>W1 =PKTTRACD=====MCBIMSA==*=====15APR2003==12:44:49====MVIP=====D==723

```

Date	Time	Pkt Len	Flow	Source IPAddr	Src Port	Dest IPAddr	Dest Port
04/15/03	12:44:15.3684	78	<---	172.19.134.57	137	172.19.255.255	137
04/15/03	12:44:15.4803	188	<---	172.19.0.79	2525	172.19.255.255	2525
04/15/03	12:44:15.5750	96	<---	172.19.3.135	28826	172.19.255.255	137
04/15/03	12:44:15.5750	96	<---	172.19.3.135	28827	172.19.255.255	137
04/15/03	12:44:15.5879	261	<---	172.19.203.185	138	172.19.255.255	138
04/15/03	12:44:15.6601	229	<---	172.19.201.170	138	172.19.255.255	138
04/15/03	12:44:15.6800	78	<---	172.19.203.181	137	172.19.255.255	137
04/15/03	12:44:15.7141	78	<---	172.19.0.143	137	172.19.255.255	137
04/15/03	12:44:15.8664	254	<---	172.19.202.215	138	172.19.255.255	138
04/15/03	12:44:15.8664	78	<---	172.19.202.215	137	172.19.255.255	137
04/15/03	12:44:15.8664	254	<---	172.19.202.215	138	172.19.255.255	138
04/15/03	12:44:15.9209	78	<---	172.19.134.144	137	172.19.255.255	137
04/15/03	12:44:15.9797	188	<---	172.19.0.79	2525	172.19.255.255	2525
04/15/03	12:44:16.0517	78	<---	172.19.132.91	137	172.19.255.255	137
04/15/03	12:44:16.0716	140	<---	172.19.204.152	1029	172.19.255.255	111
04/15/03	12:44:16.1184	78	<---	172.19.134.57	137	172.19.255.255	137
04/15/03	12:44:16.1902	68	<---	172.19.8.1	1083	255.255.255.255	7100
04/15/03	12:44:16.3546	40	<---	172.19.135.138	2301	255.255.255.255	2301

## Accessing More Packet Trace Information

**Summary:** In this task, you will drill down in the PKTTRACD view to access more information about a specific packet that has been traced.

**Step 1** From the PKTTRACD view (Figure 3-7 on page 3-23), position the cursor over the date of the packet for which you want to see more information.

**Step 2** Press **Enter**.

The More Packet Tracing Details (PKTTRCD2) view is displayed, as shown in Figure 3-8.

To see more pages of the PKTTRCD2 view, scroll down by pressing **F8**.

**Figure 3-8 More Packet Tracing Details View**

```

15APR2003 12:46:03 ----- MAINVIEW WINDOW INTERFACE(V4.1.05)-----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
W1 =PKTTRCD2=====MCBIMSA==*=====15APR2003==12:46:03====MVIP====D====1

Link Name..... GIGF1
Link Type..... Ipaenet
Date..... 04/15/03
Time..... 12:44:15.575036

** IP Header **
Source IPAddr.... 172.19.3.135
Dest IPAddr..... 172.19.255.255
IP Version..... 4
Packet Len..... 96
TOS..... 0
Ident Nbr..... E7F2
Frag Offset..... 0
Time to Live..... 64
Checksum..... 36ED
Header Len..... 20
  Offset.... ----- IP Header -----
00000000.... 45000060 E7F20000 401136ED AC130387
00000010.... AC13FFFF
    
```

## Viewing Packet Details

**Summary:** In this task, you will drill down in the PKTTRCD2 view to access more information about a specific packet that has been traced.

**Step 1** In the PKTTRCD2 view (Figure 3-8 on page 3-24), position the cursor over one of the following headings.

- **\*\*IP Header\*\***
- **\*\*Protocol Hdr\*\***
- **\*\*Packet Data\*\***

**Step 2** Press **Enter**.

More packet details are displayed, as shown in Figure 3-9.

To see more pages of the PKTTRCD2 view, scroll down by pressing **F8**.

**Figure 3-9 More Packet Details View**

```

15APR2003 12:47:20 ----- MAINVIEW WINDOW INTERFACE(V4.1.05)-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =PKTTRCDD=====MCBIMSA==*=====15APR2003==12:47:20====MVIP====D====5

Offset -----Data-----          ---- EBCDIC ----   ---- ASCII ----
000000 DC072910 00010000 00000001 20454345  .....   ü.)..... ECE
000010 50454346 48454945 4A464545 46434143 &.....   PECFHEIEJFEEFCAC
000020 41434143 41434143 41434141 44000020  .....   ACACACACACAAD..
000030 0001C00C 00200001 00054600 00066000  ..{.....   ..{.. ..F.....
000040 AC130390                ....           Ð..°

```

## Clearing Packet Trace Entries

---

**Summary:** In this task, you will clear (or delete) the packet trace entries. Packet trace entries are stored in a table.

---

**Step 1** On the PKTTRACS view (Figure 3-6 on page 3-19), verify that STOPPED is displayed in the **Trace Status** field.

**Step 2** In the **Command** field, type **DEL** or **DELETE**, and press **Enter**.

Message TACI9215I is displayed to indicate that the trace table entries have been cleared.

**Step 3** Press **Enter** to return to the PKTTRACS view.

## Dynamic Virtual IP Address

A virtual IP address (VIPA) refers to an Internet address on an OS/390 or z/OS host that is not associated with a physical adapter. A Dynamic VIPA (DVIPA) is a virtual Internet address that can move dynamically to other TCP/IP stack members in a sysplex.

A VIPA is configured on a TCP/IP stack. When you configure multiple paths to a stack by using VIPA *and* conventional IP addresses, you can eliminate hardware and transmission media as single points of failure for many connections. If a TCP/IP or its host operating system suffers an outage (for example, a power failure), you can move the VIPA to another TCP/IP stack. DVIPA automatically moves a VIPA to other TCP/IP stack members in a sysplex.

MAINVIEW for IP provides the Dynamic VIPA views that you can use to monitor the DVIPAs on your OS/390 or z/OS host. These views display details about DVIPA configuration, DVIPA routing connection tables, and DVIPA destination port tables. You can use these views to identify the distribution of your TCP/IP resources that are attached to OS/390 or z/OS TCP/IP stacks.

Table 3-5 describes the views that provide detailed or summary information about your DVIPAs.

**Table 3-5**      **Dynamic VIPA Views**

View	Description
VIPACFG	provides access to the VIPACFG Menu
VIPACFG1	displays VIPA backup information
VIPACFG2	displays VIPA definition information
VIPACFG3	displays VIPA range information
VIPACFG4	displays VIPA distribution information
VIPACFG5	displays VIPA service level agreement policy information
VIPACONN	displays all current connections that are being distributed by the distributing stack
VIPADYN	displays general information about DVIPA
VIPAPORT	displays which target stacks are available with the server applications ready

## FTP Statistics

File Transfer Protocol (FTP) is a method for exchanging files between computers on the Internet. FTP can be used to transfer Web page files to a computer that acts as a server for everyone on the Internet. FTP can also be used to download programs and other files to your computer from other servers.

MAINVIEW for IP provides the FTP Statistics views that you can use to monitor traffic on your FTP servers. These views display details about FTP files, IP addresses, and user IDs.

MAINVIEW for IP also collects statistics about your FTP connections. If you enable packet sampling and specify the FTP control port, MAINVIEW for IP can provide real time statistics for active FTP control ports and for the data traffic ports. The FTP connections views display response times, transfer rates, progress, and diagnostic information.

**Note:** Before using the FTP Servers views, ensure that you have completed the required customization tasks and that your operating system meets the minimum requirements. Customization tasks and operating-system requirements are described in the *MAINVIEW for IP Customization Guide*.

For more information about enabling product sampling and specifying FTP control ports, see Appendix A, “Operator Commands.”

Table 3-6 describes the views that provide detailed or summary information about FTP servers and connections.

**Table 3-6 FTP Statistics Views**

View	Description
TACFTPA	displays FTP data-connection information
TACFTPC	displays FTP control-connection information
TACFTPF	displays FTP file information
TACFTPI	displays FTP IP address information
TACFTPU	displays FTP user ID information

# Interfaces

With MAINVIEW for IP, you can see information about interfaces on your network:

- The Network Devices view displays information about network devices that are defined to the TCP/IP stack. You can quickly see the device name, type, status, link count, and whether the device is multicast-capable.
- The Network Links view displays information about network links. You can use the Network Links view to see data-traffic counts and the status of the link. You can see suspicious performance information and identify performance problems.
- The OSA Cards menu provides quick access to views that display information about Open Systems Adapter (OSA) devices. You can use these views to see OSA configuration information, utilization statistics, network device details, network link details, and Ethernet-like statistics.

**Note:** Before using the OSA Cards menu, ensure that you have completed the required customization tasks and that your operating system meets the minimum requirements. Customization tasks and minimum requirements are described in the *MAINVIEW for IP Customization Guide*. You can display OSA information even if OSA/SF and the other address spaces are not active.

Table 3-7 describes the views that provide detailed information about your network interfaces.

**Table 3-7** Interfaces Views

View	Description
TACDEVS	displays information about network devices that are defined to the IP stack
TACLNKS	displays information about network links
TACOSA3	displays Ethernet-like statistics
TACOSAC	displays OSA configuration information
TACOSAD	displays OSA device information
TACOSAL	displays OSA link information
TACOSAU	displays OSA utilization information

## IP Pacing

With MAINVIEW for IP, you can delay (or “pace”) outbound data from any TCP/IP application to provide more processing time to business-critical applications, and you can display information about applications that have been paced.

Table 3-8 describes the views that provide detailed information about IP pacing.

**Table 3-8** IP Pacing Views

<b>View</b>	<b>Description</b>
IPPACCFG	displays the IP pacing configuration entries
IPPACSTA	displays IP pacing statistics

## Adding Job Names to IP Pacing Configuration

**Summary:** In this task, you will add a job name to the IP pacing configuration to provide more processing time to business-critical applications.

**Step 1** From the EZIP Menu (Figure 2-3 on page 2-5), select **Configuration** from the **IP Pacing** section, and press **Enter**.

The IP Pacing Configuration view (IPPACCFG) is displayed, as shown in Figure 3-10.

**Figure 3-10 IP Pacing Configuration View**

