Historical Component (EPILOG)
User’s Guide
OMEGAMON II® for DBCTL

Version 510

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El Segundo, California 90245-9796
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Introduction

This guide teaches you the basics of using the EPILOG historical component of OMEGAMON II® for DBCTL (hereafter referred to as OMEGAMON II). It describes how to produce basic historical report information in a variety of formats. It also explains how to access EPILOG’s online help facility. For complete reference information on the use of this product component, see the OMEGAMON II for DBCTL Historical Component EPILOG Reference Manual.

The EPILOG historical component is referred to in this manual both as the EPILOG historical component and as EPILOG.

This guide assumes that you are familiar with the operation of a3270 family terminal in a TSO environment.
About This Book

Documentation set information

The documentation listed in the following table is available for the Candle IMS Products. To order additional product manuals, contact your Candle Support Services representative.

<table>
<thead>
<tr>
<th>Document Number</th>
<th>Document Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IC51-6057</td>
<td>Installing Candle Product on MVS</td>
<td>Provides installation instructions and other installation considerations.</td>
</tr>
<tr>
<td>ID53-6341</td>
<td>OMEGAMON II for DBCTL Realtime Commands Reference Manual</td>
<td>Describes in detail all of the features of the OMEGAMON II for DBCTL command interface.</td>
</tr>
<tr>
<td>ID53-6344</td>
<td>OMEGAMON II for DBCTL Bottleneck Analysis (DEXAN) Reference Manual</td>
<td>Provides reference information and descriptions of the features of the bottleneck analysis component.</td>
</tr>
<tr>
<td>ID53-6345</td>
<td>OMEGAMON II for DBCTL Historical Component (EPILOG) Reference Manual</td>
<td>Provides a comprehensive description of the features of the historical component (EPILOG).</td>
</tr>
<tr>
<td>ID53-6346</td>
<td>OMEGAMON II for DBCTL Historical Component (EPILOG) User’s Guide</td>
<td>Teaches you, step-by-step, how to operate the historical component (EPILOG) reporter after installation.</td>
</tr>
<tr>
<td>I251-6317</td>
<td>OMEGAMON II for IMS/DBCTL Configuration and Customization Guide</td>
<td>Explains how to configure and customize OMEGAMON II and its user interfaces and components.</td>
</tr>
<tr>
<td>I299-6303</td>
<td>Application Trace Facility for OMEGAMON II for IMS and DBCTL</td>
<td>Provides user and reference information about the features of the Application Trace Facility (ATF) component.</td>
</tr>
<tr>
<td>I299-6338</td>
<td>Transaction Reporting Facility for OMEGAMON II for IMS and DBCTL</td>
<td>Provides user and reference information about the features of the Transaction Reporting Facility (TRF) component.</td>
</tr>
</tbody>
</table>
Table 1. OMEGAMON II for DBCTL Documentation Set

<table>
<thead>
<tr>
<th>Document Number</th>
<th>Document Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I299-6339</td>
<td>IMS Console Facility for OMEGAMON II for IMS and DBCTL</td>
<td>Provides a comprehensive description of the features of the IMS Console Facility (ICF) component.</td>
</tr>
<tr>
<td>W052-6238</td>
<td>Candle Product Messages Manual Volumes 1, 2 and 3</td>
<td>Provides reference summary information for all Candle product messages.</td>
</tr>
</tbody>
</table>

Where to look for more 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 and the other related products.

Ordering additional product documentation

To order additional product manuals, contact your Candle Customer Support representative.

We would like to hear from you

Candle welcomes your comments and suggestions for changes or additions to the documentation set. A user comment form, located at the back of each manual, provides simple instructions for communicating with the Candle Information Development department.

You can also send email to UserDoc@candle.com. Please include “OMEGAMON II for DBCTL Historical Component (EPILOG) User’s Guide Version 510” in the subject line.
Adobe Portable Document Format

Printing this book
Candle supplies documentation in the Adobe Portable Document Format (PDF). The Adobe Acrobat Reader will print 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 > Page Setup… and make your selections. A setting of 300 dpi is highly recommended as is duplex printing if your printer supports this option.

2. To start printing, select File > Print… on the Acrobat Reader Menu bar.

3. On the Print pop-up, select one of the Print Range options for
   - All
   - Current page
   - Pages from: [ ] to: [ ]

4. (Optional). Select the Shrink to Fit option if you need to fit oversize pages to the paper size currently loaded on your printer.

Printing problems?
The print quality of your output is ultimately determined by your printer. 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.

Contacting Adobe
If additional information is needed about Adobe Acrobat Reader or printing problems, see the Readme.pdf file that ships with Adobe Acrobat Reader or contact Adobe at www.adobe.com.
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.

