User's Guide: CUA Interface

OMEGAMON II ® for DB2

Version 540

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100 North Sepulveda Blvd.

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Threaded Environment for AS/400, Patent No. 5,504,898; Data Server with Data Probes Employing Predicate Tests in Rule Statements (Event Driven Sampling), Patent No. 5,615,359; MVS/ESA Message Transport System Using the XCF Coupling Facility, Patent No. 5,754,856; Intelligent Remote Agent for Computer Performance Monitoring, Patent No. 5,781,703; Data Server with Event Driven Sampling, Patent No. 5,809,238; Threaded Environment for Computer Systems Without Native Threading Support, Patent No. 5,835,763; Object Procedure Messaging Facility, Patent No. 5,848,234; End-to-End Response Time Measurement for Computer Programs, Patent No. 5,991,705; Communications on a Network, Patent Pending; Improved Message Queuing Based Network Computing Architecture, Patent Pending; User Interface for System Management Applications, Patent Pending.

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Preface

This guide is an introduction to the CUA™ interface for OMEGAMON II® for DB2®, Version 540. The CUA interface is based on IBM's Common User Access™ standards designed to facilitate ease of learning and use. OMEGAMON II® for DB2 is a component of OMEGAMON XE for DB2 on z/OS.

This manual is intended for data center personnel who are responsible for monitoring DB2 performance, systems programmers and performance analysts who are responsible for a DB2 subsystem, application programmers who wish to monitor their programs, and database administrators.

This document covers basic information you need to get started using OMEGAMON, including signing on and off, getting help, and customizing OMEGAMON II to meet the requirements of your installation. It also provides an overview of the main navigation paths in OMEGAMON in "Panel Navigation Flowcharts" on page 109.

Note: *OMEGAMON II for DB2 also supports the classic interface, which allows you to navigate in OMEGAMON using a menu system. If you are interested in learning about the classic interface, refer to the* OMEGAMON II for DB2 Tuning Guide, Version 540.

About This Book

Who should read this book

This manual is intended for data center personnel who are responsible for monitoring DB2 performance, systems programmers and performance analysts who are responsible for a DB2 subsystem, application programmers who wish to monitor their programs, and database administrators.

Documentation set information

- OMEGAMON II for DB2 Users Guide: CUA Interface, Version 540
- OMEGAMON II for DB2 Reference Manual: Classic Interface, Version 540
- OMEGAMON II for DB2 Tuning Guide, Version 540
- OMEGAMON II for DB2 Historical Reporting Guide, Version 540
- OMEGAMON II for DB2 Configuration and Customization Guide, Version 540
- Installation and Configuration of Candle Products on OS/390 and z/OS, Version 350
- !DB/Tools Installation and Customization Guide, Version 510
- Candle Products Messages Manual

Where to look for information

For more information related to this product, please see the

- technical documentation CD-ROM that came with your product
- technical documentation information available on the Candle Web site at www.candle.com
- online help provided with this product

Adobe Portable Document Format

Introduction

Candle supplies documentation in the Adobe Portable Document Format (PDF). The Adobe Acrobat Reader prints PDF documents with the fonts, formatting, and graphics in the original document. To print a Candle document, do the following:

1. Specify the print options for your system. From the Acrobat Reader Menu bar, select **File > Print Setup...** and make your selections. A setting of 300 dpi is highly recommended as is duplex printing if your printer supports it.
2. To start printing, select **File > Print** on the Acrobat Reader Menu bar.
3. On the Print popup, select one of the **Print Range** options for
   - a single page
   - a range of pages
   - all of the document
4. (Optional) To fit oversize pages to the paper size currently loaded on your printer, select the **Shrink to Fit** option.

Printing problems?

Your printer ultimately determines the print quality of your output. Sometimes printing problems can occur. If you experience printing problems, potential areas to check are:

- settings for your printer and printer driver. (The dpi settings for both your driver and printer should be the same. A setting of 300 dpi is recommended.)
- the printer driver you are using. (You may need a different printer driver or the Universal Printer driver from Adobe. This free printer driver is available at www.adobe.com.)
- the halftone/graphics color adjustment for printing color on black and white printers. (Check the printer properties under **Start > Settings > Printer**. For more information, see the online help for the Acrobat Reader.)
- the amount of available memory in your printer. (Insufficient memory can cause a document or graphics to fail to print.)

For additional information on printing problems, refer to the documentation for your printer or contact your printer manufacturer.

Documentation Conventions

Introduction

Candle documentation adheres to accepted typographical conventions for command syntax. Conventions specific to Candle documentation are discussed in the following sections.

Panels and figures

The panels and figures in this document are representations. Actual product panels may differ.

Required blanks

The slashed-b (/b) character in examples represents a required blank. The following example illustrates the location of two required blanks.

```
/beBA*ServiceMonitor/b0990221161551000
```

Revision bars

Revision bars (|) may appear in the left margin to identify new or updated material.

Variables and literals in command syntax examples

In examples of command syntax for the OS/390, VM, OS/400, and NonStop Kernel platforms, uppercase letters indicate actual values (literals) that the user should type; lowercase letters indicate variables that represent data supplied by the user:

```
LOGON APPLID (cccccccc)
```

However, for the Windows and UNIX platforms, variables are shown in italics:

```
-candle.kzy.instrument.control.file=instrumentation_control_file_name
-candle.kzy.agent.parms=agent_control_file_name
```

Note: *In ordinary text, variable names appear in italics, regardless of platform.*

Symbols

The following symbols may appear in command syntax:

Table 1. Symbols in Command Syntax

Symbol	Usage
|	The "or" symbol is used to denote a choice. Either the argument on the left or the argument on the right may be used. Example: `YES | NO` In this example, YES or NO may be specified.

Table 1. Symbols in Command Syntax

Symbol	Usage
[ ]	Denotes optional arguments. Those arguments not enclosed in square brackets are required. Example: **APPLDEST DEST [ALTDEST]** In this example, DEST is a required argument and ALTDEST is optional.
{ }	Some documents use braces to denote required arguments, or to group arguments for clarity. Example: **COMPARE {workload} -** **REPORT={SUMMARY | HISTOGRAM}** The *workload* variable is required. The REPORT keyword must be specified with a value of SUMMARY or HISTOGRAM.
_	Default values are underscored. Example: **COPY infile outfile - [COMPRESS={YES | NO}]** In this example, the COMPRESS keyword is optional. If specified, the only valid values are YES or NO. If omitted, the default is YES.

Candle Customer Service and Satisfaction

Background

To assist you in making effective use of our products, Candle offers a variety of easy-to-use online support resources. The Candle Web site provides direct links to a variety of support tools that include these services:

eSupport allows you to create and update service requests opened with Customer Service and Satisfaction (CSS).

eDelivery allows you to download products, documentation, and maintenance 24 hours a day, 7 days a week.

eNotification notifies you of product updates and new releases.

In addition, you can find information about training, maintenance plans, consulting and services, and other useful support resources. Refer to the Candle Web site at www.candle.com for detailed customer service information.

Candle Customer Service and Satisfaction contacts

You will find the most current information about how to contact Candle CSS by telephone or email on the Candle Web site. Go to the www.candle.com support section, and choose the link to Support Contacts to locate your regional support center.

What's New

This section identifies the enhancements for Version 540 of OMEGAMON II for DB2. OMEGAMON II® for DB2 is a component of OMEGAMON XE for DB2 on z/OS, Version 300. The changes and additions in OMEGAMON II for DB2 provide new function in addition to reflecting support for features in IBM DB2 Version 8.1. OMEGAMON II for DB2 enables you to obtain additional information about the performance of your systems. This additional information allows you more flexibility in managing various types of threads. An overview of each new or changed function follows.

Note: *With this version, OMEGAMON II for DB2 no longer supports IBM DB2 Version 5.*

Historical Reporter redesign

With OMEGAMON II for DB2, significant enhancements were made to the historical reporting component. Some of these new features are:

- Sequential output files are produced from the online collector.
- All record types can be loaded into DB2 tables using either the LOAD utility or using SQL INSERT.
- Near term history collector for displays is configured separately from long term history for reports.
- New fields have been added to the Summarizer.

New IFCID-based reports

- Numerous new IFCID-based reports are provided. See the *OMEGAMON II for DB2 Historical Reporting Guide, Version 540*, for a list of the supported IFCIDs. See the README provided with this product for instructions on generating the IFCID-based reports.
- You can generate your own reports, based on the IFCIDS selected, using the product-provided COBOL, C, and SAS record layouts. All instrumentation record types (IFCIDs) are supported. The data are extracted from SMF, GTF or from the Online Collector input.

64-bit addressing support

Version 8 of DB2 UDB for z/OS supports 64-bit virtual storage. The zSeries 64-bit architecture allows DB2 UDB for z/OS to move various storage areas above the 2-GB bar. OMEGAMON II for DB2 Version 540 now provides the ability to display information from above the 2-GB bar structures.

64-bit addressing support applies to the:

- EDM pool
- buffer pools
- sort pools
- RID pools

Long name support

OMEGAMON II for DB2 Version 540 includes support for long object names. New displays are provided in support of this feature.

Unicode support

Unicode support includes character conversion from Unicode to EBCDIC for online displays and batch reports.

Enclave support

New displays for stored procedures using Work Load Manager (WLM) enclaves include:

- Enclave Token
- Service Class Period
- Performance Index
- Service Class
- WLM Environment Name

Stored procedure Address Spaces is being phased out in DB2 Version 8. All stored procedures now use WLM.

New filtering for Near Term History display

These keywords are added to the Near Term History display:

- COMMIT
- CORRID
- DB2 CPU TIME
- DB2 ELAP TIME
- DEADLK/TIMEOUT
- I/O ELAP TIME

- GETPAGES
- LOCK ESCAL
- PACKAGE

See the *OMEGAMON II for DB2 Reference Manual, Version 540*, for descriptions of these new fields.

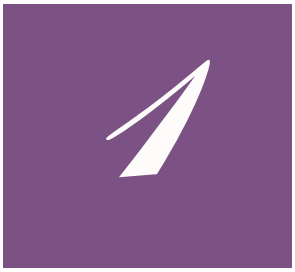
New DSNZPARM fields

The DSNZPARM Thread Parameters panel now includes numerous new fields.

Distributed Thread display improvements

The Distributed Thread display improvements include the addition of these fields:

- Host Name
- Workstation identifier
- End user ID on workstation
- Transaction ID on workstation



Getting Started

Introduction

This chapter is intended to help you get started using the CUA interface for OMEGAMON II for DB2 to monitor your DB2 subsystem.

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Signing On

Logging on to the application

You access the CUA interface for OMEGAMON II by logging on to a VTAM® application. The name of the application (the *applid*) is defined at your site when the product is installed. Depending on the system configuration at your site, you may be required either to select the application from a menu, or issue a command.

To log on to the application: Select the application from the menu or issue the following command from a VTAM terminal:

```
LOGON APPLID(applid)
```

where *applid* is the application name.

Note: *The Candle logo panel appears. The logo panel identifies the product by name and version, and presents copyright information. Use this panel to verify that you have logged on to the correct application.*

Sign On panel

To begin the sign-on, from the logo panel:

- Press Enter

  Result: The Sign On panel appears.

```
                      OMEGAMON II for DB2 - V540
                            D203-0330
                         Sign On panel

Type the requested information, and press Enter.

  Identification
    Userid . . . . . _______
    Password . . . . .
    Change Password. . No  +   Yes/No

  Additional Information
    Group  . . . . . _______
    Account  . . . . . ____________________________________________________


F1=Help  F3=Exit  F4=Prompt  F6=panel ID  F11=Logon Options
```

You are required by OMEGAMON II to enter information for only two fields on the Sign-On Panel: Userid and Password. Other fields may be optional or required depending on the security system at your site. Contact your security administrator for more information.

When you complete your sign-on information, press Enter to display the System Status panel. If this is the first time you are signing on to OMEGAMON, the Logon Options panel will appear instead of the System Status panel.

Note: *During the sign-on, you can display help by pressing F1. You can stop the sign-on at any time by pressing F3.*

Sign On panel fields

The fields of the Sign On Panel are defined in the table below.

Field	Description
Userid	Your 1–8 character user ID, which authorizes your access to OMEGAMON II.
Password	Your 1–8 character private password, which authorizes your access to OMEGAMON II.
Change Password	This field enables you to change your password. To leave your password unchanged, accept the default, **No**. To change your password, type **Yes**. You are prompted for a new password.
Group	Your product administrator may assign users who need to do the same tasks or have the same authorization to a particular group. If you have a group identifier, enter it here.
Account	For auditing or security purposes, your product administrator may assign users to a particular account. If you have an account identifier, enter it here.

Accessing OMEGAMON from OMEGAVIEW

To access OMEGAMON II from OMEGAVIEW, Candle's centralized status manager, select an OMEGAMON II for DB2 CUA status item. The panel that you zoom to will depend on which status item you selected within OMEGAVIEW.

For information about creating a status item under OMEGAVIEW and defining zoom destinations, see the *OMEGAVIEW Configuration and Customization Guide*.

Setting Logon Options

The Logon Options panel enables you to specify session characteristics that will be applied each time you sign on to OMEGAMON II. It appears automatically the first time you sign on as a new OMEGAMON II user. To modify your logon options at any time, press F11 from the Sign On panel.

```
                        Logon Options

Type the correct values, then press Enter.

 User Profile . . . . . .  $DEFAULT +
 Subsystem Profile . . . . . .  $DEFAULT +
 Application ID  . . . . . .
 DB2 Subsystem . . . . . .
 Logical Rows  . . . . . .  255  100-999
 Migrate Profile from OMEGAMON .  No   + (Yes/No)
 OMEGAMON Profile to Migrate . .
 User Data . . . . . .

 ENTER  F1=Help  F4=Prompt  F12=Cancel
```

Note: *If you are zooming to OMEGAMON from OMEGAVIEW, this panel will not appear. To specify these logon options, you must log on to the OMEGAMON for CUA interface directly.*

Logon Options panel fields

The following table describes the fields you can change on the Logon Options panel.

Field	Description
User Profile	The name of the user profile to be used for this session. If you select **$DEFAULT**, OMEGAMON II uses the user profile named with your user ID. Press F4 to view a list of available user profiles. If you enter the name of a nonexistent user profile, OMEGAMON II creates the profile, using the name you specified and Candle's default settings.
Subsystem Profile	The name of your subsystem profile to be used for this session. Press F4 to view a list of available subsystem profiles. If you select **$DEFAULT**, OMEGAMON II uses the subsystem profile that has the same name as the DB2 subsystem ID you are monitoring. You must select $DEFAULT in order to activate automatic profile switching. This feature allows the subsystem profile to switch automatically to one that matches the new DB2 subsystem whenever you change the subsystem you are monitoring. If you enter the name of a non-existent subsystem profile, OMEGAMON II creates the profile, using the name you specified and Candle's default settings.

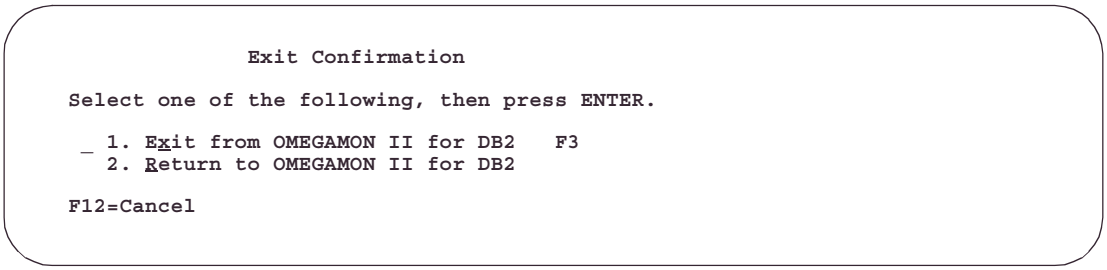
Field	Description
Application ID	The OMEGAMON II classic interface VTAM mode application identifier.
DB2 subsystem	The DB2 subsystem ID that you want to monitor.
Logical rows	The number of logical rows (100–9999).
Migrate Profile from OMEGAMON	Enter **Yes** if you want to migrate a classic interface user profile to a CUA subsystem profile. Use this feature only to provide a set of values to use as a starting point for customizing the CUA subsystem profile. When you migrate classic threshold values, they become CUA critical values. If a CUA exception is set to trip when it *exceeds* its threshold, then the warning threshold is set to 80% of the critical threshold. If a CUA exception is set to trip when it falls below its threshold, then the warning threshold is set to 125% of the critical threshold. For exceptions that are not associated with threshold values, the CUA critical value is set to on, and the warning value is set to off. If the classic STATE= value is ON, the CUA monitor value is YES. If the value for STATE= is OFF, the monitor value is NO.
OMEGAMON Profile to Migrate	The suffix of the profile you want to migrate from the classic OMEGAMON II system.
User Data	Additional classic interface options, such as USER=*cc*. ***Note:*** *During normal operations, this field should be left blank.*

Signing Off

To sign off OMEGAMON II:

1. Press F3 from the System Status panel.

   Result: The Exit Confirmation pop-up window appears.



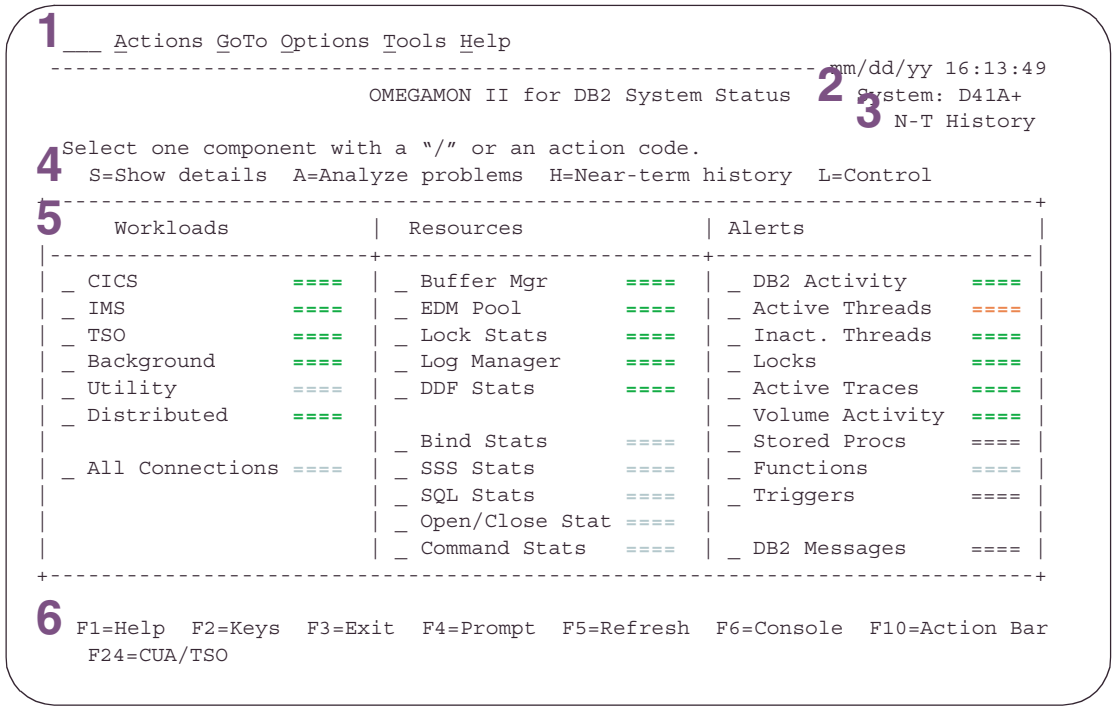
2. Exit OMEGAMON using any of these methods:
   - press Enter
   - press F3
   - type **x** or **1** in the entry field, and press Enter

Returning to OMEGAVIEW from OMEGAMON

To return to OMEGAVIEW from OMEGAMON, use the trigger key you defined in OMEGAVIEW. The default trigger key is PA2 and can be used from any panel.

Panel Features

IOMEGAMON II panels share a number of common features. In the following section, we use the System Status panel to show the panel features you will find throughout OMEGAMON II.



The System Status panel is the first panel you see when you sign on to OMEGAMON II.

Panel features

This table describes features common to all OMEGAMON II panels.

Part	Feature	Description
1	Action Bar	Provides access to OMEGAMON II functions.
2	System Field	Displays the DB2 subsystem that you are monitoring. ***Note:*** *To begin monitoring a different DB2 subsystem, type the new DB2 subsystem into the System field, and press Enter. To display a selectable list of available DB2 subsystems, put the cursor in this field, and press F4.*
3	Collector Status Field	Displays the status of the online data collector. ■ **N-T History** indicates the collector is active and near-term history data is available. ■ **.Realtime** indicates the collector is not active and near-term history data is not available.

Part	Feature	Description
4	Action Codes	Displays available action codes. ***Note**: Action codes do not apply to every product panel.*
5	Panel Body	Displays performance data or status information. Highlighting or color is used to indicate status.
6	Function Keys	Provide navigation and various functions.

Data Panels

Description

Unlike the System Status panel, most OMEGAMON II full-screen panels present performance information in tabular format. Below, a sample data panel is shown.

```
____ Actions GoTo Tools Help
+------------------------------------------------------------ mm/dd/yy  8:01:00
|                          Log Manager Statistics                System:D41B
|
+-------------------------------------------------------------------------------+
| Collection Interval . . : REALTIME   |   Start  . .  . :  10/20 11:50:29      |
| Report Interval . . . . :    7 sec   |   End .  .  .   :  10/20 11:50:36      |
 +------------------------------------------------------------------------------+
|                                                                               |
+-------------------------------------------------------------------------------+
| Logging Mode  . . . . :     DUAL   Archive Mode  . . . . .   :         DUAL   |
| No of Logs Defined  . :        3   Number of Logs Available  :            2   |
| Checkpoint Frequency  :     5000   Records Until Checkpoint  :         4329   |
| Input Buffer Size . . :      28K   Output Buffer Size  . . . :         400K   |
| Write Thresholds  . . :       20   Current Log Record RBA  . :000035DC696C   |
|                                                                               |
| Primary Active Log  . : TDDB241A.LOGCOPY1.DS02                                |
| Secondary Active Log  : TDDB241A.LOGCOPY2.DS02                                |
+-------------------------------------------------------------------------------+
 ( Stats )      < Reads >      < Write >      < Log >      < Log DS >
 F1=Help  F2=Keys  F3=Exit  F5=Refresh  F6=DB2 Console  **=Bkwd **=Fwd
 F10=Action Bar  F15=System Status  F24=CUA/TSO
```

Highlighted data fields

If a value in the data area of a panel exceeds a threshold, OMEGAMON II highlights that value.

This feature allows you to identify the source of a performance problem without having to read every line of data.

Note: *This does not apply to the data panels that appear when you select Active Threads from the System Status panel.*

Scrolling

You can scroll from one panel of data to the next by using function keys, or scroll to a specific line of data by specifying a beginning line number.

You can use F7 to scroll backward one panel and F8 to scroll forward.

You also can scroll through the data using the scroll indicator, which appears in the upper right corner of the panel. For example:

Lines __23 to 51 of 117

The first two numbers show the beginning and ending lines currently displayed on the panel; the third number shows the total number of lines available for display. You can scroll through the data by entering the desired beginning line number in the field following **Line**.

Pushbuttons

OMEGAMON II provides pushbuttons as a way to navigate to panels that are closely related to the current panel.

Pushbuttons appear between brackets < > or parentheses ( ) at the bottom of some panels, directly above the function keys. Only selections in brackets < > are selectable. The pushbutton for the current panel appears in parentheses ( ) and is not selectable.

To use a pushbutton, place the cursor on the phrase or word in brackets, and press Enter.

Action Bar

The action bar appears as the top line of every panel. It has an entry field on the left side and selectable keyword choices across the length of the line. When you select a choice from the action bar, a pull-down menu appears. Then you can select a menu item to navigate to other panels in the product.

The action bar keyword choices are as follows:

- Actions
- GoTo
- View
- Options
- Tools
- Help

Selecting from the action bar

To select a keyword choice from the action bar:

1. Type the first letter of the choice in the action bar entry field, and press Enter.

   Result: A pull-down menu appears from which you can make a selection. (When selecting Actions from the action bar, you must first select an object on the panel body by typing (/) in the entry field of the object.)