```

10APR2003 15:34:00 ----- MAINVIEW WINDOW INTERFACE(V4.1.05)-----
COMMAND ==>>                                SCROLL ==>> PAGE
CURR WIN ==>> 1          ALT WIN ==>>
W1 =IPPACCFG=====MCBESAM==*=====10APR2003==15:34:00====MVIP=====D===10
Cmd Job      Pacing  Local Start Time Stop Time
--- Name     Time (ms) /GMT  (hh:mm)  (hh:mm)  M-F SAT SUN
$DEFAULT    LOCAL 09:00    17:00    X
FTP*        1200 LOCAL 09:00    17:00    X
FTPJOBS     5000 LOCAL 09:00    17:00    X
JOBA*       2000 GMT 12:00    23:00    X  X
PR*         1000 LOCAL 09:00    17:00    X
RCHRWBX2    200  LOCAL 09:00    21:00    X
RCHRWBX3    400  LOCAL 09:00    21:00    X
RCHRWBX4    800  LOCAL 09:00    21:00    X
RCHRWBX5    1000 LOCAL 09:00    21:00    X
RCHRWBX6    10000 LOCAL 09:00    21:00    X

```

**Step 2** Type **ADD** in the **Cmd** field and type the name of the job that you want to delay in the **Job Name** field.

**Tip:** Press the Space bar to delete any characters that are not part of the job name you are adding.

**Step 3** Type the number of milliseconds that you want the job delayed in the **Pacing Time** field, type the time you want the delay to start and stop in the **Start Time** and **Stop Time** fields, specify the days of the week you want the job delayed in the **M-F**, **SAT**, and **SUN** fields, and press **Enter**.

## Deleting Job Names from IP Pacing Configuration

---

**Summary:** In this task, you will delete a job name from the IP pacing configuration entries.

---

**Step 1** From the EZIP Menu (Figure 2-3 on page 2-5), select **Configuration** from the **IP Pacing** section, and press **Enter**.

The IP Pacing Configuration view (IPPACCFG) (Figure 3-10 on page 3-31) is displayed.

**Step 2** In the **Cmd** field, type **DEL** next to the job name you want to remove from the list, and then press **Enter**.

## Displaying IP Pacing Statistics

**Summary:** In this task, you will display IP pacing statistics about a job name that has been configured to delay outbound data from a TCP/IP application.

From the EZIP Menu (Figure 2-3 on page 2-5), select **Statistics** from the **IP Pacing** section, and press **Enter**.

The IP Pacing Statistics view (IPPACSTA) is displayed, as shown in Figure 3-11.

**Figure 3-11 IP Pacing Statistics View**

```

10APR2003 15:55:43 ----- MAINVIEW WINDOW INTERFACE(V4.1.05)-----
COMMAND ==>>                                SCROLL ==>> PAGE
CURR WIN ==>> 1          ALT WIN ==>>
W1 =IPPACSTA=====MCBESAM==*=====10APR2003==15:55:43====MVIP====D====5
Job      Sends  Total Wait  Sends
Name     Paced   Time (sec)  Skipped
RCHRWBX2  17      3           0
RCHRWBX3  17      6           0
RCHRWBX4  17     13           0
RCHRWBX5  17     17           0
RCHRWBX6  17    170           0

```

## IP Resource Links

MAINVIEW for IP provides access to MAINVIEW for OS/390, MAINVIEW for UNIX System Services, MAINVIEW for VTAM, and MAINVIEW for WebSphere Application Server through hyperlinks.

Table 3-9 shows where to find the hyperlink and describes the information that can be accessed when the hyperlink is activated.

**Table 3-9 IP Resource Links**

MAINVIEW for IP View	Field Name	Resource Link	Resource Link Description
EZIP	by TN3270 session	MAINVIEW for VTAM	menu to Response Time Monitor (RTM) and throughput statistics for TN3270 resources by LU name, domain name, and IP address, and to information about the mapping of TN3270 resources to IP addresses, and the resolving of application associations
JOBRESPS	USS Resource	MAINVIEW for UNIX System Services	summary of resource usage for a specific UNIX System Services address space based on processes that are running in that address space
TACCACHE	Web Server	MAINVIEW for WebSphere Application Server	summary of WebSphere Application Server performance statistics
TACSTCP	Stack CPU Resources	MAINVIEW for OS/390	summary of CPU utilization statistics
TACSTCP	Stack Pag Resources	MAINVIEW for OS/390	summary of paging statistics, including the number of pages per second

## Hyperlinks

A hyperlink is one or more commands that are associated with a particular field and the conditions under which those commands are issued. When you activate a hyperlink, the underlying command is issued against the resource where the cursor is positioned. Hyperlinks to other related views are displayed in different colors or are highlighted for a monochrome monitor.

When you activate a hyperlink that goes to another view or form, the output replaces the view in the current window by default, or the output is displayed in an alternative window.

For sample instructions on how to activate a hyperlink, see “Activating the TN3270 Session Hyperlink” on page 3-35. For more information about hyperlinks, see *Using MAINVIEW*.

## Activating the TN3270 Session Hyperlink

**Summary:** In this task, you will activate the hyperlink that accesses the MAINVIEW for VTAM EZTN3270 Menu.

### Before You Begin

To activate the hyperlink for a resource, the resource must be installed at your site. To access the MAINVIEW for VTAM EZTN3270 Menu, MAINVIEW for VTAM must be installed at your site.

### To Activate the TN3270 Session Hyperlink

From the EZIP Menu (Figure 2-3 on page 2-5), select **by TN3270 session** from the Traffic/Response Times section, and press **Enter**.

The EZTN3270 Menu is displayed, as shown in Figure 3-12. You can access statistics about TN3270 byte counts and response times by selecting a view from the menu.

**Figure 3-12 EZTN3270 Menu**

```

10APR2003 16:09:57 ----- MAINVIEW WINDOW INTERFACE(V4.1.05)-----
COMMAND ==>                                SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
>W1 =EZTN3270=====MCBESAM==*=====10APR2003==16:08:49====MVVTAM===D=====1
                                EZTN3270 Menu

      TN3270 Byte Counts          Informational Views          Tools and Menus

. TN3270 LUs                      . Appl Correlation          . Select View
. TN3270 Domains                  . IP Address/LU Mapping     . Return....
. TN3270 IP Addresses

      TN3270 Response Times

. TN3270 LUs
. TN3270 Domains
. TN3270 IP Addresses

```

## Routers

MAINVIEW for IP provides the information that you need to monitor the network control path.

- In the Define view (SNMPDEF), you can add or change SNMP parameters dynamically. The SNMP Data views display TCP, UDP, IP, system, interface, OSPF, and Cisco router information. You can use these views to see detailed and summary information about router performance.
- The Network Routes Information view displays information about network routes that are defined on a TCP/IP stack.

Table 3-10 describes the views that provide detailed or summary information about network routes and router performance.

**Table 3-10 Routers Views**

View	Description
SNMPCSCO	displays SNMP information by Cisco router domain name
SNMPDEF	lets you specify every IP node that you want to monitor
SNMPIF	displays SNMP information by interface host name
SNMPIP	displays SNMP information by IP host name
SNMPOSPF	displays SNMP information by Open Shortest Path First (OSPF) router domain name
SNMPSYS	displays SNMP information by system host name
SNMPTCP	displays SNMP information by TCP host name
SNMPUDP	displays SNMP information by UDP host name
TACROUT	displays information about network routes that are defined on an IP stack

## SNMP Information

SNMP views display data that was collected in the last interval. To access real-time data, you can drill down.

If you added or changed the SNMP parameters by using the SNMPDEF view, and you select an SNMP Data view, the fields are refreshed with new data. For instructions on how to define SNMP parameters, see “Defining SNMP Parameters” on page 3-37.

## Defining SNMP Parameters

---

**Summary:** In this task, you will specify the IP nodes that you want monitored through MAINVIEW for IP.

---

### Before You Begin

By using the Define view (SNMPDEF), you can update SNMP parameters dynamically for each IP node that you want monitored through MAINVIEW for IP.

**Note:** Information in the SNMP parameter file is case-sensitive. If the Define view does not implement your request dynamically, verify that you entered the information correctly.

A sample SNMP parameter file is provided with the distribution tape in member *hilevel.BBSAMP(TACSNMP)*. For more information about the parameter file and its syntax rules, see the *MAINVIEW for IP Customization Guide*.

## To Define SNMP Parameters

- Step 1** From the EZIP Menu (Figure 2-3 on page 2-5), select **Define** from the **Routers** section, and press **Enter**.

The Define view (SNMPDEF) is displayed, as shown in Figure 3-13.

**Figure 3-13 SNMP Define View**