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

Variables and literals
In examples of command syntax, uppercase letters are actual values (literals) that the user should type; lowercase letters are used for variables that represent data supplied by the user. Default values are underscored.

LOGON APPLID (cccccccc)
In the above example, you type LOGON APPLID followed by an application identifier (represented by cccccc) within parentheses.

Note: In ordinary text, variable names appear in italics.
Symbols

The following symbols may appear in command syntax:

Table 2. Symbols in Command Syntax

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

Version 510 of OMEGAMON II for IMS and OMEGAMON II for DBCTL significantly enhanced the Application Trace Facility. This version also provides several new functions, which broaden the overall functionality of OMEGAMON II for IMS and OMEGAMON II for DBCTL.

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Application Trace Facility

Application Trace Facility (ATF) is a monitoring agent in OMEGAMON II for IMS and OMEGAMON II for DBCTL. In Version 510, ATF was significantly enhanced so that:

- Multiple ATF OMEGAMON Classic address space sessions can monitor the same IMS
- The IMS Monitor can run concurrently with these ATF sessions
- All environments for IMS, IMS DB/DC, IMS DC and IMS DBCTL are supported
- A site has external control of its operations
- IMS Version 7 DC Monitor is supported
- Concurrent Online TRF display and ATF display functions are supported

In the previous Version 500, ATF had a DETAIL parameter that could be set to LOW or HIGH. In Version 510, this parameter was removed and the function was separated to display this information on separate sets of panels:

- What used to be DETAIL=LOW in ATF V500 is now the Online TRF Display
- What used to be DETAIL=HIGH in ATF V500 is now new ATF panels

The changes made to ATF in this release are explained in detail in the Application Trace Facility Manual for OMEGAMON II for IMS and DBCTL 510. ATF's online help has been upgraded to reflect these new features.
New OMEGAMON II Functions

Several new functions were added to OMEGAMON II for IMS and OMEGAMON II for DBCTL. These functions are:

- Expanded generic IMS command support
- Enhanced VSAM buffer pool statistics
- Enhanced fast path buffer pool statistics
- Enhanced fast path statistics
- Enhanced operator assistance for fast path areas
- Additional data and sorting on IMS Message region fields
Online documentation

With version 510, Candle Corporation has moved OMEGAMON II for IMS manuals from IBM BookMaster to Adobe FrameMaker. This move was made to better enable us to address our customers’ needs by providing tools that enhance productivity.

One of the results of the move is that it is no longer possible to create BookManager versions of the OMEGAMON II for IMS manuals. However, the manuals remain available online in the Adobe PDF version on CD-ROM and are also available on the Candle Corporation website at www.Candle.com.

The documentation CD being provided with this release has robust and easy-to-use search capabilities. You can search for information in multiple volumes, multiple versions, and across products. The CD also provides easy setup of search indexes with a single click of the mouse.

If you want to order printed copies of the documentation, please contact your Candle Support Services representative.
Introduction to the EPILOG Historical Component

Chapter overview

OMEGAMON II is a performance management tool for the IMS database management system. The EPILOG historical component collects performance data, saves it in a database, and lets you make online and batch queries against it.

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Who Can Use the EPILOG Historical Component?

Users

EPILOG provides a flexible performance management system for data center personnel. It lets each department investigate its own performance issues.

Performance analysts can identify and correct significant bottlenecks or spot trends toward poor performance among workloads that they feel are critical. For example, the PAYROLL job, which normally takes two hours, ran for four hours yesterday. With an EPILOG performance degradation display, it is easy to tell why the job ran as long as it did.

Systems programmers can understand why jobs are running slower than usual, why CPUs are being under-utilized, and which disk packs are poorly configured. EPILOG can compare a system’s efficiency before and after a tuning or configuration change.

Application programmers can get feedback about how efficient their programs are and how they can achieve better performance.

Production control personnel can recognize jobs that should be rescheduled so they do not interfere with other work.

Computer operations managers can understand why jobs are running slower than usual and why IMS users are experiencing poor response time. Exception reports can spotlight incidents of specific interest to data center management.

Capacity planners can examine the results of stress tests and more accurately estimate the benefits of a particular hardware upgrade.
Product Overview

Introduction

EPILOG has three major subcomponents: the EPILOG collector, the EPILOG reporter, and the maintenance utilities.

The EPILOG collector

The EPILOG collector collects several different types of performance related information from SMF records, IMS log records, and selected IMS control blocks. Information collected includes resource utilization and degradation data.

OMEGAMON II’s standard installation procedure sets the EPILOG collector to start automatically when the OMEGAMON II address space starts. There can be only one EPILOG collector active for each IMS system.

The collector writes data to the EPILOG datastore (EDS) at the end of each collection interval (typically, the standard RMF interval of 15 minutes to an hour). Data in the EDS is available to the reporter immediately after it has been written to the EDS.