2. Type the number of the menu selection in the entry field, and press Enter.

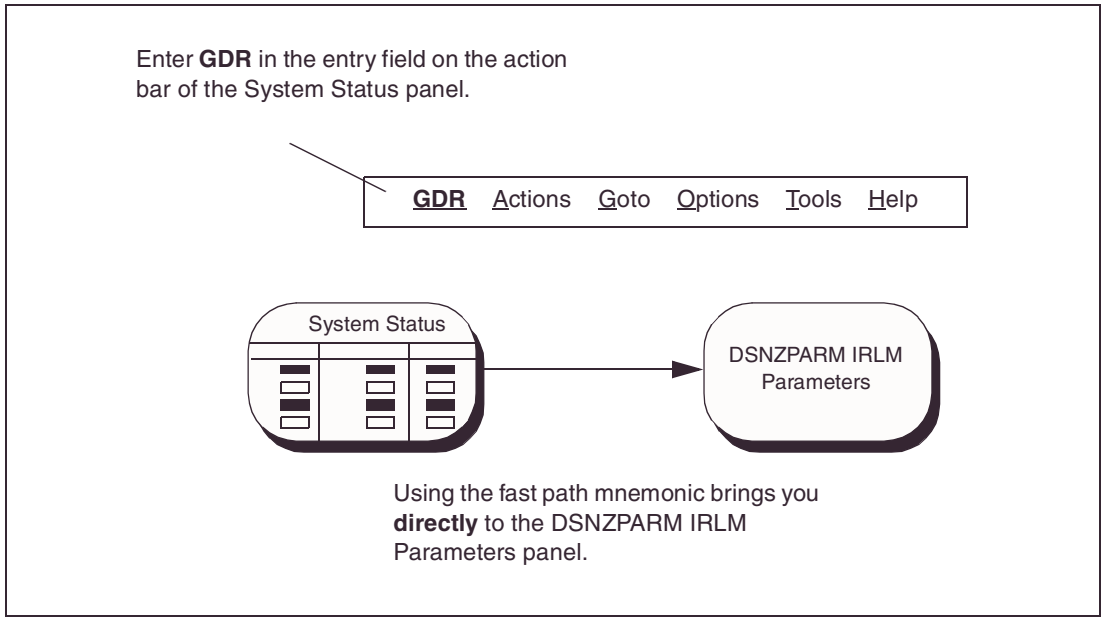
   Result: The selected panel appears.

Fast pathing from the action bar

Fast pathing is a method of quickly navigating to OMEGAMON II panels from the action bar without using menus and submenus.

For example, using fast pathing, you can access the DSNZPARM IRLM Parameters panel directly by entering **GDR** on the action bar entry field of the System Status panel. This

bypasses the GoTo menu and the DB2 Installation Parameters menu, and goes directly to the DSNZPARM Parameters panel.



The mnemonic character (G, D, R) for each selection is underlined on the panel or menu on which it appears.

Actions pull-down

The Actions pull-down menu allows you to display more information about the selected object on the panel body.

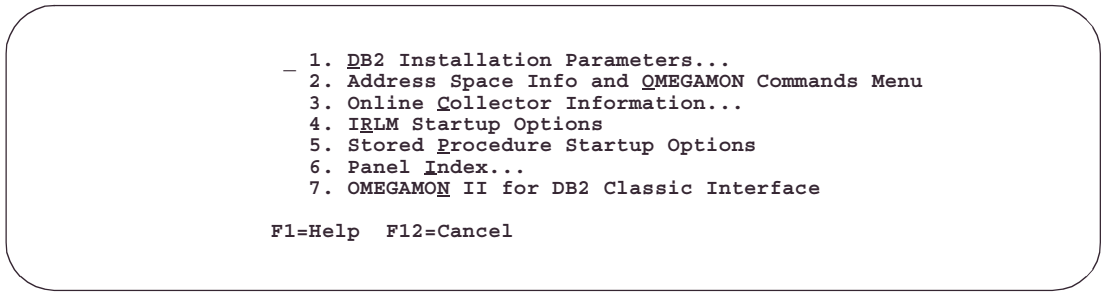
```
_ 1. Show details
  2. Analyze Problems
  3. Near term History
  4. Control

  5. Exit from OMEGAMON II for DB2   F3


F1=Help  F12=Cancel
```

GoTo pull-down

The GoTo menu enables you to quickly move to panels that are related to the current panel, as well as to other product areas. The selections on this menu vary from panel to panel.

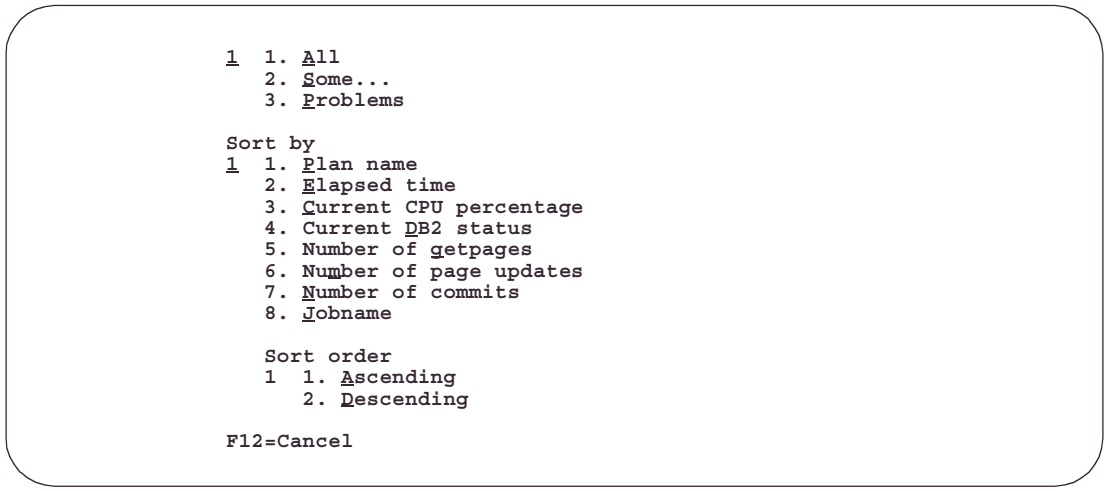


You can also use the GoTo menu to

- select the panel Index, which enables you to move to a wider selection of panels
- navigate to the OMEGAMON classic interface

View pull-down

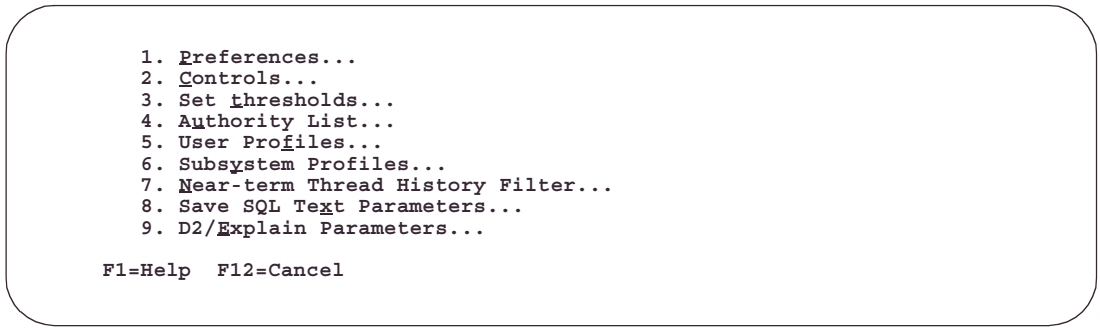
The View pull-down menu allows you to sort and display your panel data in a variety of ways. You can display all fields, only fields with values that you specify, or only fields with warning and critical status. The selections on the View menu vary.



Note: *View is not available on all panels.*

Options pull-down

The Options pull-down menu enables you to customize OMEGAMON II. You can change the panel display, select a different startup profile, set thresholds, and assign user authorities.



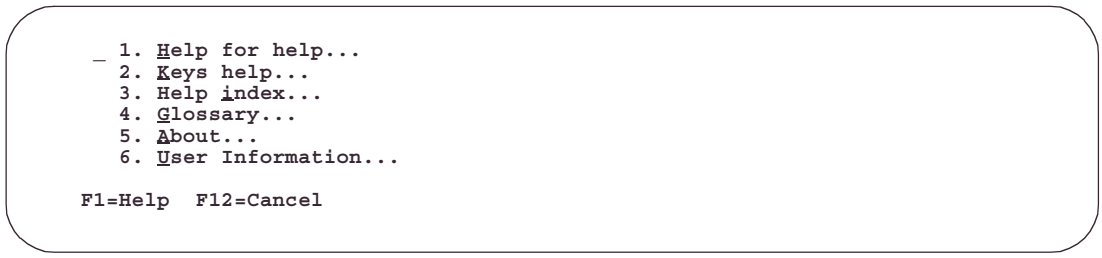
Note: *Additional options may be available from other panels.*

Tools pull-down

The Tools pull-down menu allows you to access OMEGAMON II tool facilities. You can select Application Trace or Object Analysis.

Help pull-down

The Help pull-down menu provides access to the help facilities in OMEGAMON II.



Action Codes

Action codes let you easily analyze the performance of your DB2 subsystem by allowing you to get more information about or perform actions on panel objects. You can use action codes as an alternative to using the Actions menu.

Available action codes

You can use these action codes in OMEGAMON II.

Action	Code	Description
Show Details	S	Shows more detail about the selected item.
Analyze Problems	A	Provides information about ■ causes of warning or critical conditions ■ existing threshold settings ■ current values which are compared to existing thresholds
Near-term History	H	Shows statistical data about recent DB2 activity.
Control	L	Allows you to change threshold values and turn on and off monitoring for specific exceptions.

Using an action code

To use an action code on a panel object:

- Type the action code letter in the entry field of the panel object, and press Enter.

  Result: Another data panel appears, depending on the action code you entered.

Function Keys

Function keys enable you to perform certain tasks in OMEGAMON II. These keys are displayed along the bottom line of the panel. Each panel lists the available function keys and their assignments for the current panel. If your panel does not display the function keys, press F2 to turn on the display.

Function key assignments

The default function key assignments are listed below.

Function Key	Name	Assignment
F1	Help	Displays a help window for the current panel, pull-down menu, pop-up window, or field.
F2	Keys	Turns on (or off) the function key display at the bottom of the panel.
F3	Exit	Exits the current panel, saving all changes made to any of the fields, and returns you to a previous panel. From System Status panel, exits the product.
F4	Prompt	Displays a list of valid selections for an input field, or toggles between two selections, such as ON/OFF. Promptable fields are denoted with a plus (+) sign.
F5	Refresh	Updates the panel with current data.
F6	DB2 Console	Goes to the DB2 or MVS console where you can issue DB2 or MVS commands.
F7	Backward	Scrolls backward if there are more lines of information than can fit on the screen. If you cannot scroll backward, two asterisks (**=Bkwd) appear instead of this function key.
F8	Forward	Scrolls forward if there are more lines of information than can fit on the screen. If you cannot scroll forward, two asterisks (**=Fwd) appear instead of this function key.
F9	Retrieve	Retrieves the last command from the DB2 or MVS console.
F10	Action bar	Moves the cursor back and forth between the action bar and the panel body.
F11	Logon Options	Displays the Logon Options panel. (Only available from the Sign On panel.)
F12	Cancel	Exits panel without saving any data that was entered since you last pressed Enter. Backs up one panel at a time.
F15	System Status	Returns to the System Status panel.
F20	Repeat	Repeats the last command from the DB2 or MVS console.

Function Key	Name	Assignment
F21	Process SQL	Copies SQL statements from the SQL Call Being Executed panel or from the SQL Text panel and pastes them into a specified destination. (This function key assignment may differ at your site.) From the DB2 or MVS console, retrieves and executes the last command.
F24	CUA/TSO	Toggles between the CUA interface and a TSO session. (The assigned key may be different at your site.)
PA1	Switch	Displays a selectable list of OMEGAMON sessions defined to OMEGAVIEW.
PA2	OMEGAVIEW	Returns to the OMEGAVIEW status panel. Returns to the CUA interface, if you zoomed from CUA to the classic interface. (The assigned key may be different at your site.)

Note: *F5, F9, and F11 are assigned differently on Help panels. See* "Help function keys" on page 38 *for a description of these keys.*

Getting Help

Help from a panel

Panel help is available for all panels. To obtain help for a panel:

- Move the cursor to a non-input field, and press F1.

  Result: The associated help panel appears.

The word **More+**, **More-**, or **More-+** in the upper right corner of a help window indicates that you can scroll. When you have finished viewing the help window, press F12 to return to the previous panel, or press F3 to exit Help.

Help from the action bar

The Help choice on the action bar provides a menu listing all the types of help information available in OMEGAMON II.

To access help from the action bar:

- Type **H** in the action bar entry field, or move the cursor to the entry field next to Help, and press Enter.

  Result: The Help menu appears, as shown below.

The help menu provides the following selections:

Selection	Description
Help for help	Explains how to navigate through the OMEGAMON help panels.
Keys help	Describes the function keys and special purpose keys used in the help system.
Help index	Provides an index of help information.
Glossary	Defines words and phrases used in help panels.
About	Shows logo, copyright, and product version information.
User information	Shows information about your current session such as user ID, terminal ID, system ID, VTAM logmode name, and current ACB name.

Using the Glossary

The glossary contains definitions of terms used in OMEGAMON II. The glossary is available from any help window or from any panel through the Help menu.

There are three ways to access the glossary.

IF you are...	THEN...
on the action bar of any panel	enter fast path **hg** to bypass the Help menu and go straight to the glossary
in a help window	press F5
in a help window containing a highlighted phrase	tab to the phrase, and press Enter

Searching the glossary

The glossary allows you to search for a specific term without scrolling through the list of entries.

1. Press F6 to display the Search Glossary window.

```
                  Search Glossary

Type a search term, then press Enter.

Search term . . drain

 F1=Help  F3=Exit  F12=Cancel
```

2. Type in the term that you want to find (drain, in the example), and press Enter.

   Result: All glossary entries containing the word *drain* appear.

3. Select from the list, and press Enter.

   Result: The glossary definition of *drain* appears, as shown in the figure below.

```
                Glossary Term - Drain


To acquire a locked resource by quiescing access to
that object.


 F1=Help  F2=Ex Help  F3=Exit  F9=Keys  F11=Index
 F12=Cancel
```

Help function keys

The following table describes how function keys work within the help system.

Function Key	Name	Assignment
F1	Field level help	Displays field-level help if pressed on an entry field. Displays panel-level help if pressed outside an entry field. ***Note:*** *Field-level help is not available for all entry fields.*
F2	Extended help	Displays additional help information.
F3	Exit	Exits the help system.
F5	Glossary	Accesses the glossary.
F6	Search	Enables you to search the glossary or help index for a particular term or phrase.
F7	Backward	Scrolls backward.
F8	Forward	Scrolls forward.
F9	Function keys help	Describes the assignments for each function key.
F11	Index	Displays the help index.
F12	Cancel	Cancels the current window.

2 Customizing OMEGAMON II

Chapter Contents

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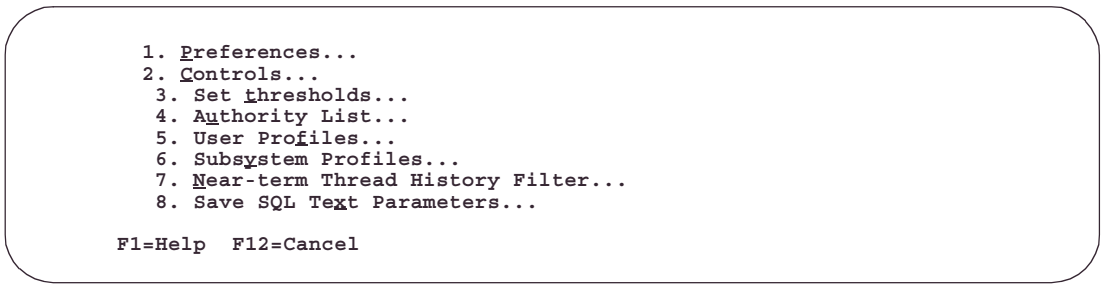
Introduction

You can adjust many features of the OMEGAMON environment to meet your work and system requirements. All customization options are available from the **Options** pull-down menu.

To access the Options menu:

- Select **Options** from the action bar.

  Result: The Options menu appears.



Specifying Panel Preferences

Use the Preferences pop-up window to customize the appearance of information on OMEGAMON II panels.

Accessing the Preferences window

To access the Preferences pop-up window:

- Select **`Preferences`** from the Options menu.

  Result: The Preferences window appears.

```
                      Preferences

Type any changes, then press Enter.

   Mnemonics . . . . . . . On_  +  On/Off
   Beep  . . . . . . . . . On_  +  On/Off
   Panel ID. . . . . . . . Off  +  On/Off
   Time/Date Display . . . On_  +  On/Off
   Function Key Area . . . On_  +  On/Off
   Implicit Action . . . . On_  +  On/Off
   National Language . . . English_ +
   Date Format . . . . . . mm/dd/yy      +

   Time
     Format  . . . . . . . 24 +   12/24 hour
     Separator character . :
     Morning indicator . . AM
     Afternoon indicator . PM

 F1=Help  F4=Prompt  F12=Cancel
```

You are now ready to specify your preferences for OMEGAMON II panel features.

Using the Preferences window

The following table describes the fields on the Preferences pop-up window.

Field	Description
Mnemonics	Enables fast path access to the menus and submenus of the action bar choices. For example, if you are at the System Status panel and want to go quickly to the DB2 Installation Parameter panel, type GD (G for Goto, D for DB2 Installation Parameters) in the entry field of the action bar, and press Enter. If you select `Off`, the action bar entry field does not appear and you must tab to the choice, and press Enter.
Beep	Enables the terminal to beep when OMEGAMON II detects invalid input.
Panel ID	Displays the panel ID for the current panel in the upper-left portion of the panel.
Time/Date Display	Displays the time and date on the right side of the action bar separator line.

Field	Description
Function Key Area	Displays a list of the currently available function keys at the bottom of the panel.
Implicit Action	Allows for an implicit action for selectable items on a display panel. If you select `On`, a default action occurs when you place the cursor on an entry field, and press Enter. If you select **`Off`**, you must type an action code in the entry field for an action to occur.
National Language	Controls the language you want to use for your session.
Date Format	Specifies the date format you want to use for your session. For example, mm/dd/yy or dd.mm.yy.
Time Format	Specifies the time format you want to use for your session. ■ Type 12 to use the 12 hour format. ■ Type 24 to use the 24 hour format.
Time Separator Character	Specifies a character that is inserted between the hours, minutes, and seconds portion of the time stamp.
Morning indicator	Specifies the morning time indicator when you select the 12 hour format. You can use any two characters.
Afternoon indicator	Specifies the afternoon time indicator when you select the 24 hour format. You can use any two characters.

Specifying Terminal Options

Use the Terminal Options pop-up window to customize settings for the CUA interface.

Accessing the Terminal Options window

To access the Terminal Options pop-up window:

- Select **Controls** from the Options menu.

  Result: The Terminal Options window appears.

```
KD2PTRMP          Terminal Options

Type a new setting or press Enter.

Auto Refresh Interval  . . . OFF Sec. (5-999 / Off)

Use Status Words . . . . . . YES +(Yes/No)
Critical Status Word . . . . Crit
Warning Status Word  . . . . Warn
Normal Status Word . . . . . OK
Idle Status Word . . . . . . Idle

Display threads by:  . . . . PLAN +

SQL Process Level  . . . . . Manual +
SQL Process PF Keys  . . . . F21 +
CUA/TSO Toggle Key . . . . . F24 +

F1=Help  F4=Prompt  F12=Cancel
```

You are now ready to specify your preferences for the OMEGAMON II terminal options.

Using the Terminal Options window

The following table describes the fields on the Terminal Options pop-up window.

Field	Description
Auto Refresh Interval	Amount of time between updates to panels that display performance information. OMEGAMON II collects performance data continually and displays the new data automatically at the frequency you enter in this field.
Use Status Words	On color terminals, color status bars represent the performance of status items. You also can specify a word or a series of characters to appear for each level of status. The word or characters appear in a row within the colored status bar. On noncolor terminals only the word, or characters, appear.
Critical Status Word	Word you want to appear when OMEGAMON II displays a critical status (red). For example: *Crit*.
Warning Status Word	Word you want to appear when OMEGAMON II displays a warning status (yellow). For example: *Warn*.
Normal Status Word	Word you want to appear when OMEGAMON II displays a normal status (green). For example: *OK*.

Field	Description
Idle Status Word	Word you want to appear when OMEGAMON II is not monitoring an object (turquoise). For example: *Idle*.
Display Threads by:	To display plan names on thread summary displays, enter PLAN in this field. To display package names on thread summary displays, enter PACK.
SQL Process Level *Values for the SQL Process Level are described in the following table.*	Options available for copying, pasting, and saving SQL text. You can copy or save text by pressing the SQL Process PF Key. You can process SQL from the following screens: ■ SQL Call being Executed (Thread Detail). See "EXPLAINing SQL Code" on page 61. ■ SQL Text (ATF). You can access the SQL Text screen through the application trace facility. Select the SQL TEXT pushbutton from the Application Trace SQL Detail screen. ■ Thread History Dynamic SQL Detail
SQL Process PF Key	If you have set up !DB/EXPLAIN for direct access, pressing this PF key will directly invoke !DB/EXPLAIN. Otherwise, it will invoke the SQL copy and paste facility to perform the EXPLAIN.
CUA/TSO Toggle Key	Use to toggle between CUA and TSO sessions.

The following table provides a list of fields and valid values for completing the SQL Process Level field on the Terminal Options panel.

Values for SQL Process Level	Description
MANUAL	After you have selected the SQL text to be EXPLAINed, you must use the PF key defined (SQL Process Key) to copy the SQL. Then switch to TSO/ISPF (CUA/TSO toggle), and paste the SQL, again using the PF key you defined. ***Note:*** *To use MANUAL or AUTO, a TSO/ISPF edit session must be active in the background.*
AUTO	After selecting SQL text, use the SQL Process key to copy and automatically insert the text into the member currently in use in the TSO/ISPF edit session. The placement of SQL text depends on the cursor position within the TSO/ISPF session. ***Note:*** *To use MANUAL or AUTO, a TSO/ISPF edit session must be active in the background.*
SAVE	After selecting the SQL text, use the SQL Process key to copy and automatically save the SQL text to the partitioned dataset member defined on the Save SQL Text Parameters panel. Text will either overwrite the existing contents of the member or be appended to it, depending on the type of save defined on the same panel. This option does not require a TSO/ISPF edit session.
EXPLAIN	This option invokes !DB/EXPLAIN, which produces a variety of !DB/EXPLAIN reports. Use the pushbuttons to view the various report sections. Complete the required options for the EXPLAIN option on the !DB/EXPLAIN panel.

Values for SQL Process Level	Description
SAVE/EXPLAIN	Use this option to perform SAVE and EXPLAIN functions. Complete the required fields for the SAVE/EXPLAIN option.

Saving Terminal Options

When you finish entering your terminal preferences:

- Press Enter.

  Result: The Save Profile Confirmation pop-up window appears.

```
          Save Profile Confirmation

    1.- Save values for this session only
    2.- Save values into profile


  F12=Cancel
```

Saving for current session

To use the new terminal options only for the current session:

- Select Save values for this session only.

  Result: The new terminal options are used only for your current session, and the active profile is not changed.

Saving to a profile

If you own the currently active user profile or you have authorization, you can save the new terminal options to the profile.

To save the new terminal options to the active profile:

- Select Save values into profile, and press Enter.

  Result: The new terminal options become active for the current session and are saved in the user profile.

Note: *If you do not have authorization, the* Save values into profile *option is not available to you. See* "Assigning User Authorities" on page 48.

Setting Thresholds

Use the Set Thresholds option window to set performance standards for your subsystem.

Accessing the Thresholds window

To access the various thresholds windows using the Set Thresholds option, follow these steps:

Step	Action
1	Select Set Thresholds from the Options pull-down menu. ***Result***: The Threshold Index menu appears.
2	Select one of the following, and press Enter: ■ Workloads ***Result***: The Workloads Index menu appears. ■ Resources ***Result***: The Resource Index menu appears. ■ Alerts ***Result***: The Alerts Index menu appears.
3	Select the workload, resource, or alert whose threshold values you want to change, and press Enter. ***Result***: A pop-up window with the setting for that selection appears. For example, if you select Active Threads from the Alerts Index menu, the Active Threads Thresholds pop-up window appears.