```

08JUL2002 12:34:30 ----- INFORMATION DISPLAY -----
COMMAND ==>>                                SCROLL ==>> PAGE
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =SNMPDEF=====MCBSYS1==*=====08JUL2002==12:34:30====MVIP====D====4
Cmd Host                                IP                                Community
--- Name                                Address                            Name
$DEFAULT                                000.000.000.000                    public
ipor12p.houlab.bmc.com                  192.168.1.253                      public
ipor321.houlab.bmc.com                  192.168.3.253                      IPO
UNKNOWN                                  192.168.2.253                      public

```

- Step 2** To add an IP address to the list of nodes that are monitored, type **ADD** in the **Cmd** field.

**Tip:** To delete an IP address from the list, type **DEL** in the **Cmd** field.

- Step 3** In the **IP Address** field, type the IP address of the node that you want to monitor.

**Tip:** If you know the host name but not the IP address, you can type the host name in the **Host Name** field. When defining the SNMP parameters, you can add or delete the host name *or* the IP address.

**Note:** If NODNR is set, then the IP address is written to the file. Otherwise, the host name is written to the file.

- Step 4** Press **Enter**.



## Service Levels

MAINVIEW for IP provides the information that you need to ensure that you are meeting your service level agreements (SLA). An SLA is an essential tool for building accountability into the provider/customer relationship and for measuring the provider's performance. An SLA policy often lists services (and service levels) that users should expect, describes user responsibilities in addressing problems, and defines problem-resolution paths.

When you need information about your Web servers, access the Cache Information view (TACCACHE). This view displays the network status of the local host and provides statistics about Fast Response Cache Accelerator. The statistics are displayed for each listening socket that is configured for Cache Accelerator support.

To analyze application access availability, to monitor service level events, and to ensure that you are meeting your SLA, access the Service Level Agreement Policy view (TACSLAP).

**Note:** To use the Service Level Agreement Policy view, you must be running the Policy Server (PAGENT).

Table 3-11 describes the views that provide detailed information about your service levels.

**Table 3-11**      **Service Levels Views**

View	Description
TACCACHE	displays Fast Response Cache Accelerator statistics, provides information for Web cache analysis, and provides a hyperlink to MAINVIEW for WebSphere Application Server
TACSLAP	displays SLA policy statistics
EZIPRESP	provides menu access to response-time information
EZIPSUBN	provides menu access to subnet response-time summary information

## Storage

For real-time statistics about your buffer pools and storage usage, access the Communication Storage Manager (CSM) Buffer Pools view, the Virtual Telecommunications Access Method (VTAM) Buffer Pools view, or the Common Storage Area (CSA) Information view. In these views, you can monitor and manage the storage allocations that are required to run your system at optimum levels.

Table 3-12 describes the views that provide detailed information about your buffer pools and storage usage.

**Table 3-12 Storage Views**

View	Description
CSM	displays storage allocation and CSM buffer pool information
VTMBUFF	displays VTAM buffer pool statistics
VTMBUFQ	displays quick view of VTAM buffer pool statistics
CSAU	displays CSA usage and limit information

## Traffic/Response Times

MAINVIEW for IP provides the information that you need to monitor the amount of data that is transmitted by your applications and through your network.

MAINVIEW for IP also provides response-time statistics by job name, port, and connections. By using the Response Times information views, you can access the information that you need to identify delays in your network. Response times are reported in milliseconds.

If packet sampling is enabled, and Telnet and FTP ports are specified, the responses for those applications will be measured internally by MAINVIEW for IP. These response times will be displayed as host averages and network averages for the interval, and will also include high water marks and low water marks.

If packet sampling is disabled, response times are calculated on round trip time (RTT); RTT is measured by TCP/IP.

**Note:** For information about enabling packet sampling and specifying Telnet and FTP ports, see Appendix A, “Operator Commands.”

When you need throughput information about remote applications, connections with applications, or traffic counts, access the Application information and detail views.

When you need summary throughput information for a network by class subnet (A, B, or C), access the Class Subnet Byte Count Summary views. These views display throughput count information such as bytes in, bytes out, retransmissions, duplicate acknowledgements, inbound datagrams, and outbound datagrams.

When you need summary response-time statistics for a network by class subnet (A, B, or C), access the Class Subnet Response Time Summary views. These views display response-time information such as bytes in, bytes out, and round-trip time.

Table 3-13 describes the views that provide detailed or summary information about traffic and response times on your system.

**Table 3-13 Traffic/Response Times Views**

View	Description
CONNRESP	displays connection response times
JOBRESP	displays jobname response times
JOBRESPTS	displays application response-time summary and provides a hyperlink to MAINVIEW for UNIX System Services
PORTRSPP	displays port response times
PORTRSPTS	displays port response-time summary
CLSxCONS	displays subnet byte-count summaries In this view name, x is class A, B, or C.
CLSxRESP	displays subnet response-time summaries In this view name, x is class A, B, or C.

## Tools and Menus

The Tools and Menus section on the EZIP Menu (Figure 2-3 on page 2-5) provides you with the following options:

- Batch Reports
- Historical Data Sets
- Select View
- Return

## Batch Reports

To display the MAINVIEW Batch Reports panel, access the Batch Reports option. MAINVIEW can obtain historical performance reports through the submission of batch jobs. An ISPF dialog panel will assist you in generating the JCL to produce MAINVIEW batch reports of your historical data. For more information about setting up and using MAINVIEW Batch Reports, see Using MAINVIEW.

## Historical Data Sets

With MAINVIEW for IP, you can re-create the operating environment as it existed during a previous time period. This feature, Historical Data Sets, stores information on your operating environment at the end of each interval so that you can compare the current performance with a previous performance. By using this comparison, you can determine whether your system is working normally or whether there is a problem.

For more information about using the Historical Data Sets feature, see Chapter 4, “Displaying Historical Data.”

## Select View

To display a list of view names and descriptions of the views that are available in MAINVIEW for IP, access the Select View option.

## Return

You can use the Return option to display the previous view.

## Exiting MAINVIEW for IP

When you are finished working with MAINVIEW for IP, you can return to the MAINVIEW Selection Menu by issuing one of the following commands from the command list:

- Quit
- RETURN



---

---

# Chapter 4    Displaying Historical Data

This chapter provides information about the historical data feature. You can use historical data to look at system data as it existed an hour ago, yesterday, last week, last month, or last year.

**Note:** For instructions on how to generate historical performance reports, see *Using MAINVIEW*.

This chapter contains the following sections:

Overview . . . . .	4-2
Data Availability . . . . .	4-3
TIME Command . . . . .	4-4
Viewing Historical Data in the JOBNAME Response Times View . .	4-5
Displaying the Intvl Time Field . . . . .	4-10
Moving between Time Frames . . . . .	4-11
Time and Duration Fields . . . . .	4-13

## Overview

You can use historical data to re-create the operating environment as it existed during a previous time frame so that you can compare the current performance with a previous performance. You can use this comparison to determine whether your system is working normally or whether there is a problem.

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.

For information about the historical database and how it operates in the MAINVIEW environment, see the *MAINVIEW Administration Guide*.

**Note:** For instructions on how to generate historical performance reports, see *Using MAINVIEW*.

## Data Availability

When you need historical data, you must ensure that the data is available in one of the historical data sets that has been allocated.

To determine whether data has been recorded to historical data sets, and to view a list of allocated historical data sets, type **DSL** on the **COMMAND** line.

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

**Figure 4-1 DSL View**

```

28NOV2003 15:16:17 ----- INFORMATION DISPLAY -----
COMMAND ==>>
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =DSL=====VXGSI=====28NOV2003==15:16:17====MVIP====D====3
C DDNAME   From Date  Time  To Date   Time  Rec Status Pending  Data set name
-----
HISTDS00  14NOV2003 15:43 28NOV2003 15:16 Yes Active  ***** TAC22.SYSN.HIS
HISTDS02                                     Yes Closed  ***** TAC22.SYSN.HIS
HISTDS01                                     Yes Closed  ***** TAC22.SYSN.HIS

```

BMC Software recommends that you check DSL before using the **TIME** command. When you specify the **TIME** command for an unavailable date and time, an error message is displayed.

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.
- The data set has an error.

If you do not see the date and/or time that you want on the DSLIST view, the data set that you need may have been archived on tape or in an offline data set, or the data may have been purged. To determine whether the data was archived or purged, see your product administrator. (If you are the administrator, see the *MAINVIEW Administration Guide*).

## TIME Command

You can use the TIME command to specify the intervals of historical data that you want to display. The TIME command lets you display data as it existed at the end of one interval. To see data that spans a greater time frame, use the TIME duration parameter with the date and time parameters.

For detailed information about using the TIME command, the syntax of the command, and examples of different uses of the TIME command, see *Using MAINVIEW*.

## Viewing Historical Data in the JOBNAME Response Times View

---

**Summary:** In this task, you will use the TIME command to view historical data for the TCPCONS Response Times view.

---

### Before You Begin

Before viewing historical data, you must perform the following tasks:

- Specify the time frame for which you want to collect data.
- Ensure that yesterday's date and time are contained in one of the allocated historical data sets by displaying the DSLIST.

For instructions on specifying the time frame or on displaying the DSLIST, see *Using MAINVIEW*.

### To View Historical Data

**Step 1** Display the TCPCONS view in Window 1.

**Step 2** Open a second window:

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

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

The screen splits horizontally, as shown in Figure 4-2.

**Figure 4-2 TCPCONS with an Open Window**

```

28NOV2003 15:24:20 ----- INFORMATION DISPLAY -----
COMMAND ==>>
CURR WIN ==>> 2          ALT WIN ==>>
>W1 -TCPCONS-----VXGSYSI--*-----28NOV2003--15:23:33---MVIP----U---58
CMD Remote          Interval  Intvl Remote Local          Local Bytes  By
--- IPAddr         Date----- Time- Port  IPAddr          Port  In    Ou
172.25.89.4        28NOV2003  15:23  1282 172.17.4.115    23    2624
172.25.10.40       28NOV2003  15:23  1237 172.17.4.115    23    6481  1
172.19.135.111     28NOV2003  15:23  3174 172.19.2.45     5568   430
172.19.135.111     28NOV2003  15:23  3222 172.19.2.45     900   212589  4
172.19.135.111     28NOV2003  15:23  3225 172.19.2.45     5568   868
172.19.135.111     28NOV2003  15:23  3224 172.19.2.45     5553  12924
172.19.135.111     28NOV2003  15:23  3170 172.19.2.45     900    88
172.19.135.111     28NOV2003  15:23  2327 172.19.2.45     23    71502 18
T2 =====

```

In the window information line, the current time is displayed as 15:23.

- Step 3** Display TCPCONS in Window 2 by typing **TCPCONS** on the command line and pressing **Enter**.
- Step 4** On the command line, type **TIME** to set the time frame for Window 2.

The SET TIME FRAME dialog box (Figure 4-3) is displayed.

**Figure 4-3 SET TIME FRAME Dialog**

```

----- 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 ==> 1M         (Length, in minutes, of one interval)
End Date ==> 28NOV2001  (End date of data)
End Time ==> 15:24      (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
Type CANCEL to quit without setting

```

**Step 5** Type 2D in the **Requested Time Frame: Duration** field to display the historical data for a two-day time frame.

**Step 6** To save your changes and return to the view (Figure 4-4), press **PF3**.

The interval information is displayed in Window 2. You can customize the order in which the data is displayed by using the **CUST** command. In this example, the data is displayed by remote IP addresses in descending order.

**Figure 4-4** JOBRESP in Two Time Frames