In addition to writing data to the EDS, you can also have the collector write the data it collects to an SMF record type.

The EPILOG reporter

You can use the EPILOG reporter component either as a batch report generator or for interactive inquiry under TSO. A powerful set of commands lets you request information for a spectrum of times and workloads. These commands can answer a wide variety of questions. Among other things, you can:

- request data by specific time periods
- combine and average collection intervals
- select intervals by exceptional conditions
- supply report titles

The procedure used to invoke the EPILOG reporter varies from site to site. To find out how to invoke the EPILOG reporter, contact the system programmer responsible for installing OMEGAMON II at your site.
The EPILOG maintenance utilities

Three utilities are available to maintain an EPILOG reporter:

KEBUTIL  
Can recreate an EDS from a backup dataset created with IDCAMS REPRO. You can instruct KEBUTIL to delete specific data during the reload, thus removing old or unwanted data.

KEBINIT  
Initializes a newly-defined EDS.

KEBMAINT  
Restores an EDS from an SMF file.
Chapter overview

This chapter describes how to:

- start the EPILOG reporter
- stop the EPILOG reporter
- use the screen logging facility
- get help
- scroll the display to view long reports
- view and change function key assignments
- run the EPILOG reporter in ISPF split-screen mode

To start EPILOG automatically when you start OMEGAMON II, follow the CICAT installation procedures in the OMEGAMON II Configuration and Customization Guide. In the section on ‘Preparing the Startup Files’, specify ‘Autostart RTM Components’ on the ‘Specify RTM Configuration Values’ panel.

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Starting the EPILOG Reporter

Steps

1. Enter the command to start the EPILOG reporter.
   The command that you enter depends on whether you are running
   EPILOG in ISPF mode, TSO mode, or batch mode. For more information
   on starting the reporter, refer to Installing Candle Product on MVS.
   After you issue the command that starts the reporter, the first screen you
   see looks similar to Figure 1.

   FIGURE 1. Copyright Screen

   This screen contains copyright information that safeguards Candle’s
   proprietary rights to OMEGAMON II and this product component. Following
   is information that identifies the EPILOG datastore that has been defined for
   the current reporter session, along with statistics for the datastore such as the
   creation date and time, the date and time the EDS was last updated, the
   percentage of utilization, and the number of extents.

2. Press Enter.
   Figure 2 shows EPILOG’s default function key settings:
FIGURE 2. Default Function Key Settings

The top line of the screen contains information about your EPILOG session.
The second line of the screen is the command line, where you enter EPILOG
commands.
The body of the screen shows the default settings for function keys 1-24.
The settings for function keys 1-12 are the same as 13-24 to address terminals
that are not equipped with 24 function keys. As you proceed through this
guide, some of the most helpful function keys will be explained.
Stopping the EPILOG Reporter

Steps

To stop processing, enter the END, STOP, or QUIT command on the command line. The EPILOG reporter then terminates.
Screen Image Logging Facility

Introduction

The screen image logging facility enables you to log the contents of the current screen to a SYSOUT dataset (ddname EILOG) by pressing F9 or F21. On the printout, EPILOG inserts a title block describing the request that generated the display. By default, all output is folded into uppercase. You can turn folding off or on by entering CONTROL FOLDOFF or CONTROL FOLDON in the CMD=> space.
Help Facility

Introduction

The online help facility enables you to display screens of information to assist you in using EPILOG. To access the help facility, press F1 or F13. A menu of EPILOG commands and topics appears. Once in this menu panel, enter HELP on the command line, followed by either the name of the command or one of the topics listed on the menu panel. See “Getting help” on page 51 for more information on the help facility.
Scrolling

Introduction

In many cases, the total output for a display might not fit on one screen of your terminal. When this happens, EPILOG automatically goes into a scrolling mode, allowing you to view the entire display. When scrollable data is on the screen, the EPILOG header line shows 1 of $n$, where $n$ is the total number of screens in the display. Here is an example:

FIGURE 3. Scrolling Mode

The header line tells you that the display you see is the first of three screens of data. To scroll forward, press F8 or F20, as in ISPF. To scroll backward to the top of the display, use F7 or F19.

EPILOG does not scroll in units of lines, but in units of display screens. You can enter a numeric value on the command line before pressing the scroll function key; this lets you scroll forward or backward $n$ displays. Entering M rather than a number scrolls the maximum number of screens, either forward or backward.
Function Keys

List of keys

To display the current function key assignments, enter PFK without arguments. The following list shows the default function keys and their settings.