Using the thresholds windows

Follow these steps to change threshold values:

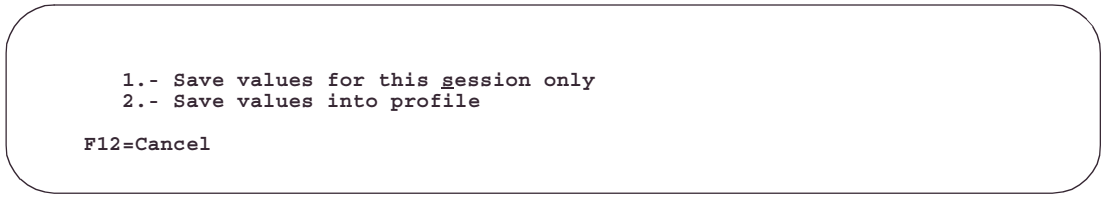
Step	Action
1	Change any Warning or Critical threshold value as necessary.
2	Enter either **`Yes`** or **`No`** in the Monitor column to turn monitoring on or off for a particular exception. If you turn off monitoring for all exceptions for the status item, then the status is Idle, and the color bar on color terminals is turquoise.

Saving threshold values

When you finish entering your threshold values:

- Press Enter.

  Result: The Save Profile Confirmation pop-up window appears.



Saving for current session

To use the new threshold values only for the current session:

- Select Save values for this session only, and press Enter.

  Result: The new thresholds are used only for your current session, and the subsystem profile is not changed.

Saving to a profile

If you have authorization, you can save the new threshold values in the subsystem profile.

To save the new threshold values in the subsystem profile:

- Select Save values into profile, and press Enter.

  Result: The new threshold values become active for the current session and are saved in the subsystem profile.

Note: *If you do not have authorization, the* Save values into profile *option is not available to you. See* "Assigning User Authorities" on page 48.

Assigning User Authorities

The system administrator at your site has access to all user and subsystem profile maintenance functions and can perform profile maintenance functions for other users. The system administrator also can authorize other users to perform profile maintenance functions.

The ID of the first person to log on to the CUA interface of OMEGAMON II automatically becomes an authorized user. This person then can add other user IDs to the list as needed.

Accessing user authorities

To access the Specify User Authorities pop-up window:

- Select User Authorities from the Options pull-down menu.

  Result: The Specify User Authorities window appears. Unauthorized users can view this list, but cannot make any changes.

```
                Specify User Authorities

To add a new user type the ID, Comment and press ENTER.
D = Delete
                                Lines  1    to 4   of 4

ID          Comments
--------    ------------------------------------------
________    __________________________________________

  TDMX07
  TDO213
  TDTDA3
  TDTD88


F1=Help  F12=Cancel  **=Bkd  **=Fwd
```

Adding a user

To assign user authority to an OMEGAMON II user:

- Type the user ID and comment on the blank lines, and press Enter.

  Result: The user ID is added to the list of users authorized to perform profile maintenance functions for all profiles.

Deleting a user

To delete a user ID from the authorized user list:

- Type `D` next to the ID you want to delete, and press Enter.

  Result: The user ID is deleted from the list. This user is no longer authorized to perform profile maintenance functions for all profiles.

Maintaining Profiles

OMEGAMON II allows you to switch, copy, delete, and modify user profiles and subsystem profiles.

Profile types

OMEGAMON II uses three different profiles.

Profile	Description
Startup	Contains values specified on the Logon Options panel. Used during the logon process. Startup profiles cannot be shared among users.
User	Contains values specified on the Terminal Options panel. Although users should have their own user profiles, profiles can be shared among users.
Subsystem	Contains threshold values. Subsystem profiles can be shared among users. Each DB2 subsystem should have its own customized subsystem profile, named with the subsystem ID. If you enter $DEFAULT for the name of the subsystem profile, OMEGAMON II automatically selects the subsystem profile that matches the ID of the subsystem being monitored.

Accessing profile maintenance

You can perform profile maintenance as follows:

To access the User Profile Maintenance panel:

- Select User Profiles from the Options menu, and press Enter.

  Result: The User Profile Maintenance panel appears.

```
 ------------------------------------------------------------ mm/dd/yy 18:00:52
                          User Profile Maintenance               System: D41B

+-------------------------------------------------------------------------------+
|Current user profile :  TDTDA3($DEFAULT)                                       |
+-------------------------------------------------------------------------------+
 Type an action code and press Enter.
 C=Copy  D=Delete  M=Modify description  S=Switch a Profile
                                                 Lines    1  to   10 of   10
+-------------------------------------------------------------------------------+
| Profile name |              Description                          | Owner    |
|--------------+---------------------------------------------------+----------|
| _ TDDB40     | user profile                                      |  TDDB40  |
| _ TDO213B    | user profile                                      |  TDO213B |
| _ TDTD45     | user profile                                      |  TDTD45  |
| _ TDO214     | user profile                                      |  TDO214  |
| _ TDO210     | user profile                                      |  TDO210  |
| _ $DEFAULT   | Automatic user profile selection                  |  System  |
| _ TDO213     | user profile                                      |  TDO213  |
| _ TDTDA3     | user profile                                      |  TDTDA3  |
| _ TDTD88     | user profile                                      |  TDTD88  |
+-------------------------------------------------------------------------------+
F1=Help  F2=Keys  F3=Exit  F5=Refresh  F6=Console  **=Bkwd  F8=Fwd
F10=Action Bar  F15=System Status  F24=CUA/TSO
```

To access the Subsystem Profile Maintenance panel:

- Select Subsystem Profiles from the Options menu, and press Enter.

  Result: The Subsystem Profile Maintenance panel appears.

```
------------------------------------------------------------ mm/dd/yy 22:45:54
                        Subsystem Profile Maintenance            System: D61B

+-------------------------------------------------------------------------------+
|Current subsystem profile :  D61A($DEFAULT)                                    |
+-------------------------------------------------------------------------------+
 Type an action code and press Enter.
 C=Copy    I=Import a Profile    S=Switch to a Profile   M=Modify description
 D=Delete  X=Export a Profile    E=Edit a Profile
                                                Lines    1  to    3  of   3
+-------------------------------------------------------------------------------+
| Profile name |              Description                          |  Owner   |
|--------------+---------------------------------------------------+----------|
| _ $DEFAULT   | Automatic subsystem profile selection & switching |  System  |
| _ D411       | subsystem profile for D23B                        |  System  |
| _ D61A       | subsystem profile for D31A                        |  System  |
+-------------------------------------------------------------------------------+


F1=Help  F2=Keys  F3=Exit  F5=Refresh  F6=Console  **=Bkwd  F8=Fwd
F10=Action
```

Copying a profile

You can create a new user or subsystem profile by copying an existing profile and giving the copy a new name.

Note: *If you copy a profile to an existing profile, the values in the existing profile are overwritten.*

To copy a profile:

1. Type `C` next to the profile you want to copy.

   Result: The Copy a Profile window appears.

```
                          Copy a Profile

  From: Profile . . . D41B

  To:   Profile . . . ________
        Description . ____________________________________

 F1=Help  F12=Cancel
```

2. Type the name of the new profile, and press the Tab key. (You cannot copy $DEFAULT.)
3. Type a description for the new profile, and press Enter.

   Result: The new profile name and description, with your user ID identifying you as the owner of the profile, are added to the profile maintenance panel.

Importing a Profile

You can import a profile by copying the partitioned dataset member into the profile. The MVS Modify command for importing a profile is as follows:

```
/F OMIIDB2,NTD KD2IMP 'PDSNAME MEMBER PROFILE'
```

Where **PDSNAME** is the name of the source partitioned dataset, **MEMBER** is the source partitioned dataset member, and **PROFILE** is the target profile.

Exporting a Profile

You can export a profile by copying the profile to the target partitioned dataset member. The MVS Modify command for exporting a profile is as follows:

```
/F OMIIDB2,NTD KD2EXP 'PDSNAME MEMBER PROFILE'
```

Where **PDSNAME** is the name of the target partitioned dataset, **MEMBER** is the target partitioned dataset member, and **PROFILE** is the source profile.

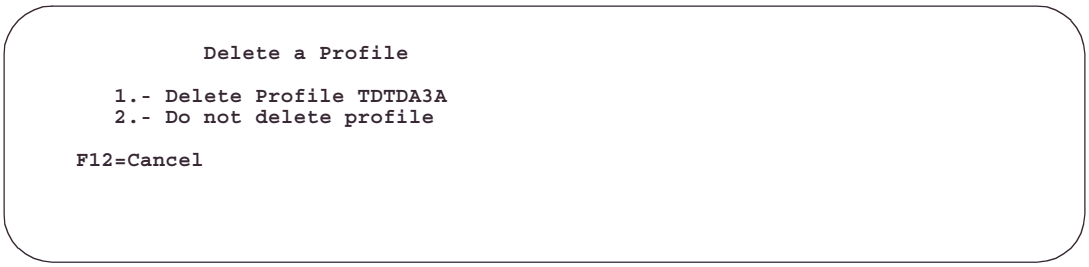
Deleting a profile

If you own a profile or have authorization, you can delete a profile that is no longer needed. If you delete a profile that is currently active, sessions that were started with that profile are not affected.

To delete a profile:

1. Type **D** next to the profile you want to delete, and press Enter.

   Result: The Delete a Profile window appears.



2. Select Delete Profile *profile name*, and press Enter. (You can not delete $DEFAULT.)

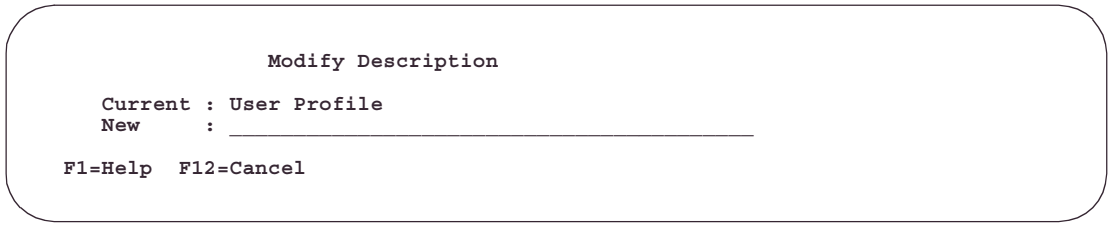
   Result: The profile is deleted from the Profile Maintenance panel.

Modifying a profile description

If you own a profile or have authorization, you can modify the description of a profile on the Profile Maintenance panel.

To modify a profile description:

1. Type **M** next to the profile whose description you want to modify and press Enter.
   Result: The Modify Description window appears.



2. Type the new description, and press Enter. (You cannot modify the description of $DEFAULT.)
   Result: The profile description is changed on the Profile Maintenance panel.

Switching profiles

At any time during an active session, you can activate a different user and subsystem profile using the S (Switch) action code.

To switch profiles:

- Enter **S** next to the profile you want to switch to, and press Enter.

  Result: The profile you selected becomes the active profile. The name of the active profile appears in the Current User/Subsystem Profile field.

Note: *If you select $DEFAULT for a user profile, OMEGAMON II automatically selects the user profile that matches your ID. If you select $DEFAULT for a subsystem profile, OMEGAMON II automatically selects the subsystem profile that matches the ID of the subsystem being monitored.*

Using the Dynamic Profile Update Facility

The Dynamic Profile Update Facility lets you dynamically import and export individual OMEGAMON II profiles to and from a partitioned dataset by creating import and export dialogs that are invoked externally through MVS.

Observe these considerations when using the import and export dialogs:

- Invoke KD2EXP and KD2IMP by using the MVS Modify command.
- Use KD2EXP to export a profile to a partitioned dataset and KD2IMP to import a profile from a partitioned dataset.
- When you export a profile, its data is written in a standard format to a partitioned dataset member.
- The partitioned dataset should be allocated as fixed blocked, LRECL of 80, and BLKSIZE of 8880, with an appropriate number of directory blocks.
- Make sure OMIIDB2, the OMEGAMON II for DB2 started task name, has write authority to the partitioned dataset.

- Use importing to reverse the above process to recreate a profile based on the exported information.

Example command for exporting a profile

The MVS Modify command for exporting a profile is as follows:

```
/F OMIIDB2,NTD KD2EXP 'PDSNAME MEMBER PROFILE'
```

Where **PDSNAME** is the name of the target partitioned dataset, **MEMBER** is the target partitioned dataset member, and **PROFILE** is the source profile.

Example command for importing a profile

The MVS Modify command for importing a profile is as follows:

```
/F OMIIDB2,NTD KD2IMP 'PDSNAME MEMBER PROFILE'
```

Where **PDSNAME** is the name of the source partitioned dataset, **MEMBER** is the source partitioned dataset member, and **PROFILE** is the target profile.

Setting Filtering Options for Near-Term Thread History

Use the Near-Term Thread History Filter Options pop-up to specify the reporting period and filtering criteria for data that appears on near-term thread history panels.

Accessing the Filter Options window

To access the Filter Options pop-up window:

- Select Near-term Thread History Filter from the Options menu.

  Result: The Near-Term Thread History Filter window appears.

```
                    Near-Term Thread History Filter Options

Oldest Record                 Latest Record                Total Records
---------------------------   ---------------------------  -------------
02/15/2001 10:13:09.123456    02/15/2001 16:37:55.123456           45632

Specify options, then press ENTER.

  START-DATE/TIME = __________  _____     (mm/dd/yyyy, dd.mm.yyyy, hh:mm)
  END-DATE/TIME   = __________  _____     (mm/dd/yyyy, dd.mm.yyyy, hh:mm)
  RELATIVE-START  = __ _____ ago          (1-nn, MINS or HOURS)
  RELATIVE-END    = __ _____ from start   (1-nn, MINS or HOURS)
  REPORT-INTERVAL = __ minutes            (5-60 MINS, in 5 min increments)

  Field     Operator                          Values
  -----     --------   ------------------------------------------------------
  PLAN         EQ +    _________  _________  _________  _________  _________
  AUTHID       EQ +    _________  _________  _________  _________  _________
  CONNID       EQ +    _________  _________  _________  _________  _________
  CONNTYPE filtering is accomplished by viewing via Workloads

F1=Help  F4=Prompt  F12=Cancel
```

Using the Filter Options window

The following table describes the fields on the Filter Options pop-up window.

Field	Description
Start-Date/Time	Specify the starting date and time that you want thread information to be reported. Specify date and time as follows: **DATE** *mm/dd/yyyy* *dd.mm.yyyy* *yyyy-mm-dd* **TIME** *hh:mm* *hh.mm*
End-Date/Time	The end date and time of the thread information that is being reported.

Field	Description
Relative-Start	The number of minutes or hours *before* the current time on which the reporting period begins. You can specify a relative start instead of an absolute start date and time.
Relative-End	The number of minutes or hours *after* the start time on which the reporting period ends. You can specify a relative end instead of an absolute end date and time.
Report Interval	The number of minutes by which the report period is partitioned. You must specify a value that is a multiple of the subinterval value that is evenly divisible into 60. The subinterval is the smallest allowable interval (displayed in parentheses to the right of the input field).
Plan	The plan names by which thread history displays are restricted.
Authid	The authorization identifiers by which thread history displays are restricted.
Connid	The connection identifiers by which thread history displays are restricted.
Conntype	The types of workloads that can be connected: CICS, IMS, TSO, Background, Utility, and Distributed.

Specifying Save Options for SQL Text

Use the Save SQL Text Parameters pop-up window to specify options for saving SQL text to a partitioned dataset.

Accessing the Save SQL Text Parameters window

To access the Save SQL Text Parameters pop-up window:

- Select **Save SQL Text Parameters** from the Options window.

  Result: The Save SQL Text Parameters Window appears.

```
          Save SQL Text Parameters

SQL Statement PDS . . : _____________________
  Member Name . . . . : _____________________
  Type of Save. . . . : REPLACE  +

F1=Help  F4=Prompt  F12=Cancel
```

Using the Save SQL Text Parameters window

The following table describes the fields on the SQL Text Parameters window.

Field	Description
SQL Statement PDS	The name of the partitioned dataset into which you want to save the SQL statement text.
Member Name	The name of the partitioned dataset member into which you want to save the SQL statement text. If you do not specify a member name, a system-generated name is used.
Type of Save	The type of save process to use when saving SQL text to the specified member in the SQL statement PDS. **Replace** Overwrites the existing member with the name you specified or creates the member if it does not exist. This is the default. **Append** Concatenates the new SQL text to the existing member. **Prompt** Prompts user at each instance for Replace or Append.

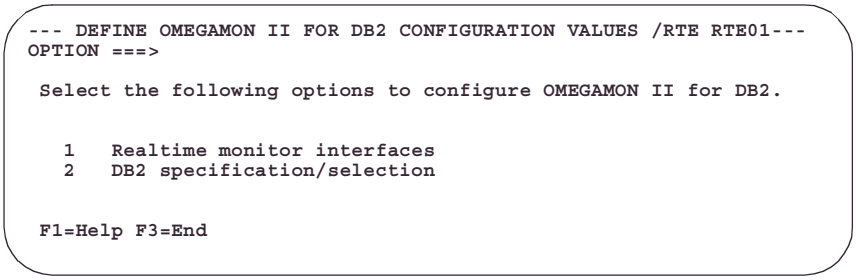
Using the Callable Interface

The callable interface feature of OMEGAMON II for DB2, Version 500, lets you make direct calls to the.EXP command on the OMEGAMON II commands panel without having to first access TSO. Before using this feature, you should do the following:

1. Customize the Classic started task.
2. Set up !DB/EXPLAIN
3. Set up the CUA options.
4. Set up the !DB/EXPLAIN options.

Customizing the Classic Started Task to Implement the OMEGAMON II for DB2 Interface

Use the following procedure to customize the Classic started task.

Step	Action
1	From the Define OMEGAMON II for DB2 Configuration Values menu, select option 1, Realtime monitor interfaces.  ***Result:*** The Started Task and VTAM Information panel is displayed.
2	Press Enter. ***Result:*** The OMEGAMON II for DB2 - Classic Interface - DB/EXPLAIN panel is displayed.
3	Specify the appropriate information on the Classic Interface - DB/EXPLAIN panel and press Enter. ***Result:*** The system returns you to the Define OMEGAMON II for DB2 Configuration Values menu.
4	Press the End function key. ***Result:*** The system displays the Configure OMEGAMON II for DB2 menu.
5	From the Configure OMEGAMON II for DB2 menu, select option 3, Create runtime members. ***Result:*** The system displays the Install OMEGAMON II for DB2 Members menu.

Step	Action
6	Use option 1, Realtime monitor interface members, to submit the job. This job creates a started task in RKD2PAR. The name of this started task is D2TE or the value entered on this panel for the parameter TESTC. Copy this started task to the JES2 procedure library for started tasks. This task dynamically allocates the !DB/EXPLAIN profile dataset. Configuration options for !DB/EXPLAIN will be obtained from this dataset. **Note:** *Do not start this task. OMEGAMON II for DB2 starts this task whenever a !DB/EXPLAIN function is performed and stops it when the function has completed.*

Setting Up !DB/EXPLAIN

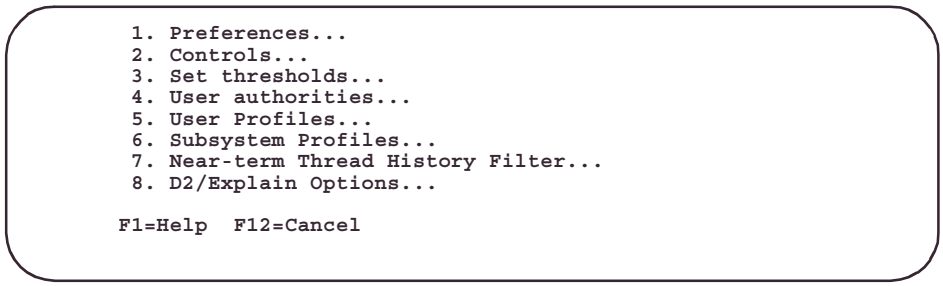
Use the following procedure to set up !DB/EXPLAIN on the OMEGAMON II for DB2 Commands screen.

Step	Action
1	Ensure that !DB/EXPLAIN V300 PSP 9602 (or greater) is installed on every DB2 subsystem where you want to EXPLAIN statements. For information on installing !DB/EXPLAIN, see the *!DB/Tools for DB2 Installation and Customization Guide*.
2	Define Destination Plan_Tables. The Destination PLAN_TABLE will be the current SQLID.PLAN_TABLE. ■ If the current SQLID.PLAN_TABLE does not exist, !DB/EXPLAIN attempts to create the tablespace PLANTBLS in the !DB/TOOLS default database. ■ If the PLAN_TABLE cannot be created there, !DB/EXPLAIN attempts to create the PLAN_TABLE in the database DSNDB04. ■ If it cannot create the table, !DB/EXPLAIN issues an error message indicating that the EXPLAIN could not be performed. The current SQLID is determined by: ■ whether EXP_POWERX is defined in the !DB/Tools profile dataset concatenation as a non-blank value (for example, EXP_POWERX=SAMHILL), if so, the current SQLID is the value specified for EXP_POWERX, ■ or the current SQLID is determined by the DB2 security exit.

Setting Up the CUA Options

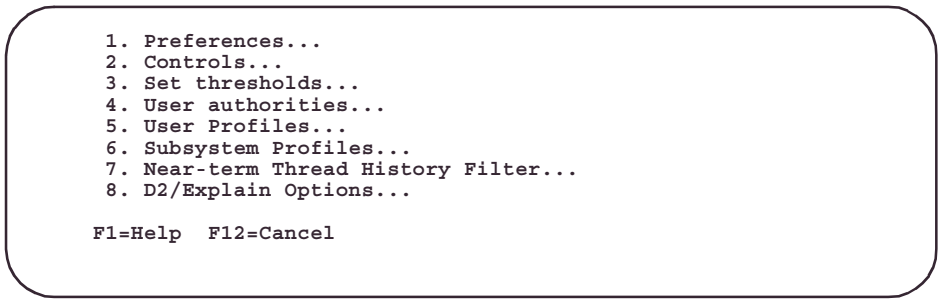
Use the following procedure to set up CUA options and to use the new !DB/EXPLAIN feature.

Step	Action
1	Log onto CUA.

Step	Action
2	From the main CUA panel, select Options from the task bar and press Enter. The following pop-up appears. 
3	Select Option 2, Controls, from the pop-up and press Enter. Use the fields on the Terminal Options panel, shown below, to specify preferences for terminal options. For EXPLAIN, the key field on this panel is the SQL Process Level field. Type EXPLAIN or SAVE/EXPLAIN in this field to enable the function. For a list of the fields and valid values for completing the Terminal Options panel, see "Using the Terminal Options window" on page 43.

Setting Up the D2/EXPLAIN Options

Use the following procedure to set up the D2/EXPLAIN options.

Step	Action
1	If you are not already logged onto CUA, then do so now.
2	From the main CUA panel, select Options from the task bar and press Enter. The following pop-up appears. 

Step	Action
3	Select Option 8, D2/Explain Parameters, from this panel and press Enter. Use the D2/EXPLAIN Options panel, shown below, to specify parameters required to invoke !DB/EXPLAIN during your OMEGAMON session.

```
                          D2/EXPLAIN Options

Extract Id . . . . . : DB41
User Profile DSN . . . :
Group Profile DSN. . . :
SQL Statement PDS. . . :
  Member Name. . . . . :
  Type of Save . . . . : REPLACE  +
Default Qualifier. . . : SYSIBM
  Qualifier Option . . : PROMPT +
Gather Statistics. . . : YES +
Initial Report . . . . : EPATH+

F1=Help  F4=Prompt  F12=Cancel
```

The following table provides a list of fields and valid values for completing the D2/EXPLAIN Options panel.

Field	Description
Extract ID	1- to 8-character field that identifies an extract of plans and packages. It represents a logical grouping that typically identifies a DB2 subsystem and an MVS system. An Extract ID must be configured within !DB/EXPLAIN before it is used, but an actual extract is not required for the EXPLAIN.
User Profile DSN	Optional field names the dataset containing the !DB/EXPLAIN user profile. Contains overrides to the !DB/EXPLAIN options specified in the group profile and the system profile.
Group Profile DSN	Optional field names the dataset containing the !DB/EXPLAIN group profile. Contains overrides to the !DB/EXPLAIN options specified in the system profile.
SQL Statement PDS	Name of the dataset where the SQL statement is saved. Must be a PDS. The SQL Process Level is specified on the Terminal Options panel under the Options pull-down (fastpath O2). If SAVE, the text is saved but !DB/EXPLAIN is not invoked. If SAVE/EXPLAIN, !DB/EXPLAIN saves the text and invokes the EXPLAIN function.
Member Name	Name to use when saving the SQL text into the SQL statement PDS. If omitted, the system generates a name. When you define a member, the system prompts for whether the member should be replaced or appended.