```

28NOV2003 15:27:19 ----- INFORMATION DISPLAY -----
COMMAND =====> SCROLL =====> PAGE
CURR WIN =====> 2          ALT WIN =====>
>W1 -TCPCONS-----VXGSYSI--*-----28NOV2003--15:26:36---MVIP-----U---60
CMD Remote          Interval  Intvl Remote Local          Local Bytes  By
--- IPAddr          Date----- Time-  Port  IPAddr          Port  In    Ou
172.25.89.4         28NOV2003  15:26  1282 172.17.4.115          23    2630
172.25.10.40        28NOV2003  15:26  1237 172.17.4.115          23    6487  1
172.19.135.111      28NOV2003  15:26  3224 172.19.2.45           5553  12924
172.19.135.111      28NOV2003  15:26  3173 172.19.2.45           5553   258
172.19.135.111      28NOV2003  15:26  3222 172.19.2.45           900   212589  4
172.19.135.111      28NOV2003  15:26  3170 172.19.2.45           900    88
172.19.135.111      28NOV2003  15:26  2327 172.19.2.45           23   72433  18
172.19.135.111      28NOV2003  15:26  3174 172.19.2.45           5568   430
>H2 =TCPCONS=====VXGSYSI==*=====28NOV2003==15:27=275M==MVIP=====U=6060
CMD Remote          Interval  Intvl Remote Local          Local Bytes  By
--- IPAddr          Date----- Time-  Port  IPAddr          Port  In    Ou
172.25.89.4         28NOV2003  13:15  1282 172.17.4.11          23    2630
172.25.89.4         28NOV2003  11:04  1282 172.17.4.115          23    2630
172.25.89.4         28NOV2003  15:23  1282 172.17.4.115          23    2630
172.25.89.4         28NOV2003  10:58  1282 172.17.4.115          23    2630
172.25.89.4         28NOV2003  15:27  1282 172.17.4.115          23    2630
172.25.89.4         28NOV2003  12:59  1282 172.17.4.115          23    2630
172.25.89.4         28NOV2003  11:24  1282 172.17.4.115          23    2630

```

This view displays two versions of TCPCONS: one as the system exists and one as it existed at a date and time in the past. With the two time frames displayed in the same screen, you can easily compare them to determine whether a perceived problem is a regular occurrence or whether it is an abnormality.

**Note:** The window status indicator for Window 2 has changed from >W2 to >H2. *H* indicates historical data.

**Step 7** Press **Enter**.

The data in Window 1 is updated; the data in Window 2 is not. Historical data cannot be updated because it represents the system at a fixed point in time.

**Note:** When you have used the `TIME` command or the `SET TIME FRAME` dialog box for a window, all views sent to that window reflect the system as it existed at the date and time that you specified. The views reflect the system for the date and time that you specified until you issue another `TIME` command, until the window is closed, or until you press **PF3**.

For more examples of using the `TIME` command, see *Using MAINVIEW*.

## Displaying the Intvl Time Field

---

**Summary:** In this task, you will display the **Intvl Time** field in every view.

---

To automatically display the **Intvl Time** field in every view, perform the following steps:

- Step 1** Select one of the following access methods:
- From the MAINVIEW Selection Menu, select option **0**, Parameters and Options. Then select the Windows Mode option.
  - From the MAINVIEW for IP EZIP Menu, type **MVP** on the command line.
- Step 2** From the MAINVIEW Parameter Editors Menu, select option **2**, Display.
- Step 3** Move the cursor to the **Show Time** field, and type **Y**.
- Step 4** To save your updates, press **End**.
- Step 5** To hide the field from views when you do not want it displayed, on the command line, type **EXclude TIME**. To redisplay the field, type **INclude TIME**.
- Tip:** To see the date for which the data was gathered, use the **INclude DATE** command to reveal the **Intvl Date** field. This tip is most useful if your time frame spans more than a 24-hour period.

## Moving between Time Frames

---

**Summary:** This task describes a scenario of a situation that requires you to move between time frames. In this task, you will use the scenario to learn how to move between time frames quickly.

---

### Before You Begin

Imagine that you are studying the `JOBRESP` view and you notice slow response times for a particular jobname. Alerted to a possible problem, you determine that it would be helpful to display what the system was doing in the previous interval.

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. Use the `NEXT` and `PREV` parameters to move quickly between time frames.

`NEXT` and `PREV` use the duration that was last specified to move the time frame forward (`NEXT`) or backward (`PREV`) by the same amount.

### To Move between Time Frames

- Step 1** Horizontally split the screen approximately half way down by typing `HS` on the command line, moving the cursor approximately halfway down the screen, and pressing `Enter`.
- Step 2** In Window 2, display `JOBRESP` by typing `JOBRESP` on the command line and pressing `Enter`.
- Step 3** On the command line, type `TIME = = PREV` and press `Enter`.

**Note:** Insert a space between each parameter.

An example of the screen that is displayed is shown in Figure 4-5.

**Figure 4-5 Example of TIME PREV to Cycle Through Time Frames**

```

28NOV2003 15:48:45 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 2          ALT WIN ==>
>W1 -JOBRESP-----VXGYSI-*-----28NOV2003--15:47:47---MVIP---U---25
Job      Interval  Intvl Total  Active Total      Total      Total      High
Name     Date-----  Time-  Conns  Conns  Bytesin  Bytesout  Resp      Resp
RDAAZSV4 28NOV2003  15:47    3     2           57     41
TN3270E 28NOV2003  15:47    3     3    90817  2391633    11     8
IMVWEBQA 28NOV2003  15:47    6     3   1102235  259540    268    148
TN3270   28NOV2003  15:47    2     1     455    4384     99     99
DBE4DIST 28NOV2003  15:47    2
RIHWXCW 28NOV2003  15:47    1
SYSMGT01 28NOV2003  15:47    6     4    212866  416430    436    225
>H2 =JOBRESP=====VXGYSI==*=====28NOV2003==15:46:52====MVIP====U====25
Job      Interval  Intvl Total  Active Total      Total      Total      High
Name     Date-----  Time-  Conns  Conns  Bytesin  Bytesout  Resp      Resp
RDAAZSV4 28NOV2003  15:46    3     2           57     41
TN3270E 28NOV2003  15:46    3     3    91121  2404651     6     3
IMVWEBQA 28NOV2003  15:46    6     3   1125241  265990    232    112
TN3270   28NOV2003  15:46    2     1     455    4384     99     99
DBE4DIST 28NOV2003  15:46    2
RIHWXCW 28NOV2003  15:46    1
SYSMGT01 28NOV2003  15:46    6     4    212866  416430    436    225
$$KMISAR 28NOV2003  15:46    1
    
```

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

**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 and access the time information more quickly

## Time and Duration Fields

Sometimes the time and duration fields on the window information line do not always contain the values that you expect. The reason for this discrepancy is because these fields reflect the actual data that is displayed, which may not be the same as the data you requested with the `TIME` command.

For example, it is 9:00 A.M. and you want to look at `JOBRESPS` to determine the highest response times that occurred between 5:00 A.M. and 8:00 A.M. this morning. You display the `JOBRESPS` view and type the following command:

```
TIME * 8:00 3h
```

You expect the resulting window information line to look like this:

```
>W1 =JOBRESPS=====SJSC=====14MAR2003==8:00=180M====MVIP=====59=====
```

The last interval in the duration that you requested is 8:00; the 3-hour period that you are interested in is equivalent to 180 minutes.

The resulting window information line may actually look like this:

```
>W1 =JOBRESPS=====SJSC=====14MAR2003==7:15=115M====MVIP=====59=====
```

Data is not always available for the intervals that you request. Sometimes the product address space (PAS) is shut down in the middle of a recording interval, creating 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 time frame for which data was recorded. No data was recorded at 7:30 A.M., 7:45 A.M., or 8:00 A.M., so the window information shows 7:15 A.M. instead of 8:00 A.M.

Other gaps may have occurred in the record between 5:15 A.M. and 7:15 A.M. If so, the gaps were too short to significantly affect the data that is displayed. `MAINVIEW` makes adjustments so that you get the most accurate possible perspective 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).



---

# Chapter 5 Setting Alarms

MAINVIEW Alarm Manager works with MAINVIEW for IP, and other MAINVIEW products, to provide alarms. These alarms display messages that can alert you when system resources are overused.

This chapter provides a list of sample alarms and a checklist with the steps that are required to set an alarm in MAINVIEW for IP.

This chapter contains the following sections:

MAINVIEW Alarm Manager . . . . .	5-2
Alarm Setting Checklist . . . . .	5-2
Sample Alarms . . . . .	5-4

# MAINVIEW Alarm Manager

MAINVIEW for IP is a tool that, with other MAINVIEW products, notifies you when an exception condition occurs. MAINVIEW Alarm Manager can monitor multiple systems simultaneously. You can display a single view that shows exceptions for all MAINVIEW performance monitors within your MVS enterprise.

Any data element on any MAINVIEW product can be used to generate alarms that produce the following results:

- create MVS console or subsystem messages
- display messages in a MAINVIEW Alarm Manager view that let you hyperlink to the MAINVIEW product which produced the exception
- trigger an automated alert or action from MAINVIEW® AutoOPERATOR™ for quick problem resolution

MAINVIEW Alarm Manager generates alarms when thresholds from specific MAINVIEW product views are exceeded. Alarms can be based on summarized data from multiple systems and subsystems that use MAINVIEW's single system image (SSI) capabilities.

Using MAINVIEW Alarm Manager, you can create and modify alarm definitions that display meaningful messages for your site's requirements. Alarms can be set for any (or all) severity levels, from informational to critical.

Sample alarms and threshold conditions are provided in many MAINVIEW for IP views. You can use color or highlighting to add visual indicators to display data that instantly shows when resources are reaching a critical state. For more information about thresholds, see *Using MAINVIEW*. For more information about MAINVIEW Alarm Manager, see the *MAINVIEW Alarm Manager User Guide*.

## Alarm Setting Checklist

Table 5-1 contains the steps that you must perform to set an alarm for MAINVIEW for IP. This checklist provides a summary of the steps that you must perform and where to find detailed instructions if you need them.

As an example, the alarm that you set up by using the following checklist is triggered when the threshold value for the average response time on the JOBRESP view exceeds 50 or 75 milliseconds.

Table 5-1 Alarm Setting Checklist (Part 1 of 2)

Step	Task	Description	Reference
1	allocate a new GROUP BBVDEF data set similar to USER BBVDEF	If you do not have the user view definition (USER BBVDEF) data set allocated, you are asked whether a clist should create one. Indicate <b>Yes</b> to create the USER BBVDEF data set.	<i>MAINVIEW Alarm Manager User Guide</i>
2	issue <b>tso isrddn</b> , and examine the BBVDEF concatenation	In the MAINVIEW for IP monitor, issue <b>tso isrddn</b> from the command line. This information is required for Step 9.	<i>MAINVIEW Alarm Manager User Guide</i>
3	set an alarm threshold	The alarm threshold is set in the JOBRESP view.	<i>MAINVIEW Alarm Manager User Guide</i>
4	issue <b>cust</b>	In the MAINVIEW for IP monitor, issue <b>cust</b> from the command line.	<i>MAINVIEW Alarm Manager User Guide</i>
5	issue threshold command, and determine where threshold value should be set	Enter <b>t</b> (for <i>threshold</i> ) on the View Customization command line, and select the column where the threshold value should be set. In this example, the <b>Avg Resp</b> field is in column <b>i</b> .	<i>MAINVIEW Alarm Manager User Guide</i>
6	set condition and attribute values	These are examples of condition and attribute values: <b>Condition</b> <b>Attr</b> 1st => <b>=50</b> => <b>9</b> reverse red 2nd => <b>&gt;75</b> => <b>2</b> yellow	<i>MAINVIEW Alarm Manager User Guide</i>
7	check field entries	Field entries that match threshold values are highlighted in the attribute color.	<i>MAINVIEW Alarm Manager User Guide</i>
8	display the Exit Views Customization panel	To display the Exit Views Customization panel, press <b>PF3</b> .	<i>MAINVIEW Alarm Manager User Guide</i>
9	save changes to the Exit Views Customization panel	To display the Save View Definition panel and save your changes, indicate <b>Yes</b> . The view is saved in the first data set of BBVDEF concatenation.	<i>MAINVIEW Alarm Manager User Guide</i>
10	copy the USER BBVDEF data set	When the new view is saved in USER BBVDEF, copy it into the GROUP BBVDEF data set.	<i>MAINVIEW Alarm Manager User Guide</i>
11	add the GROUP BBVDEF data set	The GROUP BBVDEF data set must be added in front of BBVDEF concatenation. You must add the data set to the MAINVIEW Alarm Manager PAS and the MAINVIEW for IP PAS.	<i>MAINVIEW Alarm Manager User Guide</i>
12	start the MAINVIEW Alarm Manager PAS	Use the sample JCL in <i>hilevel.UBBSAMP(MVALPAS)</i> to start the MAINVIEW Alarm Manager PAS.	<i>MAINVIEW Alarm Manager User Guide</i>
13	perform a recycle	The MAINVIEW for IP PAS must be recycled.	<i>Using MAINVIEW</i>
14	issue the <b>Setalarm 00</b> command	Within the new view, issue <b>Setalarm 00</b> from the command line.	<i>MAINVIEW Alarm Manager User Guide</i>

**Table 5-1 Alarm Setting Checklist (Part 2 of 2)**

Step	Task	Description	Reference
15	go to the MAINVIEW Alarm Manager Easy Menu (MVALARM)	In the split screen, MVALARM is displayed. Select <b>Current Alarms</b> , and install the alarm.	<i>MAINVIEW Alarm Manager User Guide</i>
16	save the alarm	When you install the alarm, save your selection.	<i>MAINVIEW Alarm Manager User Guide</i>
17	verify the installation of Alarm 00	To verify the installation of Alarm 00, select <b>List Alarm Groups</b> and check the status.	<i>MAINVIEW Alarm Manager User Guide</i>

## Sample Alarms

MAINVIEW Alarm Manager is capable of monitoring multiple systems simultaneously; MAINVIEW Alarm Manager installed on one system can administer your entire sysplex.

Table 5-2 describes sample alarms that are provided with MAINVIEW for IP. You can customize these sample alarms to meet your specific monitoring needs.

**Table 5-2 MAINVIEW for IP Sample Alarms (Part 1 of 2)**

Alarm Name	Description
CONNRESP	response time for the connection has exceeded a specified number of milliseconds
JOBRA	average response time for the job has exceeded a specified number of milliseconds
JOBRDA	average response time for the job has exceeded a specified number of milliseconds
JOBRDH	highest response time for the job has exceeded a specified number of milliseconds
JOBRDL	lowest response time for the job has exceeded a specified number of milliseconds
JOBRDT	total response time for the job has exceeded a specified number of milliseconds
JOBRH	highest response time for the job has exceeded a specified number of milliseconds
JOBRL	lowest response time for the job has exceeded a specified number of milliseconds
JOBRSA	average response time for the job has exceeded a specified number of milliseconds
JOBRSH	highest response time for the job has exceeded a specified number of milliseconds
JOBRSL	lowest response time for the job has exceeded a specified number of milliseconds
JOBRST	total response time for the job has exceeded a specified number of milliseconds
JOBRT	total response time for the job has exceeded a specified number of milliseconds
PORTRA	average response time for the port has exceeded a specified number of milliseconds
PORTRDA	average response time for the port has exceeded a specified number of milliseconds
PORTRDH	highest response time for the port has exceeded a specified number of milliseconds

Table 5-2 MAINVIEW for IP Sample Alarms (Part 2 of 2)

Alarm Name	Description
PORTRD	lowest response time for the port has exceeded a specified number of milliseconds
PORTRDT	total response time for the port has exceeded a specified number of milliseconds
PORTRH	highest response time for the port has exceeded a specified number of milliseconds
PORTRL	lowest response time for the port has exceeded a specified number of milliseconds
PORTRSA	average response time for the port has exceeded a specified number of milliseconds
PORTRSH	highest response time for the port has exceeded a specified number of milliseconds
PORTRSL	lowest response time for the port has exceeded a specified number of milliseconds
PORTRST	total response time for the port has exceeded a specified number of milliseconds
PORTRT	total response time for the port has exceeded a specified number of milliseconds

## Alarm Definitions

Alarm definitions consist of the following parameters:

- threshold and filter criteria
- view, product, and context for which the criteria are established
- message IDs and message text
- monitoring frequency and time periods
- hyperlinks to views, extended help, or MAINVIEW AutoOPERATOR commands

**Note:** Sample alarm definitions are shipped with `CONTEXT='SAMPCTXT'`. For the sample to work on your system, change `CONTEXT='VALUE'`. *VALUE* is variable for a value that is valid at your site.

Alarm definitions are stored in a parameter library member that is read by MAINVIEW Alarm Manager at MVALARM PAS initialization.

Threshold conditions are defined as one of the following priority levels:

- Critical
- Information
- Major
- Minor
- Warning



---

---

# Chapter 6    **MAINVIEW for IP Messages**

This chapter provides information about the messages that are issued by MAINVIEW for IP.

This chapter contains the following sections:

Interpreting Messages . . . . .	6-2
Message Format . . . . .	6-2
Message Identifiers. . . . .	6-3
Message Levels . . . . .	6-3
Description Format . . . . .	6-4
Contacting BMC Software Customer Support . . . . .	6-5
Gathering Problem Report Documentation . . . . .	6-6
MAINVIEW for IP Messages. . . . .	6-9

## Interpreting Messages

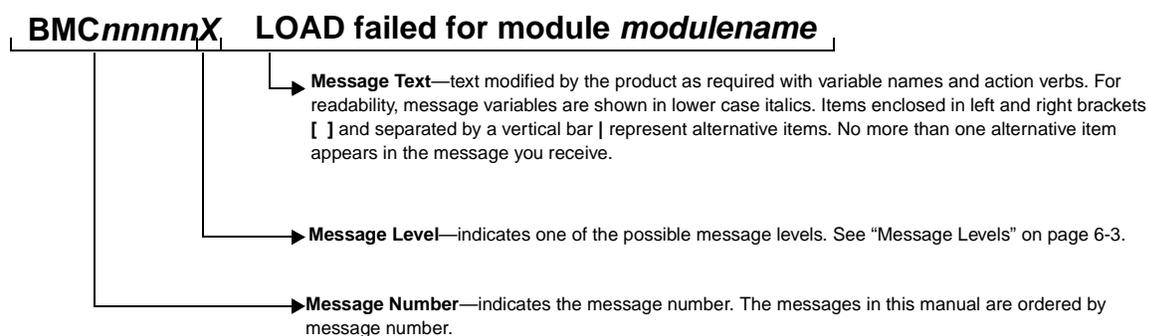
This section provides general information about the messages that are issued by MAINVIEW for IP. This section describes the following items:

- parts of a message
- description format
- message levels
- information that you should have available when contacting BMC Software Customer Support

## Message Format

Figure 6-1 describes the parts of a message.

Figure 6-1 Parts of a Message



Message text that is italicized and in lowercase characters (*example*) indicates variable text that will be determined when the message is issued.

Message text that is enclosed in left and right brackets and is separated by vertical lines ([ON | OFF]) indicates actual values, one of which will be included at that point in the message.

## Message Identifiers

All messages consist of a message identifier and message text of the following format:

**BMCnnnnnX Message Text**

Table 6-1 describes the message identifiers.

**Table 6-1 Message Identifiers**

Field	Description
BMC	The prefix identifies the owner of the message. All BMC Software messages begin with <i>BMC</i> .
<i>nnnnn</i>	This two-digit to five-digit number identifies the message.
<i>X</i>	This identifier is the severity code. The severity code indicates the amount of action required by the user and the nature of the message. For an explanation of the severity codes, see Table 6-2.

## Message Levels

A severity code indicates the nature of the message and the amount of action that is required by the user. Table 6-2 describes the levels of message severity.

**Table 6-2 Message Severity Codes**

Code	Description
A (action)	Immediate action is required.
E (error)	The function that you requested was not completed. Action is required.
I (information)	Information only. No action is required.
R (reply)	You must reply to the message before the system can continue.
S (severe)	A severe error occurred. Action is required.
W (warning)	The system is still operating and no immediate action is required. When time is available, further investigation is needed.

**Note:** All messages with severity code *E* are sent to the system console. Some messages with severity code *A* or *I* are also sent to the system console.

## Description Format

The following information is provided for each message:

- *Explanation* explains why the product issued the message.
- *System Action* explains the product action as a result of encountering the situation.
- *User Response* explains the action that you should perform in this situation.

The text that is associated with each message is a short phrase or sentence describing a condition that has occurred or that requests a user response. For example:

```
BMC7005I No active Applids BSOP
```

## Contacting BMC Software Customer Support

Some message descriptions instruct you to contact your BMC Software customer support representative. The customer support representative can help you resolve the problem quickly if you can answer the following questions before calling:

- What kind of problem do you have?
- Can you repeat the problem or preceding conditions?
- Do you have supporting dumps or other diagnostic information?
- What has changed in your environment:
  - Have you recently installed a new product on your system?
  - Have you recently modified an application program?
  - Have you recently installed a BMC Software product or product maintenance tape?

# Gathering Problem Report Documentation

If you encounter a problem with MAINVIEW for IP, BMC Software customer support representatives may ask you to send documentation of the problem in the form of one or more dumps.

Use the following SYSIN parameters for debugging each collection point:

```
DBGBUFS
DBG CACH
DBG COMD
DBG CONF
DBG CONS
DBG DEVS
DBG OSAD
DBG PING
DBG PORT
DBG ROUT
DBG SLAP
DBG SNMP
DBG TRCE
DBG VIPA
```

## To Gather Problem Report Documentation

**Step 1** Add the debug parameters to the SYSIN file. The file must have the following DD statements:

---

```
/*
/* DEBUG DATASETS.
/*
//UCONFDBG DD SYSOUT=*
//UPORTDBG DD SYSOUT=*
//UROUTDBG DD SYSOUT=*
//UTRCEDBG DD SYSOUT=*
//UPINGDBG DD SYSOUT=*
//UDEVSDBG DD SYSOUT=*
//UCONSDBG DD SYSOUT=*
//UVIPADBG DD SYSOUT=*
//USNMPDBG DD SYSOUT=*
//UCOMDDBG DD SYSOUT=*
//USLAPDBG DD SYSOUT=*
//UCACHDBG DD SYSOUT=*
//UBUFSDBG DD SYSOUT=*
//UOSADDBG DD SYSOUT=*
```

---

**Step 2** Restart the MAINVIEW for IP product address space (PAS).

**Step 3** Recreate the problem.

**Step 4** Send the JES2 job log that contains the debugging information to your MAINVIEW for IP customer support representative.

**Step 5** Type the command **/mvip options** on the console, print the output, and send it to your MAINVIEW for IP customer support representative.

**Step 6** Create an SVC dump of the PAS experiencing the problem by using the MVS command **DUMP COMM**. Supply the job name of the appropriate address space.

**Step 7** Reply to the prompt with the following command:

```
SDATA=(NUC,LPA,CSA,LSQA,SQA,PSA,TRT,RGN,SUM)
```

**Step 8** Check for log message IEA911 to confirm that the dump is a complete dump, not a partial dump.

**Step 9** Send the dump to your MAINVIEW for IP customer support representative by using one of the following methods:

- Copy the dump to a tape.
- FTP the dump.

If you copy the dump to a tape, ship the tape to your MAINVIEW for IP customer support representative. Include the following items:

- description of the problem
- user action that preceded the problem
- version number of MAINVIEW for IP
- case number

If you FTP the dump, select one of the following methods:

- TSO command line interface
- sample batch job

### To Use a TSO Command Line Interface

**Note:** Use **TRSMAN** to compress the dump before uploading the information to **FTP.BMC.COM**.

**Step 1** Use TSO to access **FTP.BMC.COM**.

**Step 2** At the prompt, enter **ANONYMOUS** as your ID.

**Step 3** Enter **Your\_Email@company.com** as the password.

**Step 4** Enter **CD incoming**.

**Step 5** Enter **BINARY**.

- Step 6** Enter **PUT 'MVS.DATASET.NAME.TRS' cnnnnnn\_dump1.trs**.
- Step 7** Enter **QUIT**.
- Step 8** Notify your MAINVIEW for IP customer support representative that the dump has been uploaded.

### To Run a Sample Batch Job

**Note:** Use TRSMMAIN to compress the dump before uploading the information to **FTP.BMC.COM**.

- Step 1** Run the following batch job:

---