- **F1/F13** HELP (no arguments).
- **F2/F14** MODE. Rolls through display modes (PAGE, ROLL, HOLD, ONE). Every time you press the function key, the mode changes. For information on the display modes, see “Changing display modes” on page 48.
- **F3/F15** BACK. Returns to the previous display.
- **F4/F16** RECALL. Displays the previous input area command.
- **F5/F17** TITLE. Displays the report title block. For information about title blocks, see “Displaying title blocks” on page 48.
- **F6/F18** DISPLAY. Runs the command DISPLAY RALL TODAY COMBINE STIME(9) ETIME(17), which displays all resource panels for today COMBINEd from 09:00 to 17:00.
- **F7/F19** SCROLL UP. Scrolls backward, one report or screen at a time.
- **F8/F20** SCROLL DOWN. Scrolls forward, one report or screen at a time.
- **F9/F21** LOG. Logs the current screen to the UEILOG dataset.
- **F10/F22** DISPLAY. Runs the command DISPLAY SYSTEM TODAY SUMMARY COMBINE(1H), which displays an hourly summary of today’s systemwide bottlenecks.
- **F11/F23** NOT applicable to a DBCTL environment.
- **F12/F24** PFK. Displays the current function key definitions.

Changing function key definitions

While all the function keys have a default setting, you can change these settings and save them under a new name that you select. You might want to keep at least half of them as similar to ISPF as possible (that is, HELP, BACK, SCROLL UP, SCROLL DOWN). To modify any function key, use the PFnn command, where nn is the number of the function key you want to modify, followed by the new function key definition enclosed in quotes. For example, to change the setting for F22 to display a summary of yesterday’s activity for PSB Group 2, combined in 2-hour reporting periods, enter the following:

**PFK 22 ‘DISPLAY YDAY GRP(2) COMBINE(2H) SUMMARY’**

After you change a function key setting, the entire function key definition table appears. You can also change function key settings on this display by overtyping the appropriate line. However, you can change only one definition...
at a time. If you modify more than one line, and then press Enter, the MULTIPLE FIELD error message appears in the upper right corner of the screen, and no changes occur.

**Saving function key definitions**

After you modify the function keys, you can save the new definitions in the RKANPAR dataset under a 1- to 7-character member name that you specify, such as:

```plaintext
PFK SAVE(MYPFKS)
```

If the member already exists, the new one replaces it. To reload these definitions the next time you start an EPILOG session, enter the following:

```plaintext
PFK READ(MYPFKS)
```

The default function key definitions are also saved in a PFK member called DEFAULT; this means you can reload the function key definition defaults at any time by entering the command **PFK READ(DEFAULT)**.
Running EPILOG in ISPF Split-Screen Mode

Steps

You can run EPILOG under ISPF (Version 2 and later) in split-screen mode. A CLIST, KEISPF, has been provided for this function, and is described in the Configuration and Customization Guide.

To use the reporter under ISPF, follow these steps:

1. Invoke the KEISPF CLIST.
   The first display is the Primary Option Menu for starting your EPILOG session.

   FIGURE 4. Primary Option Menu

   ![CANDLE PRIMARY OPTION MENU](image)

   **Important**
   The first time that each user invokes the CLIST from a TSO user ID after product installation, it is necessary to enter option 0 to initialize the function key assignments. On subsequent invocations, you can go directly to step 4 on page 32.

2. Select option 0.
   The following screen is displayed:

   ![CANDLE USER PARMS MENU](image)

   At this point, you can either press Enter to accept F2 and F9 for split and swap, respectively, or overtype them with different function key settings.

3. After either accepting or changing function keys, press Enter to return to the Primary Options Menu.

4. To initiate a reporter session, select option 1.
Once you are in the reporter, the split function behaves exactly as it does in other ISPF functions. The reporter displays require a minimum of eight display lines.

If you attempt to use fewer lines, the reporter displays the message **INSUF SCRN SIZE**

in the upper-right corner of the screen. If you see this message, split the screen again to allow EPILOG at least eight display lines. Then, re-enter the command.

You should avoid splitting the screen to a smaller size while viewing EPILOG logical displays that exceed the size of your screen. Doing so might hide part of the display. However, if you do split the screen, you can recover the lost part of the display in one of the following ways:

- Return the screen to full-screen mode to reveal the hidden part of the display.
- Re-enter the command, and view the display from the beginning.

To view the entire display, use the scrolling feature, as described in “Scrolling” on page 29.

To stop the reporter, enter END, STOP, or QUIT on the command line. This returns you to the split-screen menu shown above. Enter X on the OPTION line to complete reporter termination.