Field	Description
Type of Save	Type of save to be executed when saving SQL text to the member specified within the SQL statement PDS. Values are REPLACE and APPEND. ■ REPLACE writes over an existing member or creates the member if it does not currently exist. System default. ■ APPEND concatenates the new SQL text to the existing number.
Default Qualifier	Qualifier to use to qualify unqualified tables, views, and aliases in SQL statements.
Qualifier Option	Type of qualifier. Values are USE and PROMPT. ■ USE indicates the current Default Qualifier for unqualified SQL text. ■ PROMPT indicates you want to be prompted for a Qualifier whenever an SQL statement is used.
Gather Statistics	■ Type YES to have !DB/EXPLAIN gather statistics. ■ Type NO to bypass.
Initial Report	Type the name of the initial !DB/EXPLAIN report to be displayed: ESTMT, EPATH, EPTBL, EOBJ, or ERECM. ■ *ESTMT* is the actual SQL statement text being explained. If there is an SQL error, SQL error text also appears. Use the pushbuttons to select from the other !DB/EXPLAIN report sections that follow. ■ *EPATH* is a narrative describing the access path for the SQL statement. ■ *EPTBL* reports the plan table entries for the SQL statement in tabular form. ■ *EOBJ* reports the DB2 catalog statistics for objects referenced by the SQL statement. This section is available if you specified Yes for Gather Statistics in the D2/EXPLAIN Options panel under the Option pull-down (fastpath 08). ■ *ERECM* provides suggestions for optimizing the SQL statement. For more information about !DB/EXPLAIN parameters, see the *!DB/EXPLAIN Reference Manual*.

EXPLAINing SQL Code

Use the following procedure to EXPLAIN SQL.

Step	Action
1	Log onto CUA.

Step	Action
2	From the main CUA panel, select Active Threads and press Enter. The Thread Connected to DB2 panel appears.
3	Select the PLANNAME you want and press Enter. The Thread Detail panel appears. If SQL calls are being executed by the thread, the message (IN-SQL-CALL) also appears. The Thread Detail panel shows detailed information about the activity of an individual thread or a parallel task, including wait time information.
4	Select Option 3, SQL Call Being Executed, from the GoTo pull-down menu.

```
 _____ Actions  GoTo  View  Options  Tools  Help
+------------------------------------------------------------ mm/dd/yy 8:07:07
|                    All Threads Connected to DB2 (Some)          System: D41
|                                                    Lines    1  to    4 of 4
+---------------+---------+-------+-------------+-------+------+------+--------+
|   Planname    | Elapsed | CPU % |    Status   | Getpg |Update|Commit|Jobname |
+---------------+---------+-------+-------------+-------+------+------+--------+
|   DSNTEP41    |   31.4m | 05.3% | IN-SQL-CALL |  5153K| 61490|     0|DLKEX212|
|   KO2400HP    |    1.3d | 00.0% | NOT IN-DB2  |     0|     0|     0|TDO2S03 |
|   KO2400HP    |    2.1d | 00.1% | NOT IN-DB2  |     0|     0|     0|TDO2S44 |
|   KTWPLNR     |    1.0s | 00.0% ° IN-SQL-CALL |     0|     0|     0|RBRIN3  |
+---------------+---------+-------+-------------+-------+------+------+--------+

 F1=Help  F2=Keys  F3=Exit  F5=Refresh  F6=Console  **=Bkwd  F8=Fwd
 F10=Action Bar  F15=System Status  F24=CUA/TSO
```

```
       GoTo  Options  Tools  Help
+------------------------------------------------------------ mm/dd/yy  8:09:18
|                              Thread Detail                    System: D41A
|
+--------------------------------------+-----------------------------------------+
| Thread: Plan . . . . :       KTWPLNR | Attach: TSO Userid . . :       RBRIN3   |
|         Connid . . . :       DB2CALL |         Region ASID  . :         225    |
|         Corrid . . . :        RBRIN3 |                                         |
|         Authid . . . :        RBRIN3 |                                         |
| Collection . . :                     | Package  . . . . . . . :                |
| DB2 Status . . . . . :   IN-SQL-CALL | MVS Status . . . . . :    USING CPU     |
| Elapsed Time . . . . :  00:00:05.932 | CPU Utilization  . . . :                |
| Total CPU Time . . . :  00:00:03.586 | Total Parallel Tasks . :                |
| Total Stored Proc CPU:  00:00:00.000 | Current Parallel Tasks :                |
+--------------------------------------+-----------------------------------------+
+--------------------------------------+--------------------+--------------------+
|             IN-DB2 Times             |       Total        |      Current       |
+--------------------------------------+--------------------+--------------------+
|  Elapsed Time                        |    00:00:05.928    |    00:00:05        |
|  CPU Time                            |    00:00:03.584    |    00:00:03        |
|  Stored Procedure CPU Time           |    00:00:00.000    |    N/A             |
+--------------------------------------+--------------------+--------------------+
 ( IN-DB2 Times )  < Waits >  < Current Wait Resource  >

 F1=Help  F2=Keys  F3=Exit  F5=Refresh  F6=Console  **=Bkwd  **=Fwd
 F10=Action Bar  F15=System Status  F24=CUA/TSO
```

Step	Action
5	Press the Process SQL key.

```
      GoTo  Options  Tools  Help
+------------------------------------------------------------ mm/dd/yy   8:47:27
|                          SQL Call Being Executed               System: D41A
|
+---------------------------------------+---------------------------------------+
| Thread: Plan . . . . . :    DSNESPCS  | Attach: TSO Userid . . :      RBRIN3  |
|         Connid . . . . :         TSO  |         Region ASID  . :              |
|         Corrid . . . . :      RBRIN3  |                                       |
|         Authid . . . . :      RBRIN3  |                                       |
+---------------------------------------+---------------------------------------+
|                                                  Lines    1  to   15 of 15   |
+-----------------------------------------------------------------------------+
|SQL call is active, call information is as follows :                         |
|                                                                             |
|Thread Status  = IN-SQL-CALL    SQL Request Type     = DYNAMIC               |
|Total SQL Reqs =        2       SQL Call Type        = OPEN CURSOR           |
|SQL DBRM Name  = DSNESM68       SQL Statement Number = 00193                 |
|Collection ID  = DSNESPCS                                                    |
|                                                                             |
|   SELECT   A.PLNAME, SECTNO, STMTNO, CARD                                   |
|      FROM     SYSIBM.SYSSTMT A,                                             |
|               SYSIBM.SYSPLAN B,                                             |
|               SYSIBM.SYSTABLES C                                            |
|      WHERE    A.PLNAME = B.NAME                                             |
|      AND      A.STMTNO > C.CARD                                             |
|      ORDER BY SECTNO DESC, STMTNO ASC                                       |
|                                                                             |
+-----------------------------------------------------------------------------+
```

3 Using OMEGAMON II

Introduction

This chapter describes how to use OMEGAMON II.

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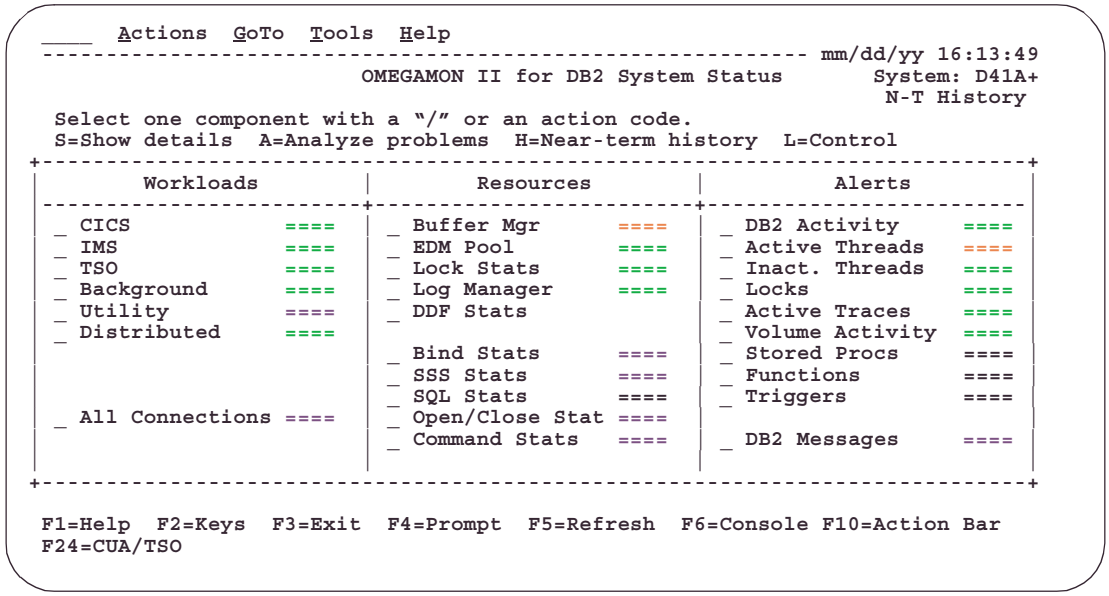
Monitoring from the System Status Panel 66
System Status Components and Related Exceptions 69
Investigating an Active Threads Alert 77
Evaluating and Modifying Thresholds 78
Reviewing Near-Term History Data 80
Using the OMEGAMON II for DB2 Background Application Trace Facility 82
Using the IFCID Trace Facility 85

Monitoring from the System Status Panel

The System Status panel provides a central point of control for monitoring your DB2 subsystem.



Through this panel, OMEGAMON II:

- informs you via status lights of the realtime performance of each monitored DB2 component or application
- allows you to obtain detailed performance data on any monitored DB2 component

DB2 subsystem components

The System Status panel body displays the three major components of the subsystem that are monitored.

Workloads	Information about *threads*, the links between allied agents and a DB2 subsystem.
Resource	DB2 subsystem resource statistics.
Alerts	Summary of DB2 activity, active and inactive threads connected to DB2, locking conflicts, active traces, volume activity, and console messages.

Monitored objects

Each monitored object on the System Status panel has

- a status indicator to its right, which reports its realtime performance
- an entry field to its left, which allows you to select it for detailed analysis

Status indicators

A status indicator is a color bar or a word (for example, Warn) that represents the performance of your DB2 subsystem. Color terminals can display both colors and words; noncolor terminals can display only words.

The meaning of the status indicator colors is shown in the following table.

Color	Status
Green	Satisfactory performance.
Yellow	A potential problem exists. A warning threshold was met or exceeded.
Red	A critical problem exists. A critical threshold was met or exceeded.
Turquoise	Monitoring for this item is disabled. The Monitor field on the Thresholds panel is set to NO for all exceptions for this item.
Blue	No exceptions apply to this item, so no performance data is being collected.

Alert notification

When you see a status indicator change for a monitored object, you know that OMEGAMON II is alerting you to a change in performance. For example, when a status indicator changes from green to red, you know that a condition for that object has changed from normal to critical.

The yellow and red color bars also are used on data panels to highlight the values that do not meet performance standards.

Note: *This does not apply to panels that appear when you select Active Threads from the System Status panel.*

Investigating an alert

When a status indicator turns yellow or red, you can begin to investigate the problem from the System Status panel.

- Move the cursor to the monitored object with the yellow or red status indicator, and press Enter.

  Result: A panel appears that provides more information about the object you selected.

When you press Enter in an action entry field, a default action is invoked.

Performing actions from the System Status panel

You can investigate a change in status for a monitored object by entering one of these action codes.

S	Shows more detail.
A	Shows which exceptions tripped, the current values for the tripped exceptions, and the threshold values set for the exceptions.
H	Shows near-term historical data.
L	Shows all the exceptions that roll up to an object and allows you to change threshold settings and rules.

Note: *Not all action codes apply to every monitored object.*

System Status Components and Related Exceptions

OMEGAMON II monitors your DB2 subsystem by comparing the performance of your subsystem against a set of performance standards. These standards are called thresholds. When the performance of a workload or a resource exceeds a threshold, an exception condition occurs.

The status indicators on the System Status panel summarize the status of the thresholds that you set in OMEGAMON. When OMEGAMON detects that a threshold has been exceeded, the status indicators for all panels that report on that threshold are affected, including the System Status panel.

The following tables are a quick reference to the exceptions that affect the status indicators for components on the System Status panel.

CICS exceptions

The following exceptions apply to threads related to CICS connections.

Description	Code	Explanation
Available pool thread %	POLU	The percentage of active CICS POOL threads to THRDA exceeds the specified threshold. The THRDA value is specified in the CICS resource control table (RCT).
CICS threadmax %	CICT	The percentage of active CICS threads to THRDMAX exceeds the specified threshold. The THRDMAX value is specified in the CICS RCT.
CICS transaction waiting	ENTW	The number of CICS transactions waiting for a thread exceeds the specified threshold. This exception detects transactions that are waiting, because all threads defined for use in the RCT ENTRY definition are already in use. This exception limits its analysis to ENTRY definitions that specify TWAIT=YES.
ENTRY thread %	ENTU	The percentage of active threads that originate from a CICS ENTRY definition to THRDA exceeds the specified threshold. The THRDA value is specified in the resource RCT.
Pool overflow threads	ENTO	The number of POOL threads in use due to ENTRY thread overflow activity exceeds the specified threshold. This exception limits its analysis to ENTRY definitions that specify TWAIT=POOL and THRDA>0.
Pool thread waits	POLW	The number of CICS transactions waiting for a POOL thread that originates from a CICS connection exceeds the specified threshold.

IMS exceptions

The following exceptions apply to threads related to IMS connections.

Description	Code	Explanation
No dependent region	IMND	There are no IMS dependent regions defined to DB2 for the IMSID.
Region connection failed	IMCN	The specified IMS dependent region for the IMSID failed to connect to DB2 due to an error.

TSO exceptions

The following exceptions apply to threads related to TSO connections.

Description	Code	Explanation
Foreground connection %	IDFR	The percentage of active foreground connections to IDFORE exceeds the specified threshold.

Background exceptions

The following exceptions apply to threads related to background job connections.

Description	Code	Explanation
Background connection %	IDBK	The percentage of active background connections to IDBACK exceeds the specified threshold.

Utility exceptions

The following exceptions apply to threads related to utility job connections.

Description	Code	Explanation
Utility ID is stopped	UTIS	A DB2 utility was started but did not finish running due to abnormal termination.

Distributed exceptions

The following exceptions apply to threads related to distributed connections.

Description	Code	Explanation
DBAT thread wait	DWAT	A distributed allied thread has been waiting for a response to a remote SQL request for a period of time greater than the specified threshold.

Description	Code	Explanation
DDF bytes received	TRCV	The amount of data received by a requestor (allied) or server (distributed) DB2 thread in response to SQL requests exceeds the threshold.
DDF bytes sent	TSND	The amount of data sent by a requestor (allied) or server (distributed) DB2 thread in response to SQL requests exceeds the threshold.
DDF remote CPU time	RCPU	The amount of CPU time used by a distributed data access thread exceeds the specified threshold.

Active thread exceptions

The following exceptions apply to active threads.

Description	Code	Explanation
Archive log mount needed	ARCM	Thread backout processing is waiting for an archive tape mount. DB2 requires the archive tape mount during abort processing to backout changes made in the current unit of recovery. The thread does not do any processing until the tape is mounted. It holds DB2 resources until the abort request is complete.
CPU utilization %	TCPU	CPU utilization for an address space that has DB2 connections and threads exceeds the specified threshold.
Getpage/read ratio	GETP	The ratio of logical page read (getpage) requests to physical page read (read I/O) requests is less than the specified threshold.
In-DB2 CPU time	IDBC	The amount of CPU time used by DB2 to process a thread is greater than the specified threshold.
In-DB2 time	IDBT	The length of time that DB2 has been processing a thread is greater than the specified threshold.
Page lock owned %	LKUS	The percentage of page locks owned by an active thread to the total allowable number of held page locks exceeds the specified threshold.
Page update rate	PGUP	The number of row updates per second on behalf of a thread exceeds the specified threshold.
Resource limit percent	RELM	The ratio of the resource limit high water mark (CPU seconds) to the resource limit in effect (CPU seconds) is greater than the current threshold value of *nn.n*%.
Sequential prefetch rate	PREF	The number of sequential prefetch requests per second exceeds the specified threshold.
Synch read I/O rate	RIO	The physical read I/O rate per second on behalf of a thread exceeds the specified threshold.

Description	Code	Explanation
Thread elapsed time	ETIM	The elapsed time for a DB2 thread (from sign-on or create thread) exceeds the specified threshold.
Thread terminated indoubt	INDB	The thread has terminated and is indoubt.
Update commit	COMT	The ratio of updates to commits for the thread exceeds the specified threshold.
Wait for archive log mode	WLGQ	The amount of time that a thread has been suspended due to ARCHIVE LOG MODE (QUIESCE) exceeds the specified threshold value.
Wait for DB2 service	WSRV	The amount of time a thread has been waiting for a DB2 service to complete exceeds the specified threshold value.
Wait for thread-create	CTHD	An application is waiting for DB2 to create a thread.
Stored procedure wait	WSPS	The amount of time a thread has been waiting for an available TCB to schedule a stored procedure exceeds the specified threshold.

Inactive thread exceptions

The following exceptions apply to inactive threads. An inactive thread does not hold any cursors or database resources, but remains connected to DB2.

Description	Code	Explanation
DBAT over maximum wait	MDBW	The number of distributed data access threads (DBAT) waiting because the preset maximum has been reached exceeds the specified threshold. Queuing of conversations when the MAXDBAT limit is reached can greatly impact response time.

Buffer pool exceptions

The following exceptions apply to buffer pool resources.

Description	Code	Explanation
Buffer pool utilization	BMTH	Buffer pool *nn* has exceeded the specified threshold.

EDM pool exceptions

The following exceptions apply to EDM pool resources.

Description	Code	Explanation
EDM pool utilization	EDMU	The percentage of environmental descriptor manager (EDM) pool pages in use to total pool size exceeds the specified threshold.

Lock statistics exceptions

The following exception applies to lock statistics resources.

Description	Code	Explanation
Lock conflict suspensions	SUSL	The number of threads that are unable to continue execution because of lock waits exceeds the specified threshold.

Log manager exceptions

The following exceptions apply to log manager resources.

Description	Code	Explanation
Primary logs available	LOGN	The number of available primary active logs is less than or equal to the specified threshold.
Recovery log archive	ARCV	An active DB2 log is full and must be archived, and a tape mount is outstanding for the archive log.

DDF statistics exceptions

The following exceptions apply to DDF resources.

Description	Code	Explanation
DBAT thread %	MDBT	The number of database access threads (DBAT) in use exceeds the specified threshold. When the MAXDBAT limit is reached, conversations are queued (waiting on DBAT allocation), which can greatly increase response time.
DDF not active	DDFS	The distributed data facility was requested for this DB2 subsystem but it is not active. This could indicate that the DDF terminated abnormally or that it was not started.
DDF receive rate	DRCV	The amount of data received by a requestor (local) or server (remote) DB2 subsystem in response to SQL requests exceeds the specified threshold.

Description	Code	Explanation
DDF send rate	DSND	The amount of data sent to a requestor (local) or server (remote) DB2 subsystem exceeds the specified threshold.
Max logmode conversations	MCNV	The number of conversations in use exceeds the specified threshold. When the percentage reaches 100%, the exception message displays the number of threads waiting because the preset maximum is exceeded. Queuing conversations can greatly increase response time.

DB2 activity exceptions

The following exceptions apply to DB2 activity alerts.

Description	Code	Explanation
Create-thread waits	THDQ	The number of users waiting for create thread processing exceeds the specified threshold.
Indoubt threads	INDT	The number of terminated threads that are indoubt exceeds the specified threshold.
Thread use %	TMAX	The percentage of active threads to the specified maximum exceeds the specified threshold.

Lock exceptions

The following exceptions apply to lock alerts.

Description	Code	Explanation
Resource wait time	WTRE	The amount of time a thread is waiting for a resource exceeds the specified threshold.
Wait for drain lock	WDLK	The amount of time a thread has been waiting for a drain lock exceeds the specified threshold.
Wait for drain of claims	WCLM	The amount of time a utility has been waiting for claims to be released after acquiring drain lock exceeds the specified threshold.
Global lock wait	WGLK	The amount of time a thread has been waiting for a global lock exceeds the specified threshold.

Active trace exceptions

The following exceptions apply to active trace alerts.

Description	Code	Explanation
DB2 global trace active	GTRC	The DB2 global trace is active. It should not be active unless there is a specific purpose, such as diagnostic testing. The DB2 global trace can increase performance overhead.

Volume activity exceptions

The following exceptions apply to volume activity alerts.

Description	Code	Explanation
Volume DB2 I/O rate	VDIO	A DB2 I/O rate per second for the volume exceeded the specified threshold.
Volume extents per DSN	VEDR	The dataset-to-dataset extent ratio of a volume exceeded the specified threshold.
Volume service time	VSRV	The service time for the volume exceeded the specified threshold. The threshold is expressed in milliseconds and must be an integer between 0–9999.
Volume TL I/O rate	VTIO	The total I/O rate per second for the volume exceeded the specified threshold. The threshold is the total number of I/Os per second and must be an integer between 0–9999.
Volume utilization	VUTL	The utilization percentage for the volume exceeded the specified threshold. The threshold is a percentage and must be an integer between 0–100.

Stored procedures exceptions

The following exceptions apply to stored procedures alerts.

Description	Code	Explanation
ASIDs executing stored procedures	SPAC	Indicates that the number of ASIDs executing stored procedures exceeds the threshold. The threshold is expressed as a count of address spaces capable of executing stored procedures. It can be an integer from 0 to 99. Stored procedures can be executed in a DB2 stored procedure address space and in any WLM-managed stored procedure address space. SPAC is a member of the DB2 system (SY) group. The default threshold is 3 and the default state is On.

Description	Code	Explanation
Number of stored procedures executing	STPE	Indicates that the number of stored procedures executing exceeds the threshold. The threshold is expressed as a count of stored procedures currently executing. It can be an integer from 0 to 99. STPE is a member of the DB2 system (SY) group. The default threshold is 10 and the default state is On.

Triggers exceptions

The following exceptions apply to alerts relating to triggers.

Description	Code	Explanation
Depth of largest trigger stack	TRGD	Indicates that the depth of the largest trigger stack exceeds the threshold. The threshold is expressed as the number of triggers in the largest trigger stack. The threshold can be an integer from 0 to 99.TRGD is a member of the DB2 system (SY) group. The default is 1 and the default state is On.
Number of triggers executing	TRGE	Indicates that the number of triggers executing exceeds the threshold. The threshold is expressed as a count of triggers currently executing. The threshold can be an integer from 0 to 99. TRGE is a member of the DB2 system (SY) group. The default threshold is 10 and the default state is On.

User-defined functions exceptions

The following exceptions apply to user-defined functions.

Description	Code	Explanation
Number of user-defined functions executing	UDFE	Indicates that the number of user-defined functions executing exceeds the threshold. The threshold is expressed as a count of user functions currently executing. The threshold can be an integer from 0 to 99. UDFE is a member of the DB2 system (SY) group. The default threshold is 10 and the default state is On.
Number of ASIDS executing user functions	UFAC	Indicates that the number of ASIDs executing user functions exceeds the threshold. The threshold is expressed as a count of address spaces capable of executing user-defined functions. It can be an integer from 0 to 99. User-defined functions can be executed only from WLM-managed stored procedure address spaces. UFAC is a member of the DB2 system (SY) group. The default threshold is 3 and the default state is On.

Investigating an Active Threads Alert

IntroductionThis is an example of how you might investigate a red light from the System Status panel. You can use this information to help you understand how to use the features of OMEGAMON to resolve other DB2 subsystem problems.

Active threads alert

In this example, the Active Threads alert on the System Status panel has turned red.

- Select Active Threads with the **A** (Analyze Problems) action code, and press Enter.