```
//BATCHFTP JOB
//FTP      EXEC PGM=FTP,REGION=4096K
//SYSPRINT DD SYSOUT=*
//OUTPUT  DD SYSOUT=*
//INPUT    DD *
ftp.bmc.com
anonymous
YOUR_EMAIL@COMPANY.COM
bin
cd /incoming
put 'MVS.DATASET.NAME.TRS' cNNNNNN_dump1.trs
quit
/*
```

---

- Step 2** Notify your MAINVIEW for IP customer support representative that the dump has been uploaded.

---

# MAINVIEW for IP Messages

MAINVIEW for IP messages may be displayed on the MAINVIEW monitor. The message information includes an explanation of the message, the system action, and the suggested user response.

**BMC11234E      FTP EXIT processing failed—increase FTPXBUF value.**

*Explanation:*      The number of allocated FTPX control blocks has been exhausted.

*System Action:*    File Transfer Protocol (FTP) data collection is not performed, and information for the file transfer is not recorded.

*User Response:*    Allocate more FTPX control blocks. The control blocks will be available after the next logging interval, allowing data collection and recording to resume.

**BMC256503E      PLEASE SPECIFY THE CORRECT OPTIONS IN THE SYSIN DATASET AND RESTART MAINVIEW/IP.*subsysid***

*Explanation:*      An invalid SYSIN DD statement was specified.

*System Action:*    MAINVIEW for IP terminates.

*User Response:*    Specify the correct options in the SYSIN data set, and restart MAINVIEW for IP *subsysid*. Contact BMC Software Customer Support for assistance.

**BMC256506I      SSCT (*address*) FOR SUBSYSTEM OBTAINED and QUEUED.*subsysid***

*Explanation:*      The subsystem dispatcher had to construct and insert an SSCT (Subsystem Control Table) into the SSCT queue. The subsystem was not previously active, and the entry was not defined in any IEFSSN members of SYS1.PARMLIB.

*System Action:*    Processing continues.

*User Response:*    This message is for your information only. No action is required.

**BMC256507I      MAINVIEW/IP SUBSYSTEM HAS GENERATED SSCT (*address*), TSVT (*address*).*subsysid***

*Explanation:*      The MAINVIEW for IP service tables were successfully created and initialized.

*System Action:*    Processing continues.

*User Response:*    This message is for your information only. No action is required.

- BMC256509S**      **ABEND *nnnnn* OCCURRED DURING SUBSYSTEM ADDRESS SPACE INITIALIZATION.*subsysid***
- Explanation:*      The subsystem dispatcher ESTAE routine received control during address space initialization. The *subsysid* indicates the name of the subsystem.
- System Action:*      The subsystem terminates. The address space terminates.
- User Response:*      Contact BMC Software Customer Support.
- 
- BMC256518S**      **XST (*address*) CONNECTION FAILURE, R15 (*retrncode*), SSOBRETN (*address*).*subsysid***
- Explanation:*      The BMCP initialization has failed with the indicated return code.
- System Action:*      The subsystem terminates.
- User Response:*      Contact BMC Software Customer Support.
- 
- BMC256520S**      **SERVICE MODULE VALUES NOT CONSISTENT WITH EXISTING SSVT (*address*).*subsysid***
- Explanation:*      An inconsistency in the subsystem vector table (SSVT) values was detected during installation. One or more subsystem modules are at maintenance levels that are incompatible with the existing SSVT.
- System Action:*      The subsystem address space terminates.
- User Response:*      Ensure that the installation and refresh processes were performed correctly. Contact BMC Software Customer Support.
- 
- BMC256521S**      **SUBSYSTEM DOWN-LEVELING ATTEMPTED, *old level*, *new level* SSVT (*address*).*subsysid***
- Explanation:*      The product tried to initialize at a lower level than was previously active. The installed product was created by a set of modules from a more current (or later) maintenance level. This message provides the version and modification levels of the current modules and those being initialized.
- System Action:*      The subsystem initialization process stops, and initialization does not occur.
- User Response:*      Restart the more current version of the subsystem modules, and restart the address space.

- BMC256522S**      **MAINVIEW/IP SUBSYSTEM ADDRESS SPACE (*nnnn*) is CURRENTLY ACTIVE.*subsysid***
- Explanation:*      An attempt was made to start the subsystem. The subsystem that was just started has detected an active subsystem in address space *nnnn*.
- System Action:*      The subsystem that was just started terminates.
- User Response:*      None.
- BMC256524S**      **SERVICE MODULE FVT OFFSET/SIZE (*nnnn/nnnn*) NOT CONSISTENT WITH THE SSVT (*nnnn/nnnn*).*subsysid***
- Explanation:*      An inconsistency in the subsystem vector table (SSVT) values was detected during initialization.
- System Action:*      The subsystem address space terminates.
- User Response:*      Ensure that the installation and refresh processes were performed correctly. Contact BMC Software Customer Support.
- BMC256526S**      **SERVICE MODULE FVT OFFSET/SIZE (*nnnn/nnnn*) NOT CONSISTENT WITH THE SSVT (*nnnn/nnnn*).*subsysid***
- Explanation:*      An inconsistency in the subsystem vector table (SSVT) values was detected during initialization.
- System Action:*      The subsystem address space terminates.
- User Response:*      Ensure that the installation and refresh processes were performed correctly. Contact BMC Software Customer Support.
- BMC256528S**      **SERVICE MODULE FVT OFFSET/SIZE (*nnnn/nnnn*) NOT CONSISTENT WITH THE SSVT (*nnnn/nnnn*).*subsysid***
- Explanation:*      An inconsistency in the subsystem vector table (SSVT) values was detected during initialization.
- System Action:*      The subsystem address space terminates.
- User Response:*      Ensure that the installation and refresh processes were performed correctly. Contact BMC Software Customer Support.
- BMC256529S**      **ABEND *nnnnn* OCCURRED DURING MAINVIEW/IP SUBSYSTEM INITIALIZATION.*subsysid***
- Explanation:*      An abend occurred during the initialization phase of the subsystem.
- System Action:*      Subsystem initialization terminates.
- User Response:*      Contact BMC Software Customer Support.

**BMC256530S MSTR SUBSYSTEM VERIFICATION REQUEST FAILED, R15 (*retrncode*), SSOBRETN (*address*).*subsysid***

*Explanation:* An unrecoverable error occurred during a subsystem verify request to the master MVS subsystem.

*System Action:* The subsystem address space terminates.

*User Response:* Contact BMC Software Customer Support.

**BMC256532S INVALID SUBSYSTEM AFFINITY INDEX (*hhhh*) RETURNED BY SUBSYSTEM VERIFY.*subsysid***

*Explanation:* An illogical subsystem affinity index (in hexadecimal notation) was returned by the master MVS subsystem for the subsystem.

*System Action:* The subsystem address space terminates.

*User Response:* Contact BMC Software Customer Support.

**BMC256534S SSCT ADDRESS NOT PROVIDED FOR SUBSYSTEM INITIALIZATION**

*Explanation:* The required MAINVIEW for IP subsystem table (SSCT) was not found.

*System Action:* The subsystem terminates.

*User Response:* Notify your system programmer of the error. Ensure that the installation and refresh processes were performed correctly. Contact BMC Software Customer Support.

**BMC256536R MAINVIEW/IP Subsystem address space ASID (*xxxx*) has not terminated. *subsysid***

*Explanation:* Another MAINVIEW for IP subsystem is still active and has not yet terminated. *xxxx* is the MAINVIEW for IP subsystem address space identifier.

*System Action:* None.

*User Response:* Reply T to terminate the duplicate subsystem.

**BMC256538S MAINVIEW/IP SUBSYSTEM INITIALIZATION PROCESS TERMINATED.*subsysid***

*Explanation:* The initialization process is being terminated because of one or more previous errors.

*System Action:* The subsystem address space terminates.

*User Response:* Verify the message log for previous messages pertaining to this error. Notify the system programmer of the error.

- BMC256601E**      **xxxx history records truncated at nnnnn**
- Explanation:*      The specified history records are truncated to prevent storage overrun.
- System Action:*      The history records are truncated.
- User Response:*      None.
- 
- BMC256621W**      **TERMINATING SUBSYSTEM ASID (xxxx) INCONSISTENT WITH DISPATCHER ASID (nnnn).subsysid**
- Explanation:*      This message is issued during end-of-task and/or end-of-memory processing. The subsystem address space being terminated does not match the subsystem address space previously in control of the SSVT. This condition usually arises only when a storage overlay occurs. This message should not be issued again.
- System Action:*      Processing continues. The subsystem address space is flagged as terminated.
- User Response:*      None.
- 
- BMC256615I**      **User \*\*\*\*\* has dropped Connection \*\*\*\*\*X \*\*\*\*\* with id \*\*\*\*\* RC(xxxxxxxx)**
- Explanation:*      A write-to-operator (WTO) is displayed when you perform the DR (drop connection) line command. *User* is the TSO USERID, *Connection* is the IP address and port number of the terminated connection, *ID* is the connection ID from TACCONS view, and *RC* is the return code. A return code of 0 indicates that the connection was terminated successfully.
- System Action:*      The connection is terminated.
- User Response:*      This message is for your information only. No action is required.
- 
- BMC256732E**      **ERROR OPENING SYSIN DATASET—SUBSYSTEM TERMINATING**
- Explanation:*      The data set name (DSN) could not be opened.
- System Action:*      The subsystem address space terminates.
- User Response:*      Access *hilevel.BBSAMP(TACPAS)*, correct the SYSIN DSN, and restart the product address space (PAS).

**BMC256733E      INVALID INITIALIZATION STATEMENT \*\*\*\*\***

*Explanation:*     The initialization statement for the statement that is indicated in the error message is invalid.

*System Action:*   The subsystem address space terminates.

*User Response:*   Correct the SYSIN data set name (DSN), and restart the product address space (PAS).

**BMC256734E      NO DELIMITER OR CONTINUATION FOUND BEFORE  
COL 71—SUBSYSTEM TERMINATING**

*Explanation:*     The delimiter or continuation character preceding column 71 is missing.

*System Action:*   The subsystem address space terminates.

*User Response:*   Add the delimiter or continuation character, and restart the product address space (PAS).

**BMC256735E      INCOMPLETE END OF INITIALIZATION STATEMENT  
STATEMENTS—SUBSYSTEM TERMINATING**

*Explanation:*     The end of the initialization statements is incomplete.

*System Action:*   The subsystem address space terminates.

*User Response:*   Complete the end statement, and restart the product address space (PAS).

**BMC256736E      DYNALLOC ALLOCATE FAILED, R15(\*\*\*\*\*) REASON(\*\*\*\*\*)**

*Explanation:*     The DYNALLOC dynamic allocation macro could not be processed. The return code and reason code are displayed.

*System Action:*   The SNMPPARMS are not processed.

*User Response:*   Contact BMC Software Customer Support for assistance.

**BMC256737E      DYNALLOC UNALLOCATE FAILED, R15(\*\*\*\*\*) REASON(\*\*\*\*\*)**

*Explanation:*     The DYNALLOC dynamic unallocation macro could not be processed. The return code and reason code are displayed.

*System Action:*   The SNMPPARMS are not processed.

*User Response:*   Contact BMC Software Customer Support for assistance.

**BMC256738E ERROR OPENING SNMPPARM DATASET—SUBSYSTEM TERMINATING**

*Explanation:* The data set name (DSN) could not be opened.

*System Action:* The subsystem address space terminates.

*User Response:* Access *hilevel.BBSAMP(TACPAS)*, correct the SNMPPARM DSN, and restart the product address space (PAS).

**BMC256739E INVALID SNMPPARM INITIALIZATION STATEMENT \*\*\*\*\***

*Explanation:* The initialization statement for the statement that is indicated in the error message is invalid.

*System Action:* The subsystem address space terminates.

*User Response:* Correct the SNMPPARM data set name (DSN), and restart the product address space (PAS).

**BMC256740E NO DELIMITER OR CONTINUATION FOUND BEFORE COL 71 in SNMPPARM—SUBSYSTEM TERMINATING**

*Explanation:* The delimiter or continuation character preceding column 71 in the SNMPPARM is missing.

*System Action:* The subsystem address space terminates.

*User Response:* Add the delimiter or continuation character, and restart the product address space (PAS).

**BMC256741E INCOMPLETE END OF SNMPPARM INITIALIZATION STATEMENT STATEMENTS—SUBSYSTEM TERMINATING**

*Explanation:* The end of the SNMPPARM initialization statements is incomplete.

*System Action:* The subsystem address space terminates.

*User Response:* Complete the end statement, and restart the product address space (PAS).

**BMC256800I PORT ADDED FOR PACKET SAMPLING**

*Explanation:* A TNPORT or FTPORT command was completed successfully.

*System Action:* A new port is added for packet sampling.

*User Response:* None.

**BMC256800I PORT VALUE NOT VALID, MUST BE 1-4 NUMERIC CHARS**

*Explanation:* A TNPORT or FTPORT command was unsuccessful.

*System Action:* The port is not added.

*User Response:* Check the syntax of the command to ensure that a numeric value less than 65536 was specified.

**BMC256800I PORT CANNOT BE ADDED, NO SLOTS AVAILABLE**

*Explanation:* A TNPORT or FTPORT command was unsuccessful.

*System Action:* The port is not added.

*User Response:* If the port is required, restart MAINVIEW for IP with up to 8 required TNPORTS and up to 4 required FTPORTS.

**BMC256800I PORT VALUE NOT ADDED, ALREADY IN LIST**

*Explanation:* A TNPORT or FTPORT command was unsuccessful.

*System Action:* The port is not added.

*User Response:* None.

**BMC256800I SNMP Parameters have been refreshed**

*Explanation:* A user successfully performed the REFRESH command.

*System Action:* The system reads and processes the SNMPPARM data set.

*User Response:* This message is for your information only. No action is required.

**BMC256800I SNMP Parameters have not been refreshed**

*Explanation:* A user tried to perform the REFRESH command.

*System Action:* The system is unable to read the SNMPPARM data set. The SNMPPARM data set is not processed.

*User Response:* Retry the REFRESH command. If processing fails again, contact BMC Software Customer Support.

- BMC256849E**      **MAINVIEW/IP SUBSYSTEM FOUND NO ACTIVE TCPIP STACKS TO MONITOR. *subsysid***
- Explanation:*      The MAINVIEW for IP subsystem detected no active or available Transmission Control Protocol/Internet Protocol (TCP/IP) stacks.
- System Action:*      Processing continues. MAINVIEW for IP monitoring is not available for TCP/IP.
- User Response:*      Notify the system programmer of the error.
- 
- BMC256850E**      **MAINVIEW/IP SUBSYSTEM *name* CANNOT FIND TSCB CONTROL BLOCK - TERMINATING.*subsysid***
- Explanation:*      The MAINVIEW for IP subsystem service module, *name* could not find the required TSCB control block to determine the availability of Transmission Control Protocol/Internet Protocol (TCP/IP).
- System Action:*      The called service terminates.
- User Response:*      Ensure that the TCP/IP stack is active.
- 
- BMC256851E**      **MAINVIEW/IP SUBSYSTEM *name* UPDATE FAILED WITH R15 (*retrncode*) - TERMINATING.*subsysid***
- Explanation:*      The subsystem UPDATE process for *name* failed.
- System Action:*      The UPDATE service request terminates.
- User Response:*      Notify the system programmer of the error. Contact BMC Software Customer Support for assistance.
- 
- BMC256852E**      **MAINVIEW/IP SUBSYSTEM *name* LOAD UPDATE MODULE FAILED - TERMINATING.*subsysid***
- Explanation:*      The subsystem LOAD process for an UPDATE service request failed for *name*.
- System Action:*      The process terminates.
- User Response:*      Notify the system programmer of the error. Contact BMC Software Customer Support for assistance.
- 
- BMC256900I**      **MAINVIEW/IP SUCCESSFULLY STARTED**
- Explanation:*      The product has been started successfully.
- System Action:*      None.
- User Response:*      This message is for your information only. No action is required.

**BMC256901W**

**TIER \*\*\* HAS *nnn* DAYS LEFT IN ITS GRACE PERIOD**

*Explanation:* The MAINVIEW for IP TIER is running on a trial authorization that will expire in *nnn* days.

*System Action:* Processing continues.

*User Response:* Contact your BMC Software sales representative to purchase a license and receive a permanent authorization.

**BMC256903E**

**TRIAL LICENSE HAS EXPIRED, CONTACT BMC SOFTWARE**

*Explanation:* The MAINVIEW for IP authorization process detected that the trial license has expired.

*System Action:* MAINVIEW for IP functions are inactivated.

*User Response:* Contact your BMC Software sales representative to purchase a license and receive a permanent authorization.

**BMC256904E**

**MAINVIEW/IP NOT LICENSED FOR PROCESSOR, RC=\*\*, REASON=\*\*\*\***

*Explanation:* An attempt was made to start MAINVIEW for IP on a CPU for which it is not licensed. The return code and reason code represent specific reasons for the security violation.

*System Action:* No functions are performed by the indicated CPU.

*User Response:* Contact your BMC Software sales representative to obtain a product password.

**BMC256905W**

**MAINVIEW/IP NOT LICENSED FOR PROCESSOR, RC=\*\*, REASON=\*\*\*\***

*Explanation:* An attempt was made to start MAINVIEW for IP on a CPU for which it is not licensed. The return code and reason code represent specific reasons for the security violation.

*System Action:* No functions are performed by the indicated CPU.

*User Response:* Contact your BMC Software sales representative to obtain a product password.

**BMC256906E**

**MAINVIEW/IP NOT LICENSED FOR PROCESSOR, RC=\*\*, REASON=\*\*\*\***

*Explanation:* An attempt was made to start MAINVIEW for IP on a CPU for which it is not licensed. The return code and reason code represent specific reasons for the security violation.

*System Action:* No functions are performed by the indicated CPU.

*User Response:* Contact your BMC Software sales representative to obtain a product password.

**BMC256907E****RACF-PROTECTED WHILE SETTING GRACE PERIOD**

*Explanation:* The data set containing the authorization table is Resource Access Control Facility (RACF)-protected and allows read-only access.

*System Action:* Processing continues.

*User Response:* Contact your RACF administrator to obtain access permission to this data set.

**BMC256908W****GRACE PERIOD HAS *nnn* DAYS LEFT**

*Explanation:* MAINVIEW for IP is running a trial authorization that will expire in *nnn* days.

*System Action:* Processing continues.

*User Response:* Contact your BMC Software sales representative to purchase a license and receive a permanent authorization.

**BMC256909W****TEMPORARY WILL EXPIRE IN *nnn* DAYS**

*Explanation:* MAINVIEW for IP is running on a temporary authorization that will expire in *nnn* days.

*System Action:* Processing continues.

*User Response:* Contact your BMC Software sales representative to purchase a license and receive a permanent authorization.

**BMC256910E****PHASE1 SECURITY NEVER EXECUTED**

*Explanation:* The first phase of the MAINVIEW for IP security process has not executed.

*System Action:* No functions are performed under MAINVIEW for IP.

*User Response:* Contact BMC Software Customer Support.

**BMC256911E****PHASE1 SECURITY DID NOT COMPLETE SUCCESSFULLY**

*Explanation:* The MAINVIEW for IP authorization process detected an error during security processes.

*System Action:* No functions are performed under MAINVIEW for IP.

*User Response:* Contact BMC Software Customer Support.

**BMC256912E**

**SECURITY WORKAREA IS CORRUPTED**

*Explanation:* The MAINVIEW for IP authorization process detected a corrupted security database.

*System Action:* No functions are performed under MAINVIEW for IP.

*User Response:* Contact BMC Software Customer Support.

**BMC256913E**

**PHASE1 SECURITY NEVER EXECUTED**

*Explanation:* The first phase of the MAINVIEW for IP security authorization process detected an invalid license. *RTNCD* represents the return code from security phase 1 processing.

*System Action:* No functions are performed under MAINVIEW for IP.

*User Response:* Contact your BMC Software sales representative to purchase a license and receive a permanent password.

**BMC256914E**

**PHASE FAIL PASSWORDS NOT SUPPORTED, CONTACT BMC SOFTWARE**

*Explanation:* MAINVIEW for IP security authorization process detected an invalid password.

*System Action:* No functions are performed under MAINVIEW for IP.

*User Response:* Contact BMC Software Customer Support.

**BMC256999E**

**RTNCD= \*\*\*\* REASON= \*\*\*\* TIER= \*\*\*\* TMPDAYS=nnn PRMDAYS=nnn GRACE=nnn**

*Explanation:* This message displays the status from the security authorization routine. It provides license information and is issued during the MAINVIEW for IP initialization process.

*System Action:* Processing continues.

*User Response:* None.

**BMC257178I**

**SDUMP FAILED R15(nnnnnnnn) RSN(nnnnnnnn)**

*Explanation:* A system dump failed when an abend occurred in the packet tracing or packet sampling routines.

*System Action:* None.

*User Response:* Contact BMC Software Customer Support.

**BMC257179I TACPTTRC ABEND=S00C1 REAS=nnnnnnnn PSW=xxxxxxxx xxxxxxxx**

*Explanation:* An abend has occurred in the packet tracing or packet sampling modules.

*System Action:* Processing continues unless the abend count (3) has been exceeded. For more information, see BMC257180I.

*User Response:* Contact BMC Software Customer Support, and forward the abend dump.

**BMC257180I TACPTTRC ABEND COUNT EXCEEDED, PACKET TRACE AND SAMPLING HAVE BEEN DISABLED**

*Explanation:* The maximum number of abends in the packet tracing module has been exceeded.

*System Action:* Packet tracing and packet sampling are disabled.

*User Response:* To resume packet tracing and packet sampling, recycle the product address space (PAS).

**BMC259510E Error Initializing Library: nn**

*Explanation:* The system encountered a problem when collecting Simple Network Management Protocol (SNMP) data from one of the specified IP nodes. *nn* is one of the following values:

- 1 (SNMP Bad Parameters)
- 3 (SNMP Already Initialized)
- 5 (SNMP System Error)
- 6 (SNMP Transport Error)

*System Action:* The SNMP request fails. The system continues collecting SNMP data.

*User Response:* Contact BMC Software Customer Support.



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# Appendix A Operator Commands

This appendix describes operator commands that you can use to control operation of MAINVIEW for IP.

This appendix contains the following sections:

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## Conventions

You typically issue these operator commands from the MVS system console. The syntax uses the following conventions:

- Items in italics are variables for which you must supply a value. For example, in `HALT subsysid`, you must supply the correct subsystem ID name.
- When two or more items are separated by a vertical line, you must select only one item. For example, in `Z | HALT subsysid,CANCEL`, you use Z or HALT but not both.

## Commands

This section lists descriptions of the operator commands alphabetically to help you find them more easily.

### DNR—Domain Name Resolution Function

Use this command to enable or disable the domain name resolution (DNR) function. The DNR function resolves an IP address to a domain name, and provides the IP address of a domain name. DNR can be entered as an operator command from the MVS console in the format `mvip DNR ON | OFF`.

**Note:** When IP nodes are defined through the SNMP Define View, they are written to the SNMPPARM dataset. If NODNR is set, the IP address is written to the file. For example, `SNMPNODE=(172.19.25.142, public)`. Otherwise, the host name is written to the file. For example, `SNMPNODE=(test.bmc.com,public)`. For instructions on how to define SNMP parameters, see “Defining SNMP Parameters” on page 3-37.

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## FTP\_PORTS—Specify FTP Control Ports

Use this command to specify the file transfer protocol (FTP) control ports. FTP\_PORTS is specified as FTP\_PORTS=(*nnnn*). The value of *nnnn* represents an FTP port for IP packet sampling.

You can specify up to four explicit FTP control ports. MAINVIEW for IP will sample the specified ports for FTP control commands. This sampling allows MAINVIEW for IP to report response times statistics, data traffic statistics, and other details about individual file transfers. The default control port is 21.

## NOSAMP—Disable IP Packet Sampling

Use this command to disable packet sampling. “Packet sampling” gathers additional statistics for each connection (Web, FTP, TN3270, and so on). NOSAMP can be entered as an operator command from the MVS console in the format `mvip NOSAMP`.

**Note:** To take advantage of all the FTP collection capabilities, BMC Software recommends that you enable the SAMP parameter. For more information, see “SAMP—Enable IP Packet Sampling” on page A-4.

To enable packet sampling at product initialization, edit the SYSIN parameters and use the SAMP startup option. For more information, see the *MAINVIEW for IP Customization Guide*.

## OPTIONS—Display MAINVIEW for IP Options Status

To determine the status of the MAINVIEW for IP options, issue the command `/subsysid OPTIONS` from the MVS console. *subsysid* is the four-character name established for the subsystem.

Figure A-1 is an example of the resulting display for subsystem MVIP. The term OPTIONS refers to startup parameters or operator commands. For a description of the startup parameters, see the *MAINVIEW for IP Customization Guide*.

**Figure A-1 Options Display**