**Note:** Do not run the EPILOG reporter in both split-screen sessions of ISPF at the same time.
Running EPILOG in ISPF Split-Screen Mode
Chapter overview

EPILOG reporter commands are used to display data collected by the EPILOG collector. Before you enter any reporter commands, please note the following:

- EPILOG reporter commands consist of keywords and arguments (variables supplied by you) that are similar to their English meanings.
- Keywords and arguments are separated from one another by one or more blanks, equal signs, commas, or pairs of parentheses.
- Most keywords have both long and short (abbreviated) forms.
- If a command is too long to fit on the command line, end the line with a hyphen with a blank on either side, like this:
  
  b-b

  The rest of the line to the right of the second blank is ignored and can be used for comments. Press Enter, and the reporter displays a new blank command line. You can use as many lines as necessary to enter a command.

- Arguments containing blanks or other separators must be enclosed in paired single quotes.
- An argument enclosed in quotes cannot be continued from one line to the next.

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Using the DISPLAY Command

Introduction

The DISPLAY command displays performance information. You can enter the DISPLAY command with keywords that tell EPILOG what you want to display. For example, you might want to find out how PSB group 1 performed over a certain time period. To display detailed performance information for PSB group 1, type `DISPLAY GROUP(1)` on the command line, and press Enter.

The output you see looks similar to Figure 5.

**FIGURE 5. DISPLAY Output**

<table>
<thead>
<tr>
<th>Group = 1</th>
<th>Symbolic Name = AMPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Period: 09:00 to 09:15 on 01/02/97</td>
<td>Elap = 15:00 M IMSA</td>
</tr>
<tr>
<td>DEGRADATION DATA</td>
<td></td>
</tr>
<tr>
<td>Competing State</td>
<td>%</td>
</tr>
<tr>
<td>IMS Waits</td>
<td>36.4</td>
</tr>
<tr>
<td>Other DL/I IWAIT</td>
<td>31.8</td>
</tr>
<tr>
<td>Database I/O Waits</td>
<td>54.5</td>
</tr>
</tbody>
</table>

The top section of the display describes the workload (PSB Group 1), the interval (09:00 to 09:15 on 01/02/97), and the elapsed time (15 minutes).

The Degradation Data section of the display lists competing states, along with the number of seconds and the percentage of time spent in each state. A thread is in a competing state when it is being processed or is eligible to be processed but waiting.

The major categories of competing states are broken down into specific reasons. These reasons are indented, and their associated time and percentage figures are shown in parentheses.

The right side of the Degradation Data display is a graph showing how often during the sampling period the system was found in the various competing states.

The example in Figure 5 shows that the system was in
- IMS Waits 36.4% of the time
Using the DISPLAY Command

- Database I/O Waits 54.5% of the time

By default, the display lists only those competing states with associated percentage figures of 5 percent or more; you can change this threshold figure using the SET PLOTMIN command.

The graph arrows represent the percentage figures. The arrows in the graph are broken into 30% ranges. The first range is indicated by a hyphen (-), the second by an equal sign (=), and the third by a greater-than sign (>).
Using the Summary Keyword

Introduction

The display in Figure 5 on page 36. shows output for the time period 09:00 to 09:15 on 01/02/97. Because no date or time parameters were entered with the DISPLAY command, the reporter began displaying data from the first collection interval recorder on the EDS. If you continue to press Enter, EPILOG shows you data in successive 15-minute time intervals up to the present time.

For a summary report of this information, type DISPLAY GROUP(1) SUMMARY on the command line. SUMMARY displays a single line of data for each time interval. This lets you quickly scroll through a concise summary of an entire day’s activity.

Figure 6 shows the result of using the SUMMARY keyword.

FIGURE 6. SUMMARY Keyword Output
Each line of the display shows the largest wait reason for that time interval. For example, in Figure 5 on page 36 you saw that in the time interval 09:00 to 09:15, OTHER DL/I IWAIT was the largest wait reason (31.8%). Because OTHER DL/I IWAIT was the largest wait reason, it also appears in the SUMMARY display (Figure 6).
Using Date and Time Keywords

Introduction

You can further define the DISPLAY information by adding these time and date keywords:

- **STARTDATE**: Starting Date
- **ENDDATE**: Ending Date
- **STARTTIME**: Starting Time
- **ENDTIME**: Ending Time

In the example below, these keywords are used to create a time-specified display. Because a command using all these keywords requires more than one line, you need to use the continuation character (\b-b\b) at the end of the first line in order to enter the entire command:

**FIGURE 7. DISPLAY with Time Limits—Line 1**

```
EPILOG/IMS          01/18/97  17:35  Mode:  PAGE                  ENTER COMMAND
CMD==> DISPLAY GROUP(2) SUMMARY STARTDATE(01/02/97) ENDDATE(01/18/97) -
**************************************************************************
```

Now press Enter. Figure 8 shows the next step.