  Result: The Analyze Problems window appears.

```
KD2APROB                   Analyze Problems          System D41B

For additional information move cursor to a threshold entry, then press Enter

   Threshold Description   Type     Current    Warning    Critical  Rule
   ---------------------   -----  ----------  ---------   --------  ----
Plan: DSNTIB31   Connid: BATCH   Corrid: TDO214MI   Authid: TDO214
   Update commit           COMT       0           0          1         None
   In-DB2 time             IDBT     18 s        5 s        6 s       None
   Synch read I/O rate     RIO      12.5 s     10 s       12 s       None
Plan: K02510HP   Connid: DB2CALL Corrid: D2DB020    Authid: D2DB020
   Update commit           COMT       0           0          1         None
   Thread elapsed time     ETIM    4041           2          3         None
   In-DB2 CPU time         IDBC       4           0          1         None

F1=Help F3=Exit **=Bkwd F8=Fwd F10=Action Bar  F15=System Status
```

The Analyze Problems panel shows the exceptions that tripped for Active Threads and caused the status alert. The current value for each tripped exception is highlighted or appears in either yellow (warning status) or red (critical status).

Note: *You can use the A action code only for components with a warning or critical status.*

Exception recommendations

For an explanation of an exception that appears on the Analyze Problems window and for a recommendation about how to resolve the problem that caused the exception to trip:

- Move the cursor to the threshold description, and press F1.

Investigating the exception condition

To continue investigating a tripped exception:

- Move the cursor to a threshold description, and press Enter.

  Result: A panel appears showing information related to the tripped exception.

Evaluating and Modifying Thresholds

When you investigate a yellow or red status light from the System Status panel, you may determine that the threshold values that caused the exception to trip did not really indicate a problem in your DB2 subsystem. In this case, you need to change the current threshold values for the exception to values that are appropriate for your site.

Displaying all exceptions

To display a list of exceptions and their threshold values for a monitored object on the System Status panel:

- Select a monitored object with the **L** (Control) action code, and press Enter.

  Result: A pop-up window appears, which contains the exceptions and the threshold values associated with the object. In this example, the Active Threads Thresholds panel is shown.

```
                        Active Thread Thresholds

 R=Rules
 Threshold description       Code Warning Critical     Units   Monitor

------------------------------------------------------------------------------
 _ Archive log mount need     ARCM      OFF +       ON + (On/Off)   Yes +
 _ CPU utilization %          TCPU       16         20    %         Yes
 _ Getpage/read ratio         GETP       18         15    getpages  Yes
 _ In-DB2 CPU time            IDBC       56         70    100th     Yes
 _ In-DB2 time                IDBT        4          5    seconds   Yes
 _ Page locks owned %         LKUS       64         80    %         Yes
 _ Page update rate           PGUP        8         10    seconds   Yes
 _ Resource limit percent     RELM       64         80    %         Yes
 _ Sequential prefetch rate   PREF        8         10    /sec      Yes
 _ Synch read I/O rate        RIO         8         10    /sec      Yes
 _ Thread elapsed time        ETIM      480        600    seconds   Yes
 _ Thread terminated indoubt  INDB      OFF +       ON + (On/Off)   Yes
 _ Update commit              COMT       80        100    pag/comm  Yes
 _ Wait for Archive Log Mode  WLGQ       48         60    seconds   Yes
 _ Wait for DB2 Service       WSRV       24         30    seconds   Yes
 _ Wait for thread-create     CTHD      OFF +       ON + (On/Off)   Yes
 _

 F1=Help   F4=Prompt   **=Bkwd   **=Fwd   F12=Cancel
```

Modifying thresholds

To modify any threshold or status setting on a thresholds panel:

- Move the cursor to the field you want to change and type in the new value.

  Result: The Save Profile Confirmation pop-up appears. You can choose to save the new setting for this session only or you can save them to a profile.

Adding or modifying rules

You can specify rules for an exception condition to control how the thresholds are applied.

To add or modify a rule for an exception:

- Select an exception with the **R** (Rules) action code, and press Enter.

  Result: The Rules panel appears. You can add rules to an exception or change rules from this panel.

```
                Add Rule for ARCM Exception

Modify Parameters, than press Enter

Rule number. .   1
 Plan name. . .
 Auth Id. . . .
 Conn type. . .           +

 CICS Parameters:
 Tran Id. . . .                Conn Id . . .
 IMS Parameters:
 PSB Name . . .                IMS Id. . . .
 Threshold Values:
 Warning. . . .  N/A           Critical. . .  N/A

 Exclude. . . .  No


 F1=Help F4=Prompt F12=Cancel
```

Reviewing Near-Term History Data

Near-term history panels provide information about DB2 subsystem activity and about completed thread executions. You can use near-term history panels to quickly gain some historical perspective on system activity.

Note: *To display near-term history data, the online data collector must be active.*

Accessing near-term history data

To access near-term historical data from the System Status panel, you select a panel object with the **H** (Near-term history) action code.

The following is an example of how to access near-term history data:

- Select a connection type under Workloads with the **H** action code, and press Enter.

  Result: The Thread History by Report Interval panel appears.

Thread activity for a reporting period

The Thread History by Report Interval panel provides an overview of DB2 thread activity for a specified reporting period.

Note: *The reporting period and reporting intervals are set on the Near-Term Thread History Filter Options panel.*

```
 ___  Actions  GoTo  View Options  Tools  Help
 ------------------------------------------------------- mm/dd/yy  8:48:15
                      Thread History by Report Interval           System:D31A

 P=Plan  A=Authid  L=Plan,Authid  U=Authid,Plan  S=Thread Summary  I=Subinterval
+-----------------------------------------------------------------------------+
| Report Interval . .:  1 hour          |       Start . : 07/14 18:00:00.000000 |
| Report Filtered . .:  YES             |       End . . : 07/14 13:59:59.999999 |
+-----------------------------------------------------------------------------+
                                                    Lines    1 to    7 of    7
+-----------------------------------------------------------------------------+
|          |      |      |      |      |DLk/| In-DB2 | In-DB2 | In-DB2 |       |GetP/|
|   Time   |Thrds |Commit|Abort |  DML |TOut| Elap Tm| CPU Tm |Wait Tm |Getpage|RIO  |
|----------+------+------+------+------+----+--------+--------+--------+-------+-----|
| _ 13:00  |    4 |    3 |    1 |  342 |   0| 1213.8 |   1.77 |  287.7 |  2573 |  6.9|
| _ 12:00  |   17 |   21 |    0 | 6516 |   0|  317.3 |   5.12 |  189.4 |  9609 | 53.9|
| _ 11:00  |  132 |  132 |    0 |45332 |   1| 1245.4 |  80.34 |  445.1 | 73342 |416.3|
| _ 10:00  |  140 | 1157 |   12 | 8190 |   7|13657.2 |  39.69 |12031.3 | 69301 |  6.7|
| _ 09:00  |   89 |  124 |    7 |11206 |   0|  734.2 |  75.10 |   76.0 | 96763 | 15.6|
| _ 08:00  |   12 |   12 |    0 |   63 |   0|   32.5 |   2.11 |    4.9 |   456 | 50.3|
+-----------------------------------------------------------------------------+
 F1=Help  F2=Keys  F3=Exit  F5=Refresh  F6=DB2 Console  **=Bkwd  **=Fwd
 F10=Action Bar  F15=System Status  F24=CUA/TSO
```

The Start and End dates and times show the beginning and end of the reporting period. The Time column indicates the start of a report interval.

Thread activity for a report interval

You also can view summarized information about thread activity for a single report interval.

To access thread activity for a single interval:

- Select an interval with the **I** (Subinterval) action code, and press Enter.

  Result: The Thread History by Report Subinterval panel appears.

Using the OMEGAMON II for DB2 Background Application Trace Facility

The background application trace facility provides

- the ability to start an application trace to run in the background asynchronously to your OMEGAMON II session. Use the panels available from the CUA component of OMEGAMON II. Initiate the application trace and specify the values the application trace to use during execution.
- the ability to allocate trace datasets dynamically using the characteristics you specify on an OMEGAMON II panel or the characteristics you specify at install time.

In order to make best use of this facility, you should be familiar with the existing functions of the application trace facility. This information is provided in the *OMEGAMON II for DB2 Reference Manual*, in the section entitled "Application Trace Facility".

The panels for running an application trace in the background are similar to those used for running an application trace in the foreground. Access the online help for the panel to obtain detailed descriptions of the fields each panel contains.

Initiating a background application trace

The background application trace facility is available only from the CUA component for OMEGAMON II for DB2. To initiate a background application trace follow these steps.

Step	Action
1	On the OMEGAMON II for DB2 main panel, select **Tools** from the action bar or type **T** on the command line. ***Result:*** The Tools pull-down menu appears.
2	From the Tools pull-down menu, select option **1** for the application trace facility. ***Result:*** OMEGAMON II displays a pop-up menu having both foreground and background application trace options. From this pop-up menu, you can access panels to start an application trace, either in the foreground or background, review the data collected by a trace, stop a foreground application trace, create a trace dataset, or view existing background traces.
3	From the pop-up menu, select option **5** to specify the collection options for a background trace.

Specifying background application trace options

Selecting option 5 from the pop-up menu displays a panel on which you can specify the options for your background trace. Three fields on this panel are required. These are

- DB2 plan name. To specify tracing of all plans, type **ALL** in the field.
- active time, the duration of the trace, to a maximum of 60 minutes.
- the name of the dataset to which trace data is written.

All other fields on this panel are optional.

If you do not enter a start time for the background trace, OMEGAMON II informs you by means of a pop-up panel that the trace will start immediately. You can choose to begin the trace or to return to the previous panel to enter a start time.

If the dataset that you designate for the trace data is not preallocated, OMEGAMON II for DB2 displays a warning message. You can dynamically allocate the dataset as explained in "Identifying the dataset to which trace data is written" on page 83.

Identifying the dataset to which trace data is written

You can dynamically create a VSAM linear dataset to contain the output of an application trace. Use either of these options.

- Select option **7** from the pop-up panel displayed from the application trace main menu.
- Select option **4** from the pop-up actions displayed from the panel that lists the background traces.

The Create Application Trace DSN panel contains three fields. All fields are required unless your installation is using SMS for dataset allocation. In this case, you may omit the Volume information.

DSN	Name of the dataset you want to create
Size	Size of the dataset in megabytes
Volume	The identification (VOLSER) of the volume where the data is to be placed

Viewing the list of background traces

The Deferred Application Traces panel lists the traces you have defined to run asynchronously to your online session and their status. To view the information collected by an application trace, follow these steps.

Step	Action
1	Return to the OMEGAMON II for DB2 main panel and select **Tools** from the action bar or type **T** on the command line. ***Result:*** The Tools pull-down menu appears.
2	From the Tools pull-down menu, select option **1** for the application trace facility. ***Result:*** This results in OMEGAMON II displaying a pop-up menu having both foreground and background application trace options.
3	From the pop-up menu, select option **6** to display a panel that lists the background traces which you have defined to be started. ***Result:*** OMEGAMON II displays the Deferred Application Traces panel.

Activities you can perform in a background trace request

When you select a trace from the list of traces on the Deferred Application Traces panel, OMEGAMON II displays a pop-up panel that permits you to perform these activities.

- modify or cancel a deferred trace request (if the status of the trace is **Waiting**)
- view summary data for a completed trace
- create a linear dataset to hold the trace data

You can also perform the same actions by selecting **Actions** from the action bar. Select the **View** pull-down from the action bar to sort the list of traces on any column.

Using the IFCID Trace Facility

Overview

The IFCID Trace facility provides the ability to start an IFCID trace to run in the background asynchronously to your OMEGAMON II session. You can initiate the IFCID trace from the OMEGAMON II for DB2 System Status panel.

To access the IFCID Trace Facility, follow these steps:

1. On the OMEGAMON II for DB2 System Status panel, select **T** (Tools). The pull-down menu shows IFCID Trace facility as option 3.
2. Select option **3** (IFCID Trace Facility). The pull-down menu displays the options to start, display, and stop the IFCID trace.

   Note: *By pressing PF3 (Exit) from any IFCID Trace panel, the display returns to the OMEGAMON II for DB2 System Panel with the Tools pull-down menu.*

Starting an IFCID Trace

From Step 2 above, select option **1** (Start IFCID Trace). The IFCID Trace Start panel displays. From this panel, you must enter a dataset name and select one or more trace types. The dataset name identifies the dataset that will contain the trace data that is collected. The dataset name is a required field. The dataset must have the following characteristics:

- physical sequential
- variable length, blocked
- logical record length =32756
- block size =32760

You can select the IFCIDs to be traced by trace type (one-digit number), by trace class (a two-digit number) or by individual IFCID records (three-digit number) within a trace class.

- To select all IFCIDs associated with a trace type, enter **S** (Select all entries) next to the trace type. You can select as many trace types as needed. After pressing Enter to confirm your selections, the IFCID trace begins immediately for the trace type or types selected.
- To select particular IFCIDs within a trace type, enter **D** (Display subentries) next to the trace type. OMEGAMON II for DB2 displays the list of trace classes within the trace type. You can display the trace classes for only one trace type at a time.
  - To select all IFCIDs in multiple trace classes, enter **S** next to each trace class. After pressing Enter to confirm your selections, the IFCID trace begins immediately.
  - To select particular IFCIDs within a trace class, enter **D** next to the trace class. OMEGAMON II for DB2 displays a list of individual IFCID records. Enter an **S** next to one or more IFCIDs to start the trace for those selected IFCIDs.

At the point when you enter option **S** to select the IFCIDs (whether by trace type, trace class, or IFCID record) and to start the IFCID trace, OMEGAMON II for DB2 asks you to confirm your selection. If you choose to alter your selection, you can enter option **R** (reset selection). OMEGAMON II for DB2 then allows you to re-enter your selections.

Displaying IFCID Trace Data

To display the result of an IFCID trace, follow these steps:

- enter option **T** (Tools) to display the Tools pull-down menu.
- enter option **3** (IFCID Trace Facility) to display the IFCID Trace pull-down menu.
- enter option **2** (Display IFCID Trace Counts) to view the Display IFCID Trace Collection panel.

The Display IFCID Trace Collection panel provides the following fields:

Field	Description
DSN	The user-specified dataset name provided when starting the IFCID trace.
Trace Records Lost	The number of trace records that could not be written to the dataset.
Status=	The status of the IFCID trace facility. The status is either active or inactive.
Start time	The timestamp when the IFCID trace started.
Run time	The amount of time that the IFCID trace has been active.
ID	The identification number associated with each IFCID record. The leading zeroes are omitted.
Count	The number of times the event or action associated with an IFCID record took place.
Size	The total amount of collected IFCID data in bytes.
Description	A brief description of the IFCID record's contents.

The header information for each IFCID Trace record is 64 bytes in length. The following table describes each field in the header information, in the sequence in which they appear.

Field	Length (in bytes)
Record length	2 (hexadecimal)
QSAM fill characters	2 (hexadecimal)
Plan name	8 (character)
Date and time (in the form YYYYMMDDHHMMSSHH)	8 (hexadecimal)
Secondary authid (or primary authid)	8 (character)
Original authid	8 (character)

Connection identifier	8 (character)
Correlation identifier	12 (character)
DB2 system identifier	4 (character)
IFCID number	2 (numeric)
Number of self-defining sections	2 (numeric)

Stopping an IFCID Trace

To stop the IFCID Trace facility, follow these steps:

- enter option **T** (Tools) to display the Tools pull-down menu.
- enter option **3** (IFCID Trace Facility) to display the IFCID Trace pull-down menu.
- enter option **3** (Stop IFCID Trace). OMEGAMON II for DB2 prompts you to confirm that you want to stop the IFCID trace.
- Press Enter to confirm. A message displays indicating that the IFCID trace was successfully stopped.

Using OMEGAMON II for DB2 with !DB/EXPLAIN

Introduction

By integrating the two Candle products, OMEGAMON II for DB2 and !DB/EXPLAIN, you create the most complete view possible for understanding and optimizing SQL and DB2 applications.

The combination of the OMEGAMON II for DB2 and !DB/EXPLAIN interfaces permits you to

- capture and analyze ad-hoc, dynamic SQL—SQL that is not stored in a place accessible to !DB/EXPLAIN users
- analyze executing SQL
- access OMEGAMON II application trace and historical reporting information to validate access path analysis

This chapter tells how to make optimum use of the functionality these products offer when used together.

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Background about !DB/EXPLAIN for DB2

This section provides an overview of the !DB/EXPLAIN functionality.

Functions provided by !DB/EXPLAIN for DB2

!DB/EXPLAIN provides a window into the operation of DB2. !DB/EXPLAIN offers benefits for

- extracting DB2 data

  You can extract all or a portion of the data in the DB2 catalog according to the criteria you specify. This flexible technology lets you

  - Extract and combine data from multiple PLAN_TABLES.
  - Access data when DB2 is not active.
  - Avoid contention on the DB2 catalog.
  - Retain histories of plan, package, and DBRM catalog data and their EXPLAINs.

- DB2 database administration

  You can use !DB/EXPLAIN functions to review and improve SQL. These features let you

  - Review application code and monitor specific SQL performance to understand the access paths and their relative costs.
  - Store historical information to perform impact analysis, historical analysis, and perform “what-if” analysis.
  - Manage DB2 objects by viewing statement use by package or plan and DBRMs and BIND, REBIND, or FREE DB2 objects.
  - Facilitate migration to a newer version of DB2.

- application development

  You can use !DB/EXPLAIN to analyze your design and improve SQL. These features let you

  - Analyze SQL code within an ISPF session to obtain access path information.
  - Identify potential trouble spots.
  - Execute SQL code within a batch facility and obtain a report.
  - Obtain direct access from the IBM Query Management Facility (QMF) to different types of queries.
  - Tune your SQL code efficiently by suggesting more efficient alternative techniques.

Using OMEGAMON II and !DB/EXPLAIN Complementary Functions

This section describes the functions of !DB/EXPLAIN and OMEGAMON II for DB2 that work together to help improve DB2 performance, and suggests ways you can use them.

If you use Version 6 or Version 7 of DB2, refer to the *!DB/Tools for DB2 Installation and Customization Guide, Version 510*, for information on installing !DB/EXPLAIN.

Assumptions

The activities in this chapter presume the following:

- You have started a trace for the application you want to review and the results of that trace are available. Application trace results can be kept in memory, or you can write them to datasets for long-term retention.

  Review your Application Trace Facility (ATF) information to ensure that

  - It contains information about the plan or plans you want to study.
  - It was run at a time that reflects the most current version of the plan or plans you want to study.
- By using the historical reporting capabilities of OMEGAMON II for DB2 from !DB/EXPLAIN, you can determine the names of the VSAM datasets or DB2 tables that contain the stored application trace data for OMEGAMON II. You can use the OPTIONS command from the OMEGAMON II Historical Reporter to specify the

  - input datasets
  - DB2 table names to use for reporting
  - report filtering selection criteria.

When to use the complementary functions

Using !DB/EXPLAIN together with OMEGAMON II for DB2 assists you in resolving problems and making decisions related to the performance of an application.

Here are some example situations.

- You are running OMEGAMON II for DB2 and observe performance problems in an application. You want to analyze the SQL statements the application contains to determine what the problem may be.
- You are developing an application and want to

  - obtain predictive access path information from !DB/EXPLAIN about the SQL contained in the application
  - obtain cost information from !DB/EXPLAIN about the SQL contained in the application
  - verify the predictive information from !DB/EXPLAIN with the real-time execution information provided by the OMEGAMON II Application Trace Facility
- You are testing your application by executing an SQL call within !DB/EXPLAIN and want to review online performance information.

- In a review of an application, !DB/EXPLAIN highlights some potentially poorly-performing access paths and you want more detail about actual execution.

Using the OMEGAMON II for DB2 Callable Interface

The callable interface feature of OMEGAMON II for DB2 lets you make direct calls to !DB/EXPLAIN without first having to access TSO.

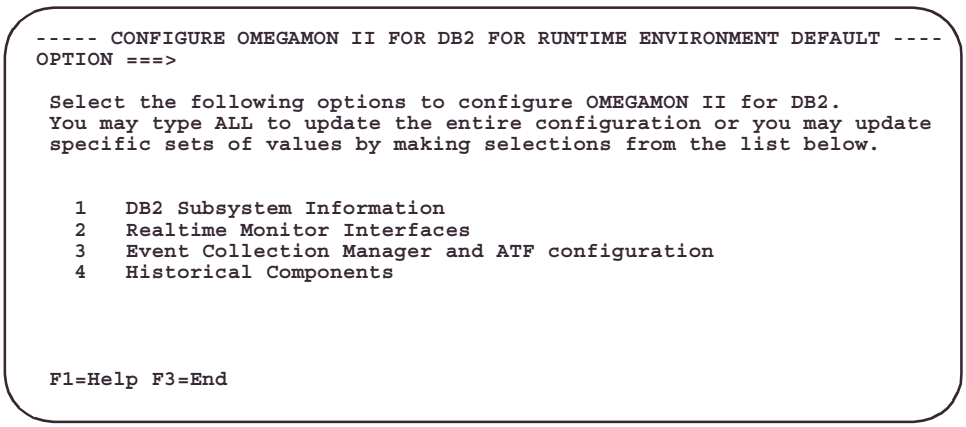
Before using this feature, you should do the following:

1. Customize the Classic started task.
2. Set up !DB/EXPLAIN.
3. Set up the CUA options.
4. Set up the OMEGAMON II for DB2/EXPLAIN options.

Customizing the Classic started task to implement the OMEGAMON II for DB2 interface

Use the following procedure to customize the Classic started task.

Note: *You may have already completed this procedure during the installation of OMEGAMON II for DB2.*

Step	Action
1	From the Configure OMEGAMON II for DB2 for Runtime Environment Default menu, select option 2, Realtime Monitor Interfaces.  ***Result***: The system displays the Started Task and VTAM Information Panel.

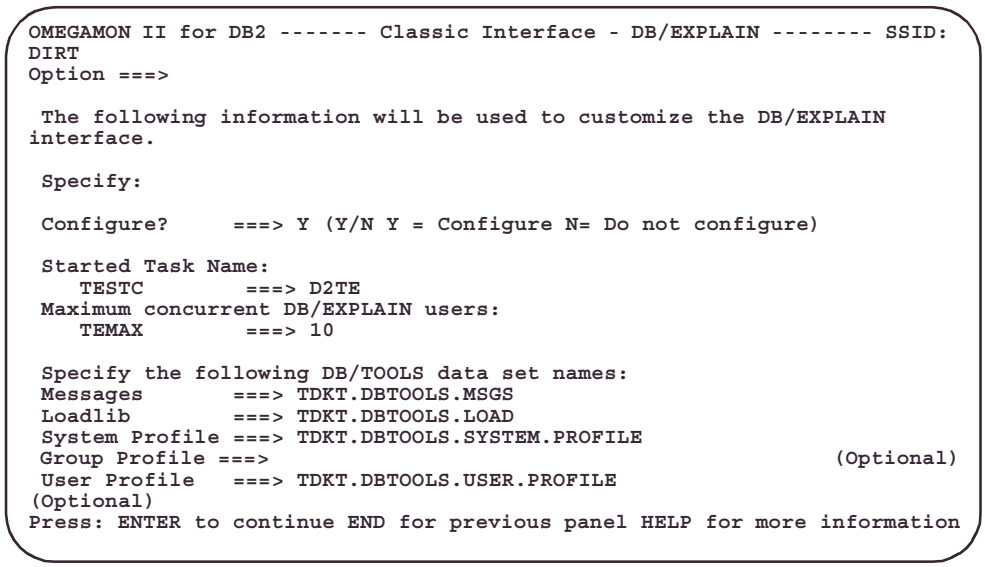
```
----- CONFIGURE OMEGAMON II FOR DB2 FOR RUNTIME ENVIRONMENT DEFAULT ----
OPTION ===>

 Select the following options to configure OMEGAMON II for DB2.
 You may type ALL to update the entire configuration or you may update
 specific sets of values by making selections from the list below.


   1   DB2 Subsystem Information
   2   Realtime Monitor Interfaces
   3   Event Collection Manager and ATF configuration
   4   Historical Components



 F1=Help F3=End
```

Step	Action
2	Press Enter. ***Result***: The system displays the Classic Interface - DB/EXPLAIN panel.  OMEGAMON II for DB2 ------- Classic Interface - DB/EXPLAIN -------- SSID: DIRT Option ===> The following information will be used to customize the DB/EXPLAIN interface. Specify: Configure? ===> Y (Y/N Y = Configure N= Do not configure) Started Task Name: TESTC ===> D2TE Maximum concurrent DB/EXPLAIN users: TEMAX ===> 10 Specify the following DB/TOOLS data set names: Messages ===> TDKT.DBTOOLS.MSGS Loadlib ===> TDKT.DBTOOLS.LOAD System Profile ===> TDKT.DBTOOLS.SYSTEM.PROFILE Group Profile ===> (Optional) User Profile ===> TDKT.DBTOOLS.USER.PROFILE (Optional) Press: ENTER to continue END for previous panel HELP for more information
3	Specify the appropriate information on the Classic Interface - DB/EXPLAIN panel and press Enter. ***Result***: The system returns you to the Configure OMEGAMON II for DB2 for Runtime Environment Default Menu.
4	Press the End function key. ***Result***: The system displays the Configure OMEGAMON II for DB2 Menu.
5	Use option 4, Create Runtime Members, to submit the job. This creates a started task in RKANPAR. The name of this started task is D2TE or the value entered on this panel for the parameter TESTC. Copy this started task to the JES2 procedure library for started tasks. This task dynamically allocates the !DB/EXPLAIN profile dataset. Configuration options for !DB/EXPLAIN will be obtained from this dataset. ***Note:*** *Do not start this task. OMEGAMON II for DB2 starts this task whenever a !DB/EXPLAIN function is performed and stops it when the function has completed.*

Setting Up !DB/EXPLAIN

Use the following procedure to set up !DB/EXPLAIN for OMEGAMON II for DB2.