```
MAINVIEW/IP Subsystem information and options:  
Ssct: 00BB9178 Tsvt: 153C2008 Asid: 00B8  
Time/Date Started: 15.11.18 2003.091  
Product Version: V2.2  
Cpuid/Model : 0793212064  
MVS Rel : SP7.0.2  
VTAM Rel : 6.1.2  
TCPIP Rel : 6.2  
TCPIPs Act : 02  
Tnports+0 : 00170000 00000000  
Tnports+4 : 00000000 00000000  
Ftpports+0 : 00150000 00000000  
Pktrtracelen : 0007A120  
Sktrtracelen : 0007A120  
Ftpx# : 000003E8  
Smfrec : 000000FB  
Respjob : ON  
Respport : ON  
Samp : ON  
Pktwrap : OFF  
Skwrap : OFF  
DNR func : ON  
FTP Exit Sup: OFF
```

## SAMP—Enable IP Packet Sampling

Use this command to enable packet sampling. “Packet sampling” gathers additional statistics for each connection (Web, FTP, TN3270, and so on). SAMP can be entered as an operator command from the MVS console in the format `mvip SAMP`.

**Note:** To take advantage of all the FTP collection capabilities, BMC Software recommends that you enable the SAMP parameter.

To enable packet sampling at product initialization, edit the SYSIN parameters and use the SAMP startup option. For more information, see the *MAINVIEW for IP Customization Guide*.

## TNPORTS—Specify Telnet Ports

Use this command to specify Telnet ports for IP packet sampling. TNPORTS can be specified as `TNPORTS=(nnnn)`. The value of *nnnn* represents a Telnet port number. MAINVIEW for IP will sample the specified ports for Telnet-specific traffic. This sampling allows MAINVIEW for IP to provide host and network response times for the connections that are using the specified ports. The default port is 23.

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## **XSUPP—Exit Suppression**

MAINVIEW for IP collects file transfer protocol (FTP) statistics by using an exit point (defined by IBM) and an exit that is provided by BMC Software. The exit point is activated by requesting system management facility (SMF) logging in the FTP server. SMF logging writes type 118 records that can be suppressed by the exit.

To suppress SMF records after MAINVIEW for IP has collected the data, perform the XSUPP command by entering **mvip XSUPP ON**.

XSUPP can be entered as an operator command from the MVS console in the format **mvip XSUPP ON | OFF**.

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