**FIGURE 8. DISPLAY with Time Limits—Line 2**

```
EPILOG/IMS          01/18/97  17:35  Mode:  PAGE                   CONTINUE INPUT
CMD==> STARTTIME(0900) ENDTIME(1700)
*******************************************************************************
```

The first line of the command has shifted to the second line of the display, letting you continue to enter text on the command line. The output of this command will be similar to the display in Figure 6 on page 38, but the data will be displayed for a more restricted time period.

To produce the same output using keyword abbreviation, see the figure below.

**FIGURE 9. Keyword Abbreviations**

```
EPILOG/IMS          01/18/97  17:35  Mode:  PAGE                   CONTINUE INPUT
CMD==> STIME(0900) ETIME(1700)
*******************************************************************************
```

```TABLE
<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>STIME</td>
<td>Starting Time</td>
</tr>
<tr>
<td>ETIME</td>
<td>Ending Time</td>
</tr>
<tr>
<td>SDATE</td>
<td>Starting Date</td>
</tr>
<tr>
<td>EDATE</td>
<td>Ending Date</td>
</tr>
</tbody>
</table>
```
EPILOG also lets you supply keywords for time periods without specifying the exact date. For example, you can specify: TODAY (TDAY), YESTERDAY (YDAY), THISWEEK (TWK), THISMONTH (TMN), and so forth. See the *OMEGAMON II for DBCTL Historical Component EPILOG Reference Manual* for a complete list of the date and time keywords and their abbreviations.
Using the COMBINE keyword

Introduction

By default, the EPILOG collector records data in units of RMF intervals. RMF intervals usually range from 15 minutes to an hour, depending on your site. You might not always want to display data in such small intervals. Therefore, EPILOG lets you combine intervals into larger intervals. If you add the keyword COMBINE to the DISPLAY command, EPILOG treats your data as if it came from one large time interval.

FIGURE 10. COMBINE Keyword

The following output results:

FIGURE 11. COMBINE Keyword Output

As you can see, the display shows the largest single wait reason for the entire interval, Database I/O Waits.

To combine this amount of data takes a while, so be prepared to wait. Rather than combining all the intervals into one large interval, you might consider combining the intervals into medium-sized units, such as hours. To do this, enter a time argument, such as 1H for 1 hour, after the COMBINE keyword:
The following output results:

For a list of available COMBINE units, see the OMEGAMON II for DBCTL Historical Component EPILOG Reference Manual
Using Exception Keywords

Introduction

Instead of searching through hundreds of collection intervals looking for problems, you can use exception filters with the DISPLAY command to display only intervals meeting certain selection criteria.

For example, you might want to see only intervals where USING CPU IN APPLICATION accounted for more than 10 percent of the total thread’s lifetime. To see this, enter the keywords shown in Figure 14.

FIGURE 14. Exception Keywords

When you press Enter, you see the following display:

FIGURE 15. Exception Output

Each time you press Enter, the next time interval during which the exception criteria are met is displayed. EPILOG offers you many exception criteria filters to focus your tuning efforts by tailoring your displays to exactly what you want to know. See the OMEGAMON II for DBCTL Historical Component EPILOG Reference Manual for more information on these filters.
Using Resource Keywords

Introduction

So far, you have been analyzing workload performance. EPILOG also lets you examine resource utilization. Enter the DISPLAY keyword, followed by the 4-character mnemonic for the resource. For example, to display CPU activity, enter the following:

**DIS RCPU**

The following output results:

**FIGURE 16. RCPU Resource Output**

The RCPU display shows the percentage of time that each IMS region spent using the CPU. This display covers the period 09:00 to 09:15 on 01/02/97 because no time interval was specified. This is when the EPILOG collector began collecting data. If you keep pressing Enter, EPILOG shows CPU activity for successive 15-minute periods until the last collection interval.

You can limit the scope of the resource keywords with the same DISPLAY parameters discussed earlier, such as STARTTIME, ENDTIME, STARTDATE, ENDDATE, and COMBINE. You cannot issue the SUMMARY keyword along
with a resource keyword, because by definition, SUMMARY and resource are two different types of displays.

See the OMEGAMON II for DBCTL Historical Component EPILOG Reference Manual for a list of resource keywords.
Chapter overview

This chapter describes some of EPILOG’s special features, including changing the screen appearance, reformatting and redisplaying the current screen, interrupting the reporter, and getting help.

Chapter contents

Using the CONTROL Command ................................. 48
Controlling color and highlighting ......................... 48
Changing display modes ........................................ 48
Recalling the previous command ........................... 48
Displaying title blocks .......................................... 48
Reshowing the Current Screen ............................... 50
Interrupting the EPILOG Reporter ......................... 51
Getting help ....................................................... 51
Using the CONTROL Command

Introduction

The CONTROL command enables you to change the appearance of your EPILOG screen and to control certain attributes of your EPILOG reporter session.