Step	Action
1	Ensure that !DB/EXPLAIN V510 PSP is installed on every DB2 subsystem where you want to EXPLAIN statements. For information on installing !DB/EXPLAIN, see the *!DB/Tools for DB2 Installation and Customization Guide, Version 510*.
2	Define Destination Plan_Tables. The Destination PLAN_TABLE will be the current SQLID.PLAN_TABLE. ■ If the current SQLID.PLAN_TABLE does not exist, !DB/EXPLAIN attempts to create the tablespace PLANTBLS in the !DB/TOOLS default database. ■ If the PLAN_TABLE cannot be created there, !DB/EXPLAIN attempts to create the PLAN_TABLE in the database DSNDB04. ■ If it cannot create the table, !DB/EXPLAIN issues an error message indicating that the EXPLAIN could not be performed. The current SQLID is determined by: ■ whether EXP_POWERX is defined in the !DB/Tools profile dataset concatenation as a non-blank value (for example, EXP_POWERX=SAMHILL), if so, the current SQLID is the value specified for EXP_POWERX, or ■ the current SQLID is determined by the DB2 security exit.

Setting Up the CUA Options

Use the following procedure to set up CUA options and to use the new !DB/EXPLAIN feature.

Step	Action
1	Log onto CUA.
2	From the main CUA panel (KD2001), select Options from the task bar and press Enter. The following pop-up appears. 1. Preferences... 2. Controls... 3. Set thresholds... 4. User authorities... 5. User Profiles... 6. Subsystem Profiles... 7. Near-term Thread History Filter... 8. D2/Explain Options... F1=Help F12=Cancel

Step	Action
3	Select option 2, Controls, from the pop-up and press Enter. Use the fields on the Terminal Options panel, shown below, to specify preferences for terminal options. For EXPLAIN, the key field on this panel is the SQL Process Level field. Type **EXPLAIN** or **SAVE/EXPLAIN** in this field to enable the function.

```
                  Terminal Options

Type a new setting or press Enter.

Auto Refresh Interval . . .  OFF Sec. (5-999 / Off)
Use Status Words . . . . . .  YES + (Yes/No)
Critical Status Word . . . .  Crit
Warning Status Word  . . . .  Warn
Normal Status Word . . . . .  OK
Idle Status Word . . . . . .  Idle

SQL Process Level  . . . . .  EXPLAIN  <---  Invokes Explain
SQL Process PF Key   . . . .  F21 +          with PF21
CUA/TSO Toggle Key . . . . .  F24 +

F1=Help  F4=Prompt  F12=Cancel
```

Using the Terminal Options Window

The following table describes the fields on the Terminal Options pop-up window.

Fields for Terminal Options	Description
Auto Refresh Interval	Amount of time between updates to panels that display performance information. OMEGAMON II for DB2 collects performance data continually and displays the new data automatically at the frequency you enter in this field.
Use Status Words	On color terminals, color status bars represent the performance of status items. You can also specify a word or a series of characters to appear for each level of status. The word or characters appear in a row within the colored status bar. On non-color terminals, only the word or characters appear.
Critical Status Word	Word you want to appear when OMEGAMON II for DB2 displays a critical status (red). For example: *Crit*
Warning Status Word	Word you want to appear when OMEGAMON II for DB2 displays a warning status (yellow). For example: *Warn*
Normal Status Word	Word you want to appear when OMEGAMON II for DB2 displays a normal status (green). For example: *OK*
Idle Status Word	Word you want to appear when OMEGAMON II for DB2 is not monitoring an object (turquoise). For example: *Idle*

Values for the SQL Process Level are described in the following table.

Fields for Terminal Options	Description
SQL Process Level	Type of processing to use for SQL text when pressing the SQL Process function key. You can process SQL from the following panels: ■ SQL Call being Executed (Thread Detail). See "EXPLAINing SQL Code" on page 61. ■ SQL Text (ATF). You can access the SQL Text panel through the Application Trace Facility. Select the SQL TEXT pushbutton from the Application Trace SQL Detail screen. ■ Thread History Dynamic SQL Detail
SQL Process PF Key	If you have set up !DB/EXPLAIN for direct access, pressing this function key directly invokes !DB/EXPLAIN. Otherwise, it invokes the SQL copy and paste facility to perform the EXPLAIN.
CUA/TSO Toggle key	Use to toggle between CUA and TSO sessions.

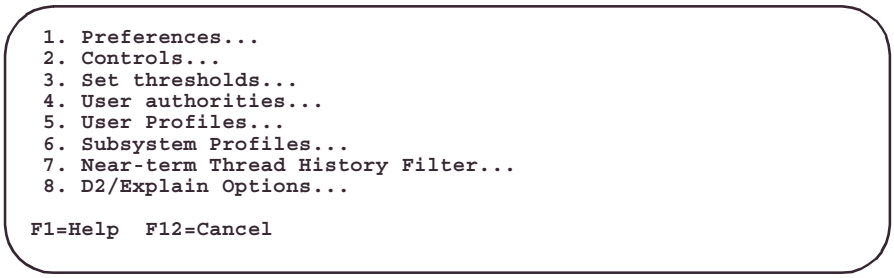
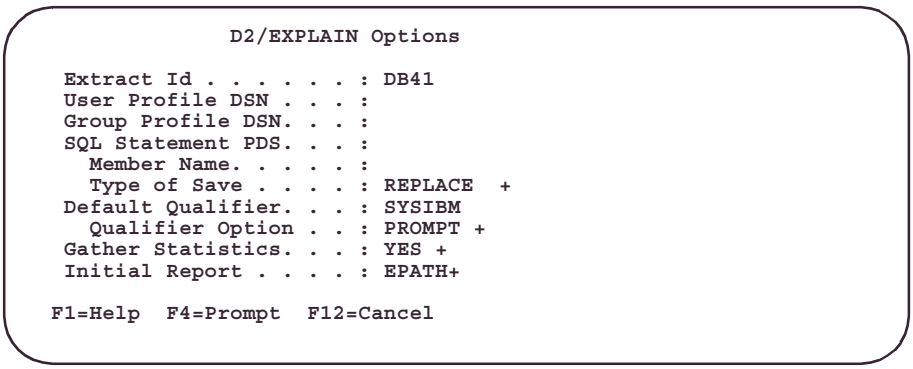
The following table provides a list of fields and valid values for completing the SQL Process Level field on the Terminal Options panel.

Values for SQL Process Level	Description
MANUAL	After you have selected the SQL text to be EXPLAINed, you must use the function key defined (SQL Process key) to copy the SQL. Then, switch to TSO/ISPF (CUA/TSO toggle), and paste the SQL, again using the function key you defined. ***Note**: To use MANUAL or AUTO, a TSO/ISPF edit session must be active in the background.*
AUTO	After selecting SQL text, use the SQL Process key to copy and automatically insert the text into the member currently in use in the TSO/ISPF edit session. The placement of SQL text depends on the cursor position within the TSO/ISPF session. ***Note**: To use MANUAL or AUTO, a TSO/ISPF edit session must be active in the background.*
SAVE	After selecting the SQL text, use the SQL Process key to copy and automatically save the SQL text to the partitioned dataset member defined on the Save SQL Text Parameters panel. Text will either overwrite the existing contents of the member or be appended to it, depending on the type of save defined on this panel. This option does not require a TSO/ISPF edit session.
EXPLAIN	This option invokes !DB/EXPLAIN, which produces a variety of !DB/EXPLAIN reports. Use the pushbuttons to view the various report sections. Complete the required options for the EXPLAIN option on the !DB/EXPLAIN panel.

Values for SQL Process Level	Description
SAVE/EXPLAIN	Use this option to perform SAVE and EXPLAIN functions. Complete the required fields for the SAVE/EXPLAIN option.

Setting Up the D2/EXPLAIN Options

Use the following procedure to set up the D2/EXPLAIN options.

Step	Action
1	If you are not already logged onto CUA, then do so now.
2	From the main CUA panel (KD2001), select **Options** from the task bar and press Enter. The following pop-up appears. 
3	Select option 8, D2/Explain Options, from this panel and press Enter. Use the D2/EXPLAIN Options panel, shown below, to specify parameters required to invoke !DB/EXPLAIN during your OMEGAMON session. 

Using the D2/EXPLAIN Options Panel

The following table provides a list of fields and valid values for completing the D2/EXPLAIN Options panel.

Field	Description
Extract Id	1– to 8–character field that identifies an extract of plans and packages. It represents a logical grouping that typically identifies a DB2 subsystem and an MVS system. An Extract ID must be configured within !DB/EXPLAIN before it is used, but an actual extract is not required for the EXPLAIN.
User Profile DSN	Optional field names the dataset containing the !DB/EXPLAIN user profile. Contains overrides to the !DB/EXPLAIN options specified in the group profile and the system profile.
Group Profile DSN	Optional field names the dataset containing the !DB/EXPLAIN group profile. Contains overrides to the !DB/EXPLAIN options specified in the system profile.
SQL Statement PDS	Name of the dataset where the SQL statement is saved. Must be a PDS. The SQL Process Level is specified on the Terminal Options panel under the Options pull-down (fastpath O2). If SAVE, the text is saved but !DB/EXPLAIN is not invoked. If SAVE/EXPLAIN, !DB/EXPLAIN saves the text and invokes the EXPLAIN function.
Member Name	Name to use when saving the SQL text into the SQL statement PDS. If omitted, the system generates a name. When you define a member, the system prompts for whether the member should be replaced or appended.
Type of Save	Type of save to be executed when saving SQL text to the member specified within the SQL statement PDS. Values are REPLACE and APPEND. ■ REPLACE writes over an existing member or creates the member if it does not currently exist. ■ APPEND concatenates the new SQL text to the existing number.
Default Qualifier	Qualifier to use to qualify unqualified tables, views, and aliases in SQL statements.
Qualifier Option	Type of qualifier. Values are USE and PROMPT. ■ USE indicates the current default qualifier for unqualified SQL text. ■ PROMPT indicates you want to be prompted for a qualifier whenever an SQL statement is used.
Gather Statistics	Type YES to have !DB/EXPLAIN gather statistics; type NO to bypass.

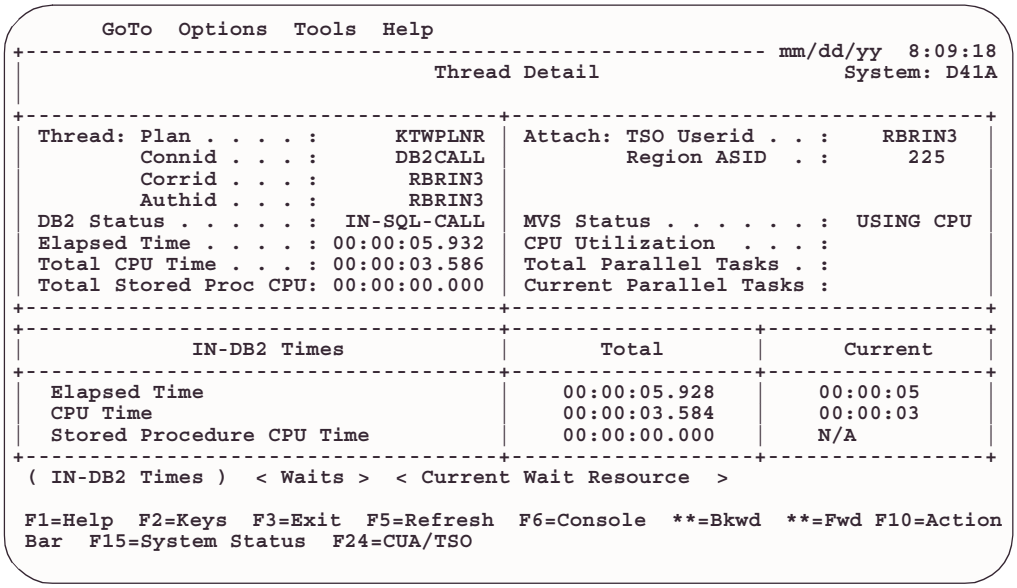
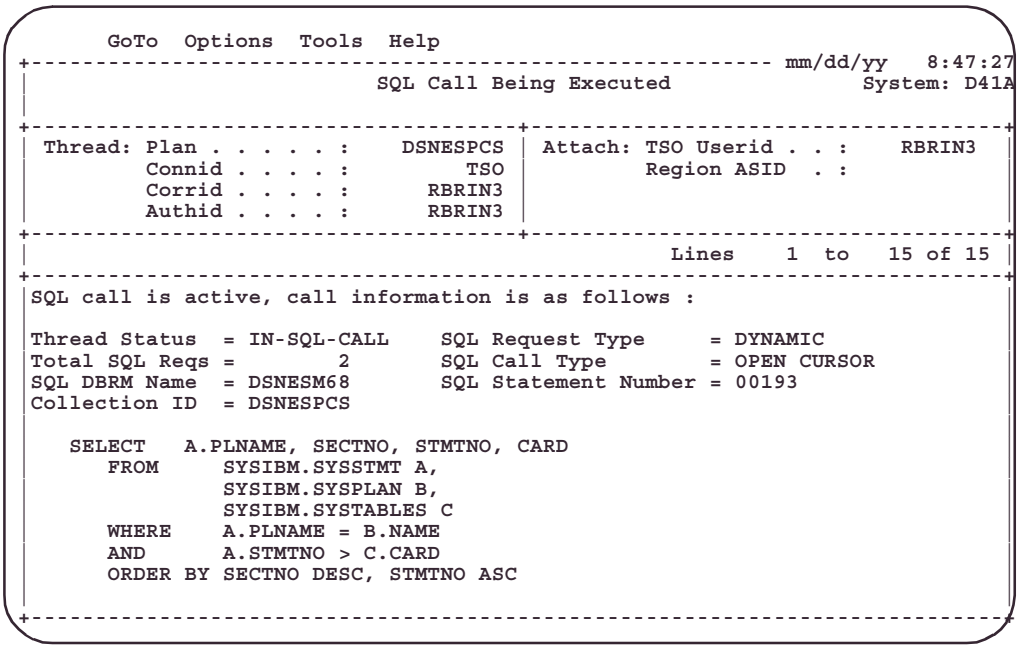
Field	Description
Initial Report	Type the name of the initial !DB/EXPLAIN report to be displayed: ESTMT, EPATH, EPTBL, EOBJ, or ERECM. ■ *ESTMT* is the actual SQL statement text being explained. If there is an SQL error, SQL error text also appears. Use the pushbuttons to select from the other !DB/EXPLAIN report sections that follow. ■ *EPATH* is a narrative describing the access path for the SQL statement. ■ *EPTBL* reports the plan table entries for the SQL statement in tabular form. ■ *EOBJ* reports the DB2 catalog statistics for objects referenced by the SQL statement. This section is available if you specified Yes for Gather Statistics in the D2/EXPLAIN Options panel under the Option pull-down (fastpath 08). ■ *ERECM* provides suggestions for optimizing the SQL statement.

EXPLAINing SQL Code

Use the following procedure to process SQL from the Thread Detail panel.

Step	Action
1	Log onto CUA.
2	From the main CUA panel (KD2001), select Active Threads and press Enter. ***Result***: The system displays the All Threads Connected to DB2 panel.

```
       Actions  GoTo  View  Options  Tools  Help
+------------------------------------------------------------ mm/dd/yy
8:07:07
|                    All Threads Connected to DB2 (Some)          System: D41
|                                                        Lines    1  to    4 of 4
+-----------+---------+-------+-------------+-------+------+------+--------
+
|  Planname | Elapsed | CPU % |    Status     | Getpg |Update|Commit|Jobname |
+-----------+---------+-------+-------------+-------+------+------+--------
+
|  DSNTEP41 |   31.4m | 05.3% | IN-SQL-CALL |  5153K| 61490|     0|DLKEX212|
|  KO2400HP |    1.3d | 00.0% | NOT IN-DB2  |      0|     0|     0|TDO2S03 |
|  KO2400HP |    2.1d | 00.1% | NOT IN-DB2  |      0|     0|     0|TDO2S44 |
|  KTWPLNR  |    1.0s | 00.0% ½ IN-SQL-CALL |      0|     0|     0|RBRIN3  |
+-----------+---------+-------+-------------+-------+------+------+-------+
 F1=Help  F2=Keys  F3=Exit  F5=Refresh  F6=Console  **=Bkwd  F8=Fwd
F10=Action Bar  F15=System Status  F24=CUA/TSO
```

Step	Action
3	Select the PLANNAME you want and press Enter. ***Result***: The system displays the Thread Detail panel. If SQL calls are being executed by the thread, the message (IN-SQL-CALL) also appears. The Thread Detail panel shows detailed information about the activity, an individual thread, or a parallel task, including wait time information. 
4	Select Option 3, SQL Call Being Executed, from the GoTo pull-down menu. ***Result***: The system displays the SQL Call Being Executed panel. 
5	Press the Process SQL key.

Moving Interactively between !DB/EXPLAIN and OMEGAMON II

This unit tells you how to move interactively between OMEGAMON II for DB2 and !DB/EXPLAIN using the copy-and-paste facility to review and EXPLAIN poorly performing SQL. It also describes how you can use the full functionality of !DB/EXPLAIN.

What functions can you use?

When using OMEGAMON II and !DB/EXPLAIN together, you can use the following OMEGAMON II for DB2 functions:

- ATF or thread detail displays to isolate poorly performing SQL statements
- Copy-and-paste facility to move poorly performing SQL identified in OMEGAMON II to !DB/EXPLAIN for detailed analysis and recommendations

  The cut SQL text is pasted in a correctly formatted form so that it can be EXPLAINed without further editing.
- ATF to view actual access paths chosen by the DB2 optimizer and compare these with the access path information predicted by !DB/EXPLAIN
- CUA/TSO toggle function key to access the full range of !DB/EXPLAIN functions
- Historical reports to review accounting performance information about application plans and packages that are most frequently used, consume the greatest amount of resources, or have the biggest negative impact on performance

Modes of operation

When using !DB/EXPLAIN and OMEGAMON II for DB2 together, you can operate in the following modes:

1. You can move back and forth between OMEGAMON II and !DB/EXPLAIN in real time.
   - Access OMEGAMON II by means of its CUA interface.
   - Use the copy-and-paste facilities in OMEGAMON II to isolate poorly performing SQL statements and paste them to an ISPF member. !DB/EXPLAIN can then analyze the SQL using the ISPF edit macro KTEXPL or a CLIST such as KTEON.
2. You can access the full range of !DB/EXPLAIN functions from within OMEGAMON II for DB2.
   - Use the CUA/TSO toggle to jump to a TSO session in which you have started or can start !DB/EXPLAIN.
   - Use !DB/EXPLAIN as you would normally.
3. You can access OMEGAMON II Historical Reporter from !DB/EXPLAIN to compare actual access path information with the predicted access path information.
   - The direction of the access is only one-way, from !DB/EXPLAIN to OMEGAMON II for DB2.
   - You access OMEGAMON II Historical Reporter from the !DB/EXPLAIN Plans panel using the A or P Select.

- To use the A (Application Trace Facility) Select, you must have previously run an ATF trace for the plans of interest and placed the results into a dataset.
- To use the P (Plan Accounting) Select, you must have previously used the OMEGAMON II for DB2 Historical Collector to collect accounting trace data for analysis.

Prerequisites for real time access

The Application Trace Facility (ATF) of OMEGAMON II for DB2 provides detailed runtime performance information at the thread, unit of work, program, and SQL statement level. To move interactively between !DB/EXPLAIN and OMEGAMON II, you must use the OMEGAMON II for DB2 CUA interface. You must also ensure that you have completed the prerequisite activities for access described in the *!DB®*/EXPLAIN *User's Guide*.

Procedure to use the full function of !DB/EXPLAIN

If you are using OMEGAMON II for DB2, there are two procedures to access !DB/EXPLAIN and use its full functionality. The first way is discussed in the *!DB®*/EXPLAIN *User's Guide*. The second procedure involves use of the function key assigned as the CUA/TSO toggle. The next table documents this procedure.

The procedure in the next table assumes that you have not previously logged onto TSO from within the current OMEGAMON II for DB2 session. If you have already logged onto a TSO application from within OMEGAMON II, use the CUA/TSO toggle to switch between OMEGAMON II and !DB/EXPLAIN.

Step	Action
1	From the OMEGAMON II for DB2 System Status panel, press the CUA/TSO program function key. ***Result***: One of the following can occur depending on the way in which your OMEGAMON II for DB2 system has been installed: ■ You may be prompted for a TSO applid. Ensure you know the applid for logging onto your TSO system. ■ The TSO applid can be displayed for your confirmation.
2	Start !DB/EXPLAIN using a TSO CLIST. See *!DB/EXPLAIN for DB2 User's Guide* for information.
3	As you toggle between OMEGAMON II and !DB/EXPLAIN TSO sessions, you are presented in each instance with the last-used display (that is, the panel you were on when you pressed the toggle).
4	When you are ready to exit !DB/EXPLAIN running under TSO for the last time, you must fully exit the product using the END key. If you merely toggle to OMEGAMON II, your !DB/EXPLAIN session continues to run.

What happens when you cancel the OMEGAMON II session?

If you cancel your OMEGAMON II for DB2 session, the !DB/EXPLAIN session is also cancelled.

Using the Copy-and-Paste Facility in OMEGAMON II

This unit describes how to use the copy-and-paste facility in OMEGAMON II to capture static or dynamic SQL and move it to !DB/EXPLAIN for analysis. This feature is for use with OMEGAMON II for DB2 versions below 300. If you are using OMEGAMON II for DB2 Version 300 or higher, the callable interface feature is recommended.

Prerequisites to using the copy-and-paste facility

Within OMEGAMON II for DB2, be sure you know the location of the PF keys defined for the copy-and-paste and the CUA/TSO toggle functions. These default function keys are F21 and F24 respectively. You can choose to assign these functions to other function keys if you want.

If you are using OMEGAMON II V270 at the current maintenance level, a profile variable is provided that permits you to select either manual or automated copy-and-paste. If you are using this profile variable, you may need to modify the following instructions based on the value you specified.

Capturing SQL from a running thread

You can use the copy-and-paste facility to capture running SQL from DB2 control blocks by following the steps in the table.

Step	Action
1	From OMEGAMON II for DB2 System Status panel, select the connection (for example, IMS, CICS, TSO) you want to view. Also select Thread Activity under Alerts. ***Result***: The Thread Detail panel displays.
2	On the Thread Detail panel, select G4 (SQL Text). ***Result***: The SQL Text panel displays.
3	On the SQL Text panel, press the copy-and-paste function key to isolate and save the SQL text you want to EXPLAIN. ***Result***: OMEGAMON II displays a pop-up indicating that the SQL text has been saved.
4	The CUA/TSO toggle permits you to switch back and forth between your OMEGAMON II session and a TSO session. Press the CUA/TSO toggle function key to switch to a TSO session.
5	Initiate an ISPF session and access the dataset member into which you will paste the saved SQL text.
6	Press the function key you have assigned as copy-and-paste to paste the saved SQL to the ISPF member.
7	Invoke the ISPF edit macro KTEXPL to EXPLAIN the SQL text. For information on using KTEXPL, see the *!DB/EXPLAIN for DB2 User's Guide*.
8	When you have completed your work with !DB/EXPLAIN, return to OMEGAMON II by pressing the CUA/TSO function key.

Capturing SQL using the ATF

You can use the OMEGAMON II ATF to capture SQL statements and move them to !DB/EXPLAIN using the copy-and-paste facility. Follow these summary steps.

Step	Action
1	From the Application Trace Facility in OMEGAMON II, select the SQL TEXT pushbutton on the Application Trace SQL Detail panel. ***Result***: The SQL Text panel displays.
2	On the SQL Text panel, press the copy-and-paste function key to isolate and save the SQL text you want to EXPLAIN. ***Result***: OMEGAMON II displays a pop-up indicating that the SQL text has been saved.
3	The CUA/TSO toggle permits you to switch back and forth between your OMEGAMON II session and a TSO session. Press the CUA/TSO toggle function key to switch to a TSO session.
4	Initiate an ISPF session and access the dataset member into which you will paste the saved SQL text.
5	Press the function key you have assigned as copy-and-paste to paste the saved SQL to the ISPF member.
6	Invoke the ISPF edit macro KTEXPL to EXPLAIN the SQL text. For information on using KTEXPL, see the *!DB/EXPLAIN for DB2 User's Guide*.
7	When you have completed your work with !DB/EXPLAIN, return to OMEGAMON II by pressing the CUA/TSO function key.

Accessing OMEGAMON II Trace Information from !DB/EXPLAIN

This unit describes how you can obtain OMEGAMON II Application Trace and Accounting Report information when you are working in !DB/EXPLAIN.

Direction of access

The direction of access when obtaining OMEGAMON II Application Trace and Accounting Report information is always one-way: from !DB/EXPLAIN to OMEGAMON II, with OMEGAMON II operating under ISPF.

Prerequisites for using the OMEGAMON II trace information

Ensure the Application Trace Facility has previously been used to trace your applications and that you have current application and accounting trace information available to you in datasets whose names are known to you. You must know the name of the dataset containing the history information for the facility you want to use. You can use the OMEGAMON II OPTIONS menu to specify the input datasets or DB2 table names to use for reporting or to change their names, and to specify the report filtering selection criteria.

Procedure to obtain current trace information

If the trace information you have is not current or does not contain information about the plan or plans you want to study, follow the steps below.

Step	Action
1	Toggle to OMEGAMON II using the appropriate function key.
2	Start the Application Trace Facility writing to a VSAM dataset.
3	Access !DB/EXPLAIN and select the plan or plans you want to study.

For information about using the OMEGAMON II for DB2 Application Trace Facility, see *OMEGAMON II for DB2 Reference*.

Procedure

To perform the tasks, take the actions described in the table.

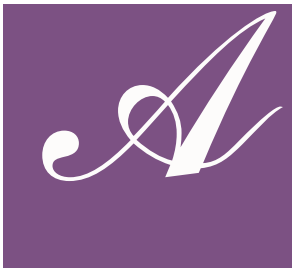
Task You Want to Perform	Action to Take
Access the OMEGAMON II Application Trace Facility from !DB/EXPLAIN	On the !DB/EXPLAIN Plans panel, in the SEL (selects) column, type **A** in the SEL field of the plan for which you want to display application trace information. ***Result***: OMEGAMON II displays the Application Trace Facility Menu panel.

Task You Want to Perform	Action to Take
Access the OMEGAMON II Accounting Reports Facility from !DB/EXPLAIN	On the !DB/EXPLAIN Plans panel, in the SEL (selects) column, type **P** in the SEL field of the plan for which you want to display accounting report summary information. ***Result***: OMEGAMON II displays the Accounting Reports Facility Historical Reporter Options panel.

Sources of information

Refer to the table for sources of information about the OMEGAMON II for DB2 Application Trace Facility and Accounting Reports.

Task You Want to Perform	Source of Information
Access the OMEGAMON II Application Trace Facility from !DB/EXPLAIN	*OMEGAMON II for DB2 Reference Manual* *OMEGAMON II for DB2 Tuning Guide for the Classic Interface*
Access the OMEGAMON II Accounting Reports Facility from !DB/EXPLAIN	*OMEGAMON II for DB2 Historical Reporting Guide*



Panel Navigation Flowcharts

Introduction

The flowcharts in this appendix document the panels available for monitoring DB2. They provide an overview of the main navigation paths in OMEGAMON. You can use these flowcharts to help you understand how to access the panels you need in order to analyze and resolve DB2 problems.

Most of the navigation begins at the System Status panel using the default action code **S** (Show details) on System Status panel objects. Some of the navigation begins at the Tools pull-down menu. Navigation via a GoTo is shown if this is the only way to access a panel or series of panels.

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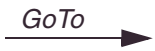
Flowchart Conventions

The following table describes elements in the navigation diagrams.

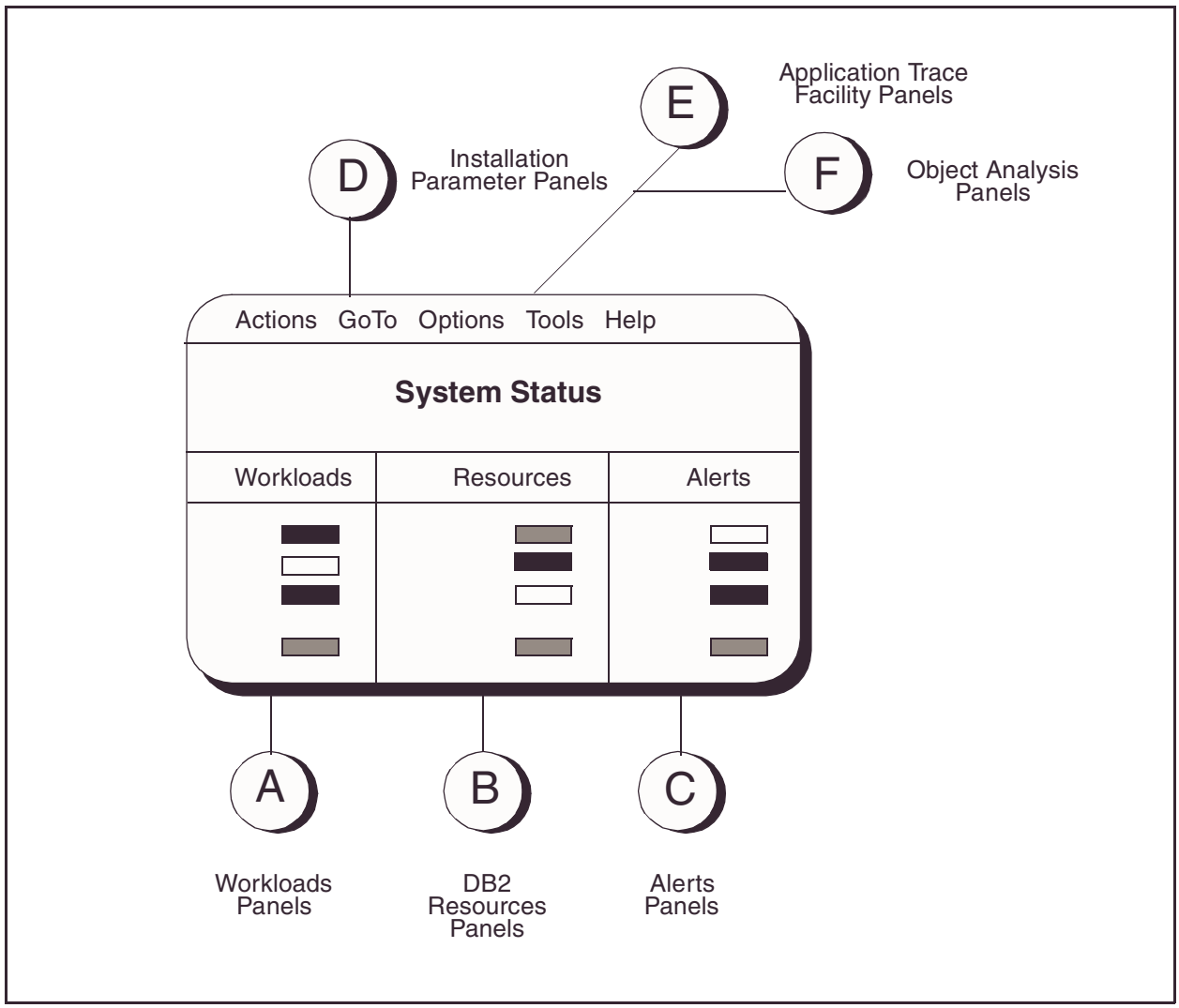
Element		Description
Box		Represents a panel and shows the panel title. (Menu choices may not match the title of the destination panel.)
Arrowhead		Shows direction of navigation flow.
Circles		Indicates continuation of the diagram from either ■ a section of the System Status panel ■ another flowchart
GoTo		Indicates that you must navigate to the destination panel from a GoTo pull-down menu.

System Status panel

The OMEGAMON System Status panel shows performance for all monitored DB2 subsystem components and applications. It is also the starting point for navigation to other panels that detail system performance or allow you to perform OMEGAMON functions.

The following figure shows you the navigation areas that are detailed in the flowcharts in this appendix.

FIGURE 1. OMEGAMON II for DB2 System Status Panel



To find out how to navigate to a particular panel or group of panels, start with the System Status panel and then go to the letter representing the group of panels you want.

Workloads Panels

The next two figures show how you can access the realtime and near-term history panels for the objects from the Workloads portion of the System Status panel.

For realtime information, use the **S** (Show details) action code. For near-term history information, do the following:

- verify that the online collector is running
- enter the **H** (Historical) action code next to a monitored DB2 Subsystem component

For information about starting the online historical data collector, refer to the *OMEGAMON II for DB2 Configuration and Customization Guide*.

FIGURE 2. Workloads Panels (Realtime)

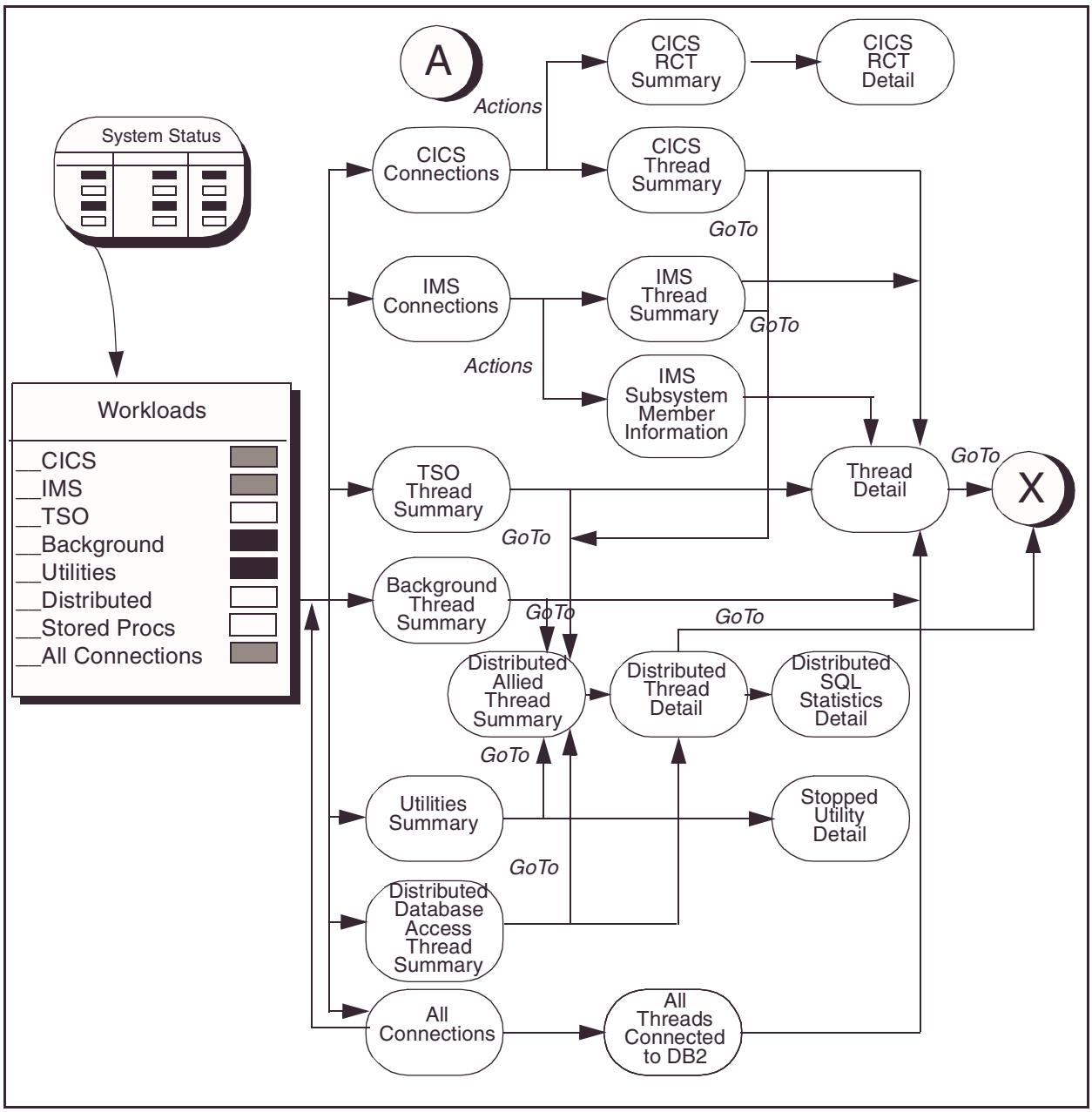
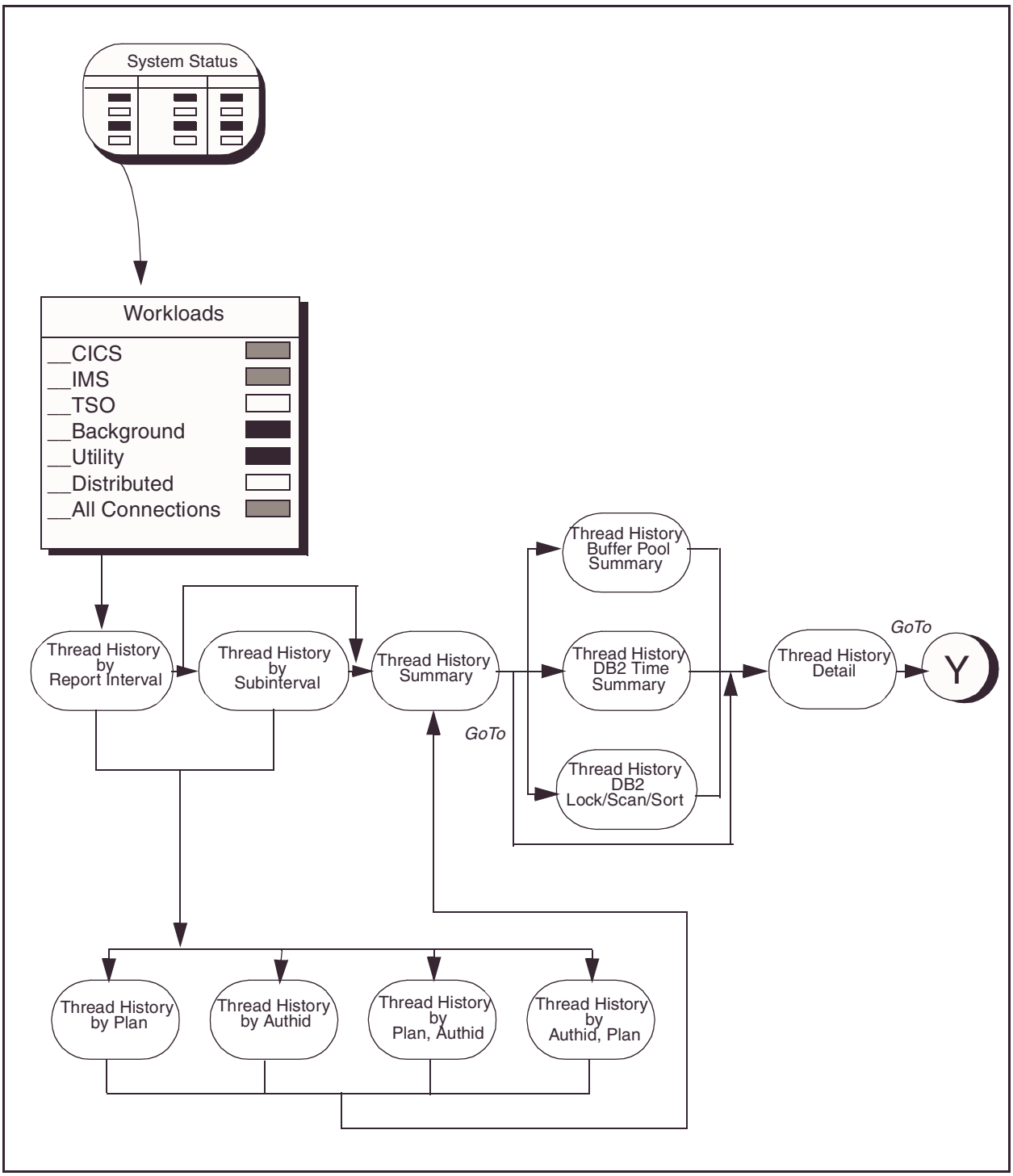


FIGURE 3. Workloads Panels (Near-term history)



Resources Panels

The next two figures show how you can access the realtime and near-term history panels for objects from the Resources portion of the System Status panel. For realtime information, use the **S** (Show details) action code. For near-term history information, do the following:

- verify that the online collector is running
- enter the **H** (Historical) action code next to a monitored DB2 Subsystem component

For information about starting the online historical data collector, refer to the *OMEGAMON II for DB2 Configuration and Customization Guide*.

FIGURE 4. Resources Panels (Realtime)

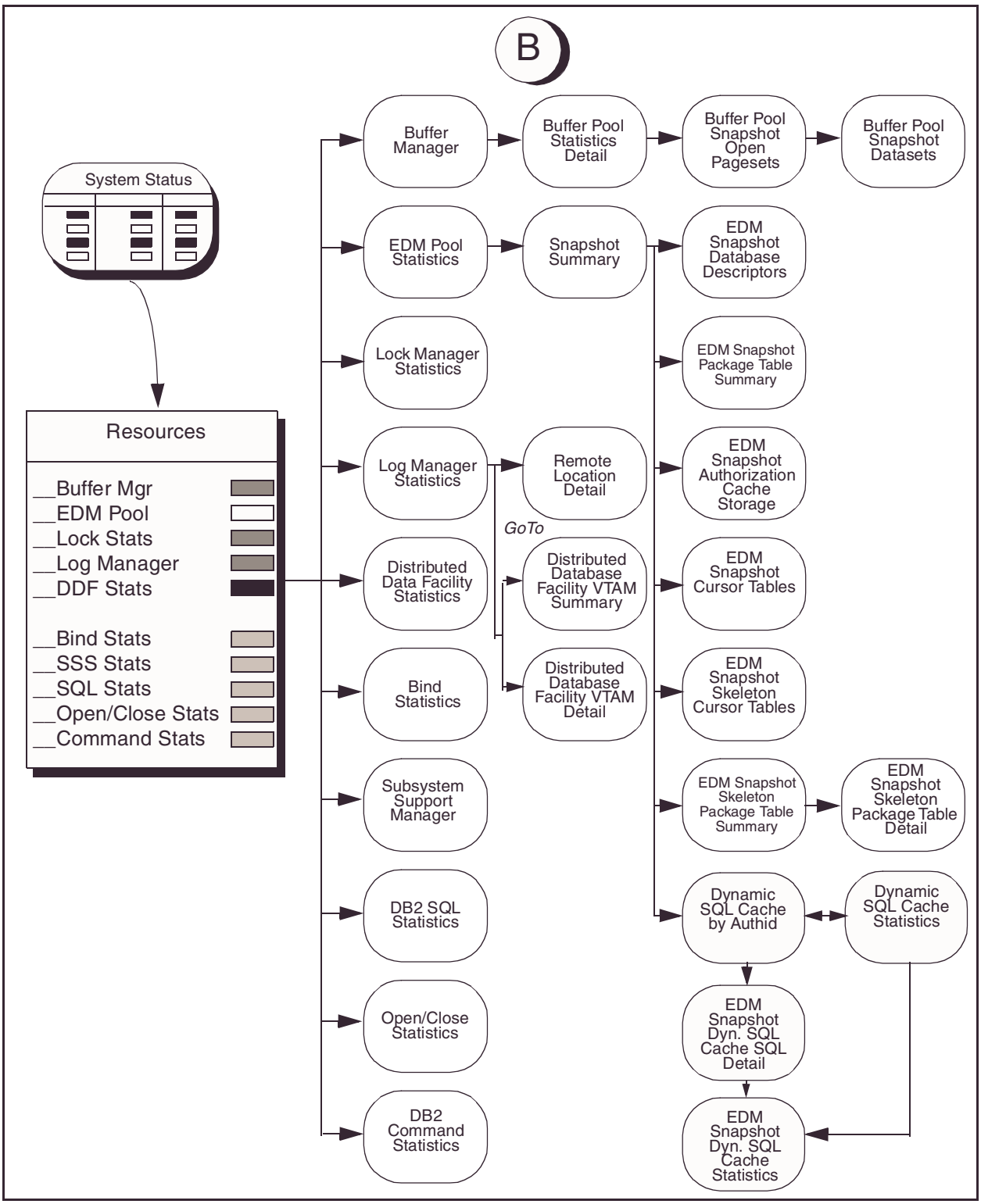
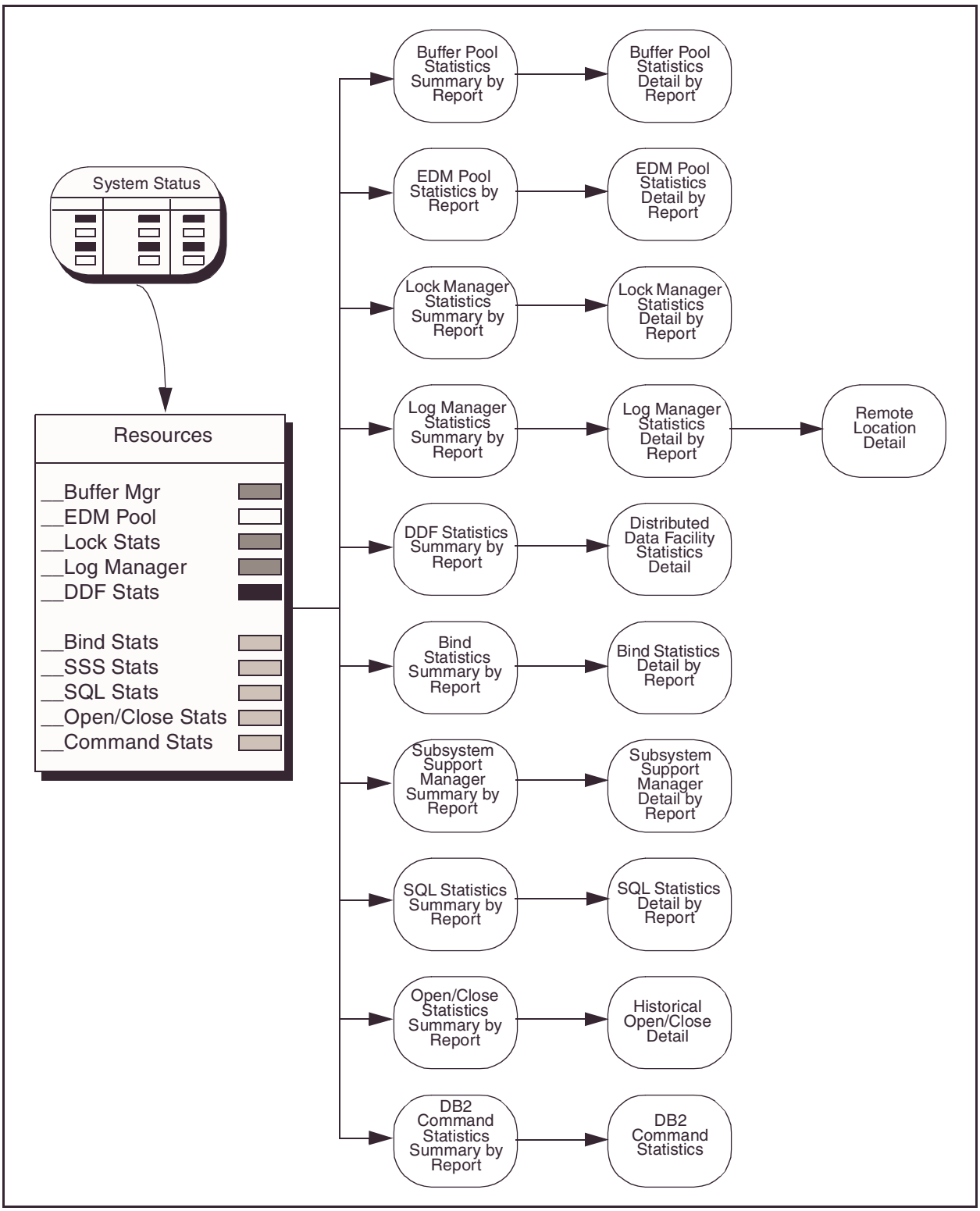