Controlling color and highlighting

By entering the COLOR keyword after the CONTROL command, you turn on the extended color support that sets the 8-byte color mask. If extended color is already on, CONTROL COLOR OFF turns it off.

The HILITE keyword turns on extended color support and sets the 8-byte highlite mask.

Changing display modes

You can view screen displays in four different modes:

- **CONTROL ONE** Shows only one display.
- **CONTROL PAGE** Shows as many displays as can fit on the screen.
- **CONTROL ROLL** Discards the topmost (and oldest) display each time you press Enter, then rolls the next display beneath it to the top of your screen. Each time you press Enter, the process repeats itself.
- **CONTROL HOLD** Holds the topmost display on the screen and invokes ROLL mode for all the displays below. In this way, you can compare one display with other more recent displays. In HOLD mode, you might be able to view only part of a rolled display because the held display might take up much of the screen.

Recalling the previous command

To recall the first line of the previously executed command, use the CONTROL RECALL command. You can also use F4 or F16. After you recall a command, you can modify and reissue it. To do this, overtype the command on the command line and press Enter.

Displaying title blocks

The title block describes the options you request for the DISPLAY command. When you use EPILOG in full-screen mode, the title block does not appear on the display in order to save screen space. In batch mode, the title block always appears.
To force the title block for the topmost display to appear, enter **CONTROL TITLE**. (By default, F5 and F17 invoke CONTROL TITLE.) Enter this command a second time to make the title block disappear.

If you enter **CONTROL TITLE SHORT**, EPILOG produces a shortened title block.
Reshowing the Current Screen

Introduction

PA2 reformats and redisplaysthe current screen. If you accidentally press the clear key or otherwise erase the screen, press PA2 before you enter any new commands.
Interrupting the EPILOG Reporter

Introduction

EPILOG accepts the attention key (PA1) in full-screen mode. If you accidentally turn on color and the screen is garbled, press PA1 to reset color mode. If your terminal is defined as having extended color and there is not really a color display, you need to use the PA1 key to clear the terminal and turn off EPILOG color support.

If color mode is not in effect and you press PA1 instead of the Enter key, EPILOG considers this a request to terminate (END command).

To interrupt a long process, use PA1. For example, if you enter a command requiring an excessive amount of I/O and do not wish to wait for it to complete, press PA1 to interrupt the current execution of the command. EPILOG will present any data already accumulated; you can then enter other commands.

Getting help

Help is available for all EPILOG commands and other selected topics. Enter HELP (or just H) without any arguments to see a list of commands and topics. Enter HELP commandname or HELP topicname to display the associated help member.

When you request help for a given function, EPILOG reads the HELP member from EIHELP into memory. If the entire text does not fit on your screen, scroll the data forward and backward with the scrolling function keys. See “Scrolling” on page 29 for more information on the scrolling function keys.

You can enter the HELP command at any time, even while you have the output of a DISPLAY command on the screen. When you finish viewing the HELP member, press Enter to return to the display.

You can also request help by typing the command or topic name on the input line, and pressing F1/13 instead of Enter; this appends whatever is on the input line to the HELP command.
Interrupting the EPILOG Reporter
Chapter overview

So far, you have learned how to:

- display wait states during an interval for a particular PSB group
- pinpoint the key wait states for an interval
- restrict reporting to particular dates and times
- summarize the measurements of one interval in a single line
- combine intervals
- restrict reporting to intervals during which certain criteria were met
- report on the many resources used by the host system
- use a few of EPILOG.’s special features

Now you are ready to use the EPILOG system navigator, a feature which enables you to:

- scan long intervals
- select a single interval
- select a detailed display
- select a resource display

To learn how to use the system navigator, follow these examples:

Chapter contents

Selecting a Single Interval ........................................... 54
Viewing a detailed report ............................................. 55
Viewing Resource Panels ............................................. 56
Selecting a Single Interval

Introduction

First, generate the PSB Group 1 summary display COMBINED in intervals of one hour.

**DIS GRP(1) SUM COMBINE(1H)**

The resulting output is shown in Figure 17.

FIGURE 17. System Navigator—Selecting Single Interval

In order to see all the single intervals that comprise this combined interval (as shown in Figure 18), enter an S next to the interval with the largest wait, as shown in Figure 17.
Selecting a Single Interval

FIGURE 18. System Navigator—Selecting Detailed Display

To see a detailed report of one of the intervals, place a D next to it, and press Enter. The output shown in Figure 19 results:

FIGURE 19. System Navigator—Selecting Resource Display

Viewing a detailed report
Viewing Resource Panels

Introduction

Finally, to see the resources that might be contributing to **USING CPU IN IMS** during this interval, enter an **R** next to the wait reason, as shown in Figure 19 on page 55. The resulting display consists of a number of resource panels automatically associated with this wait reason. Figure 20 shows examples.