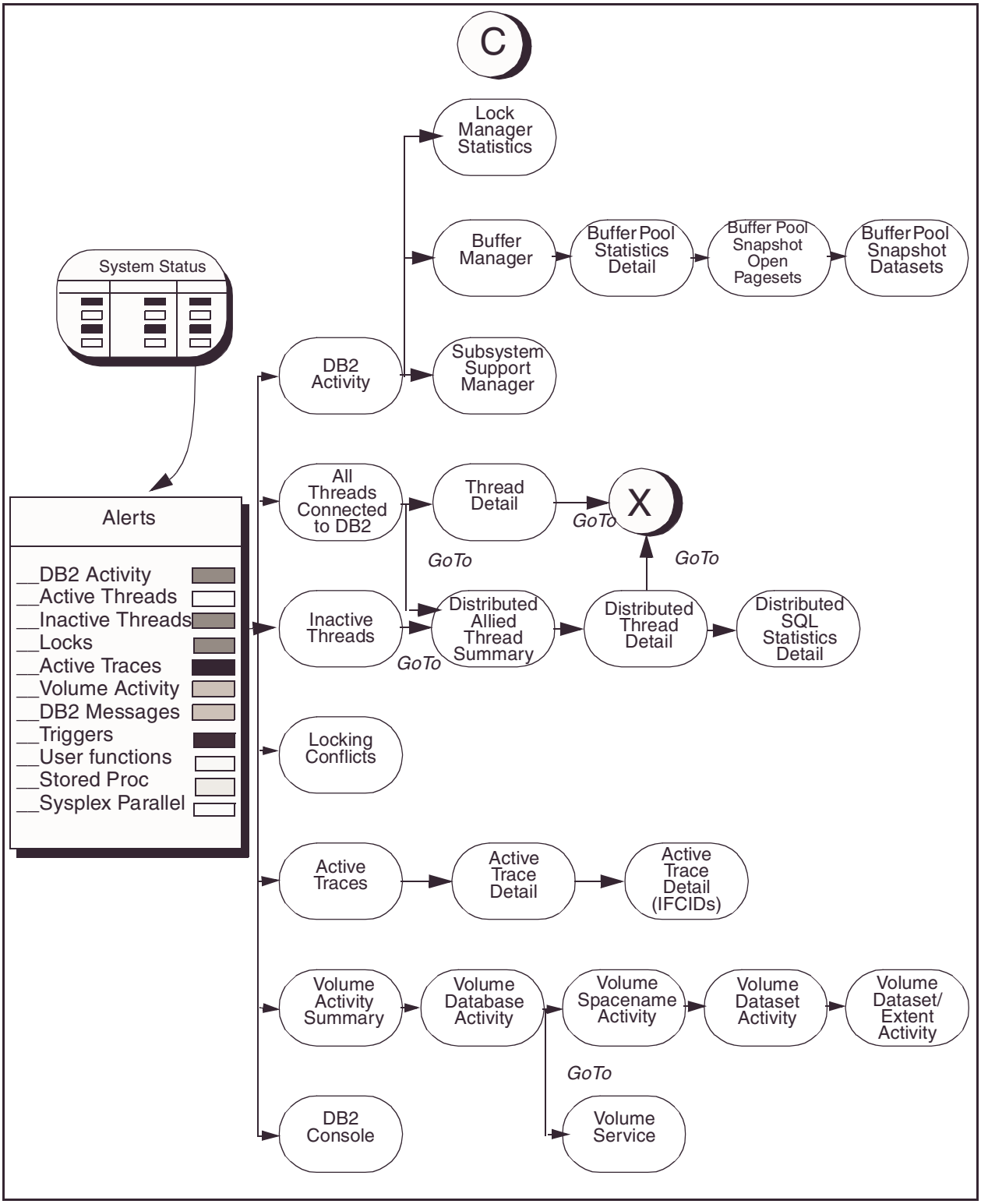
FIGURE 5. Resources Panels (Near-Term History)



Alerts Panels

You can access the following panels by selecting a monitored object from the Alerts portion of the System Status panel.

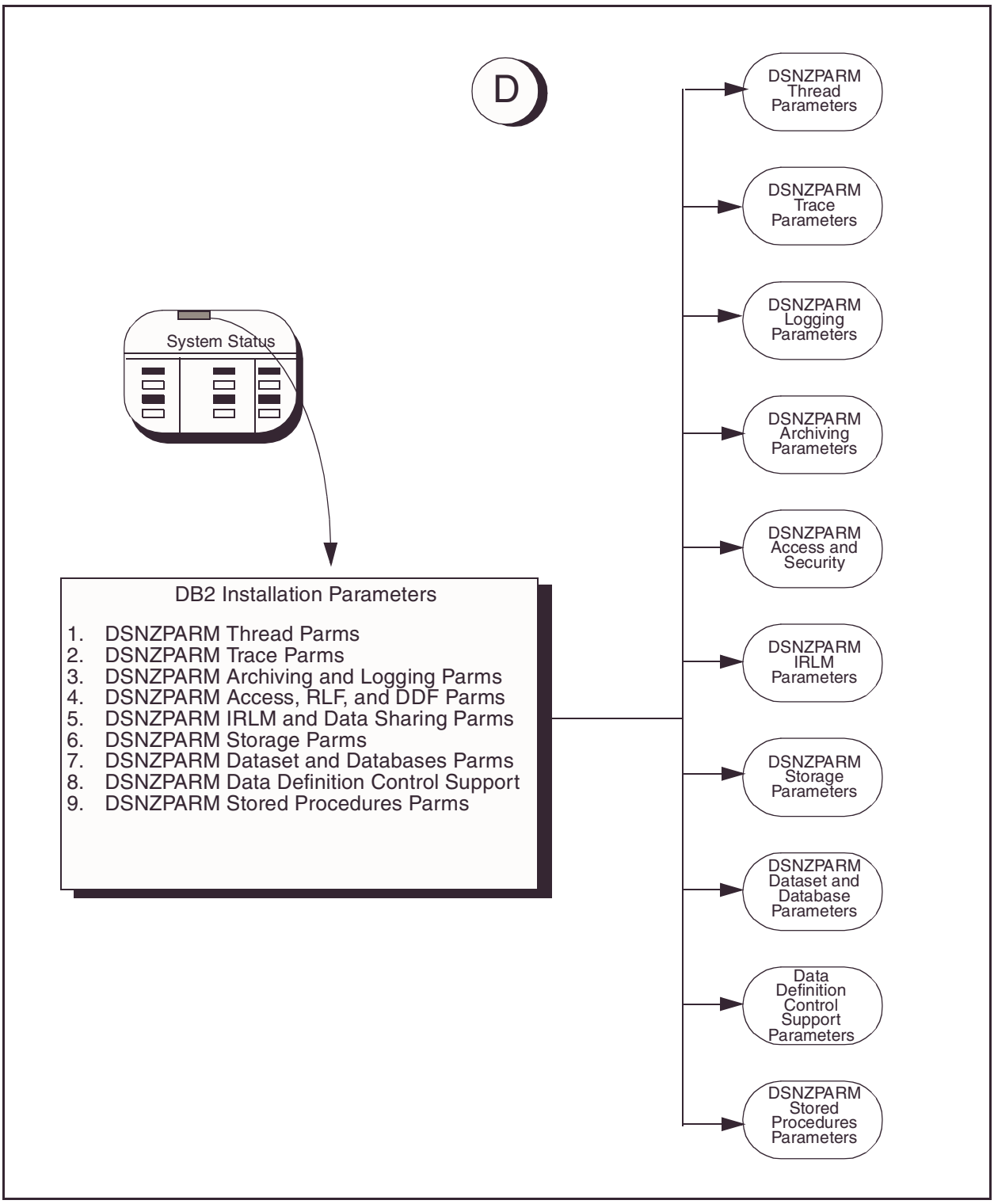
FIGURE 6. Alerts Panels



Installation Parameters Panels

You can access the following panels by selecting GoTo from the System Status panel.

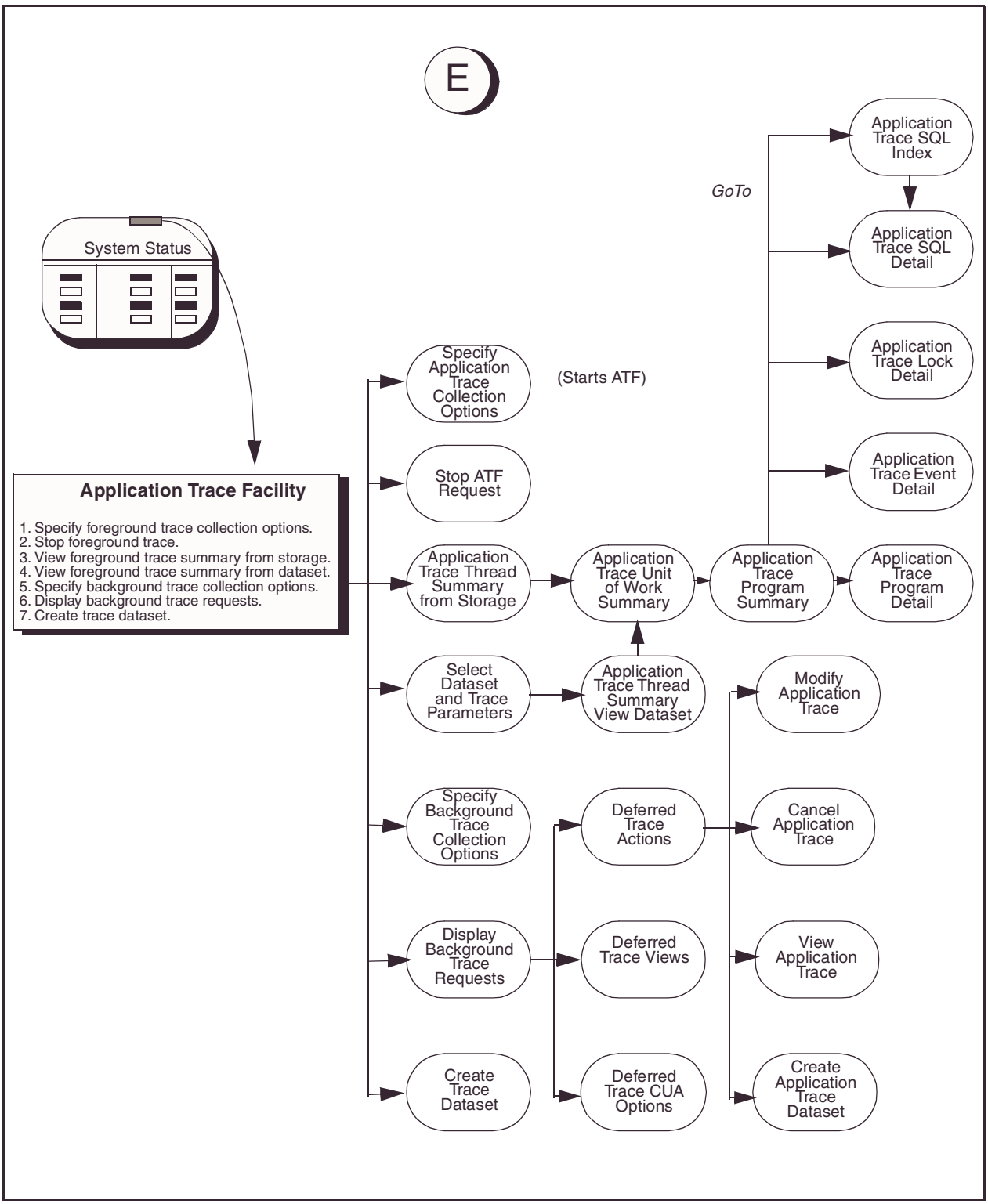
FIGURE 7. Installation Parameters Panels



Application Trace Facility Panels

You can access the following panels by selecting Tools, and then selecting Application Trace Facility from the System Status panel.

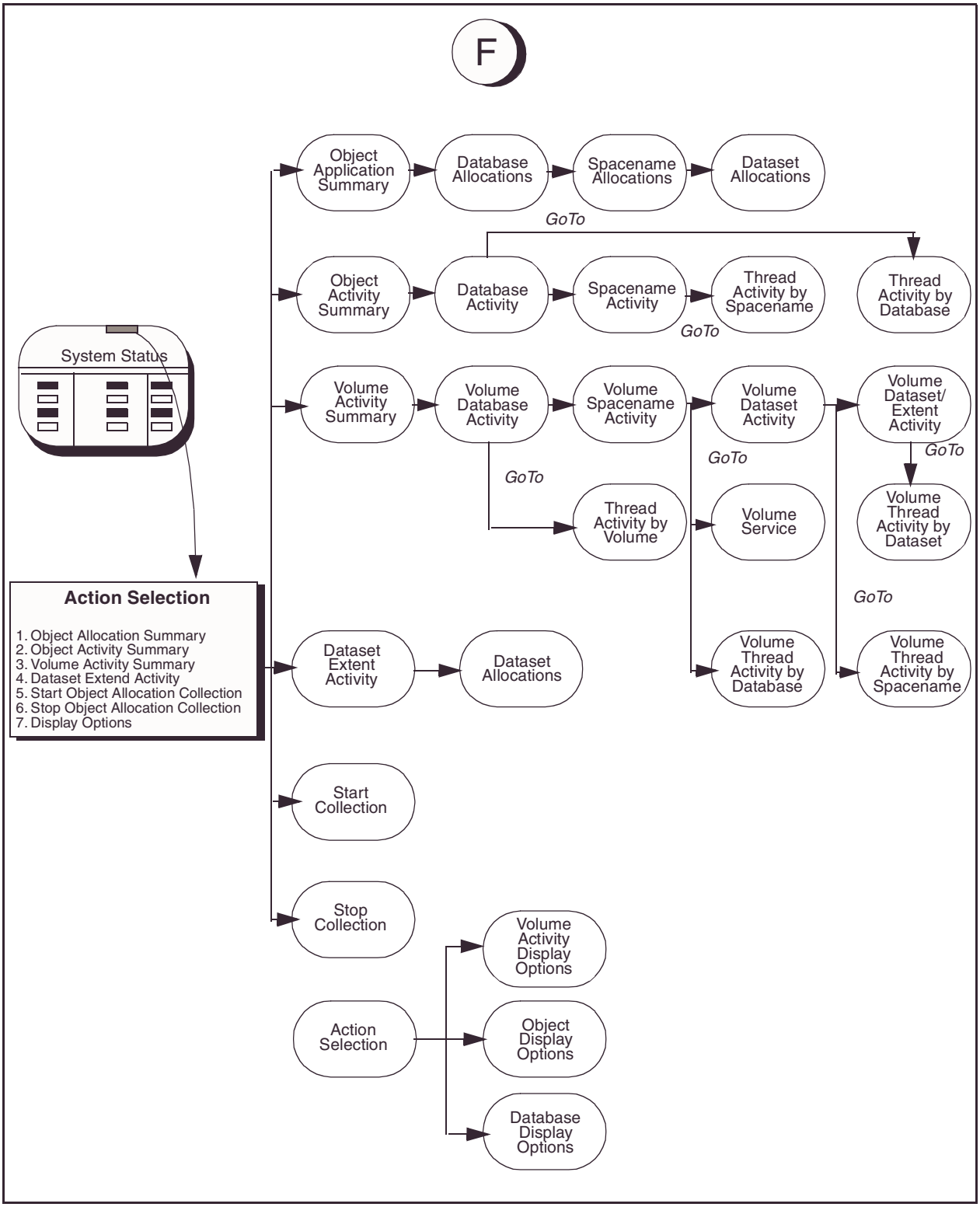
FIGURE 8. Application Trace Facility Panels



Object Analysis Panels

You can access the following panels by selecting Tools, and then selecting Object Analysis.

FIGURE 9. Object Analysis Panels



Thread Detail GoTo Panels

You can access the following realtime thread detail panels by using the GoTo pull-down menu from either the Thread Details panel or the Distributed Thread Detail panel.

You can access the following thread history detail panels by using the GoTo pull-down menu from either the Thread History Details panel or the Distributed Thread History Details panel.

Note: *The online historical data collector must be active for near-term historical data to appear.*

FIGURE 10. Thread Detail GoTo Panels (Realtime)

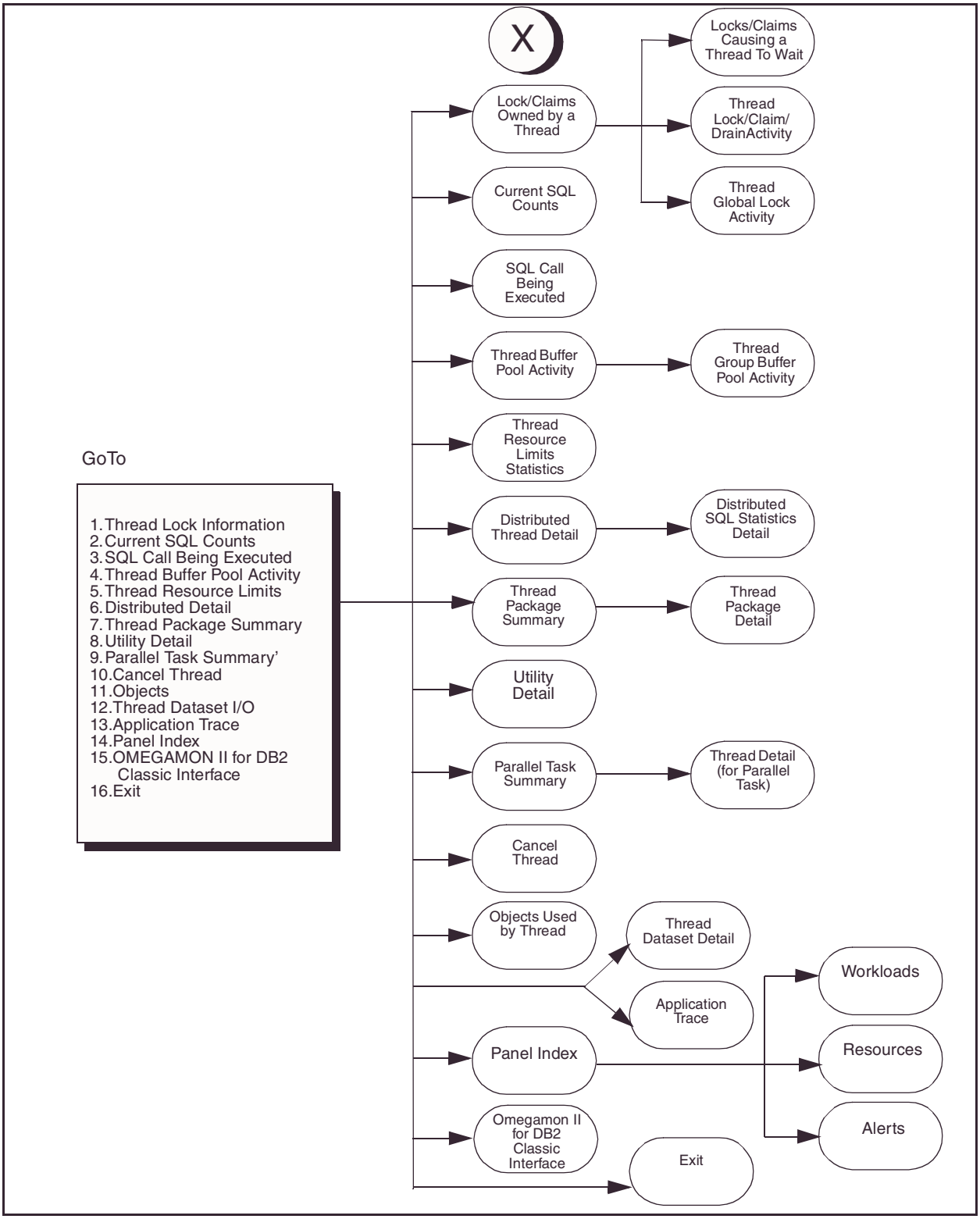
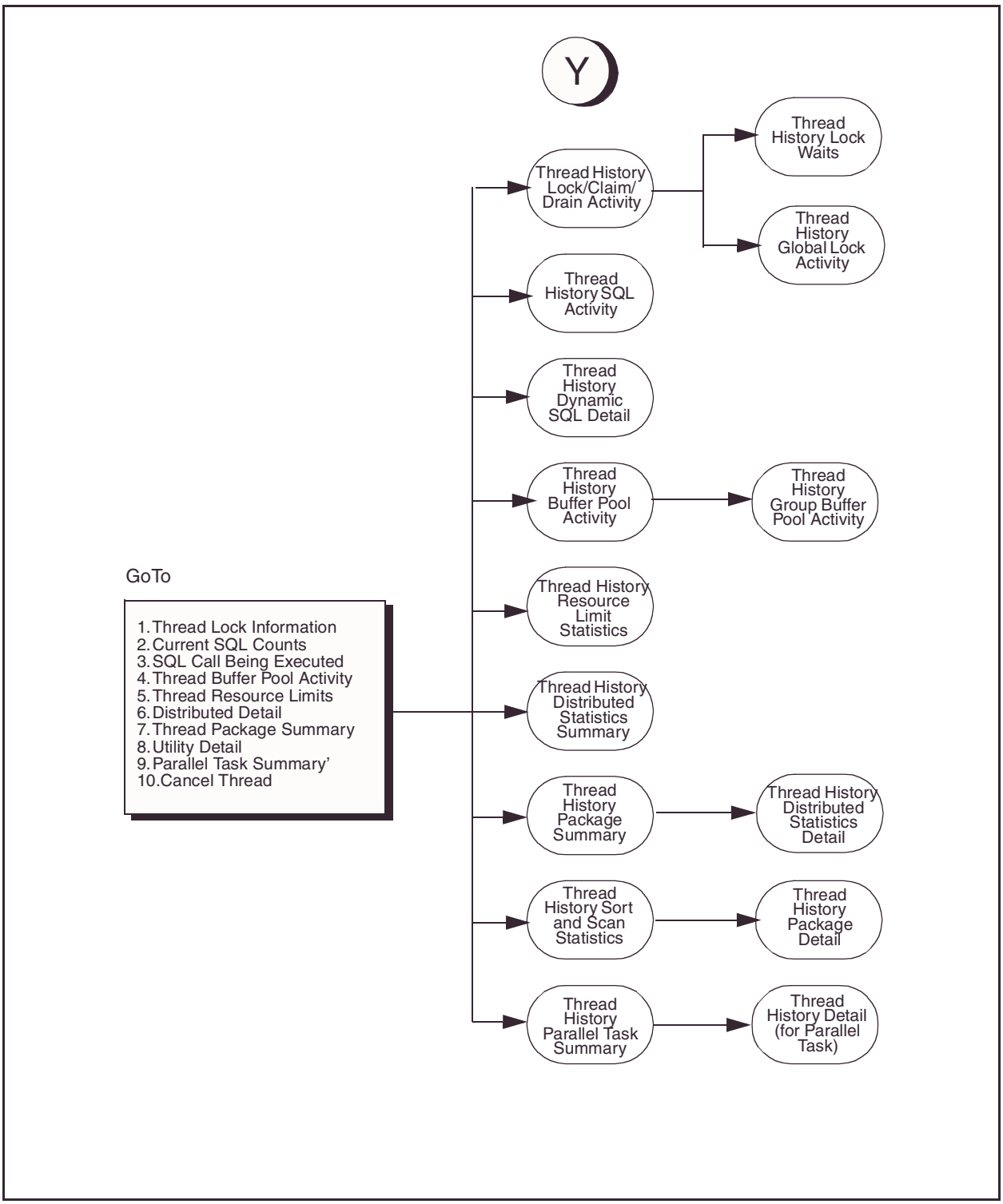


FIGURE 11. Thread History Detail GoTo Panels (Near-Term History)



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