**FIGURE 20. System Navigator—Example Resource Displays**
The resource panels automatically displayed for each wait reason can be changed. See AMATRIX in the OMEGAMON II for DBCTL Historical component EPILOG Reference Manual for more information.
Viewing Resource Panels
Error Messages

You might occasionally see error messages while using EPILOG. Below are listed a few common ones, along with some suggestions for helping you find the cause of the error message.

**UNBALANCED QUOTES OR PARENTHESES**
- Is the entire string on one input line?
- Is it missing a beginning or ending quote?
- Is it missing a left or right parenthesis?

**END OF INPUT, CONTINUATION EXPECTED**
Did you enter a hyphen (b-b) at the end of the last input line?

**RESOURCE AND WORKLOAD TYPES ARE MUTUALLY EXCLUSIVE**
- Did you specify SUMMARY in the same command as a resource?
- Did you specify a workload, such as PSB group, in the same command as a resource?

**INVALID KEYWORD**
- Did you spell the keyword correctly?
- Did you enter the keyword in the CMD field?
Introduction

Candle Corporation is committed to producing top-quality software products and services. To assist you with making effective use of our products in your business environment, Candle is also committed to providing easy-to-use, responsive customer support.

Precision, speed, availability, predictability—these terms describe our products and Customer Support services.

Included in this Guide to Candle Customer Support is information about the following:

Base Maintenance Plan ......................................................... 62
  – Telephone Support
  – eSupport
  – Description of Severity Levels
  – Service-level objectives
  – Recording and monitoring calls for quality purposes
  – Customer Support Escalations
  – Above and Beyond

Enhanced Support Services ..................................................... 66
  – Assigned Support Center Representative (ASCR)
  – Maintenance Assessment Services (MAS)
  – Multi-Services Manager (MSM)

Customer Support Contact Information ................................. 68
  – Link to Worldwide Support Telephone and E-mail information
Candle offers a comprehensive Base Maintenance Plan to ensure that you realize the greatest value possible from your Candle software investments. We have more than 200 technicians providing support worldwide, committed to being responsive and to providing expedient resolutions to support requests. Technicians are available worldwide at all times during the local business day. In the event of an after-hours or weekend emergency, our computerized call management and forwarding system will ensure that a technician responds to Severity One situations within one hour. For customers outside of North America, after-hours and weekend support is provided in English language only by Candle Customer Support technicians located in the United States.

Telephone support

Candle provides consistently reliable levels of service—thanks to our worldwide support network of dedicated experts trained for specific products and operating systems. You will always work with a professional who truly understands your problem.

We use an online interactive problem management system to log and track all customer-reported support requests. We give your support request immediate attention by routing the issue to the appropriate technical resource, regardless of geographic location.

**Level 0 Support** is where your call to Candle Customer Support is first handled. Your support request is recorded in our problem management system, then transferred to the appropriate Level 1 support team. We provide Level 0 manual interaction with our customers because we support more than 170 products. We feel our customers would prefer personal interaction to a complex VRU or IVR selection menu.

**Level 1 Support** is the service provided for initial support requests. Our Level 1 team offers problem determination assistance, problem analysis, problem resolutions, installation assistance, and preventative and corrective service information. They also provide product usage assistance.

**Level 2 Support** is engaged if Level 1 cannot provide a resolution to your problem. Our Level 2 technicians are equipped to analyze and reproduce errors or to determine that an error is not reproducible. Problems that cannot be resolved by Level 2 are escalated to Candle’s Level 3 R&D support team.

**Level 3 Support** is engaged if a problem is identified in Candle product code. At Level 3, efforts are made to provide error correction, circumvention or notification that a correction or circumvention is not available. Level 3 support provides available maintenance modifications
and maintenance delivery to correct appropriate documentation or product code errors.

eSupport

In order to facilitate the support process, Candle also provides eSupport, an electronic full-service information and customer support facility, using the World Wide Web at www.candle.com/support/. eSupport allows you to open a new service request and update existing service requests, as well as update information in your customer profile. New and updated service requests are queued to a support technician for immediate action. And we can respond to your request electronically or by telephone—it is your choice.

eSupport also contains a continually expanding knowledge base that customers can tap into at any time for self-service access to product and maintenance information.

The Candle Web Site and eSupport can be accessed 24 hours a day, 7 days a week by using your authorized Candle user ID and password.

Description of Candle severity levels

Responses to customer-reported product issues and usage questions are prioritized within Candle according to Severity Code assignment. Customers set their own Severity Levels when contacting a support center. This ensures that we respond according to your individual business requirements.

<table>
<thead>
<tr>
<th>Severity 1 Crisis</th>
<th>A crisis affects your ability to conduct business, and no procedural workaround exists. The system or application may be down.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severity 2 High</td>
<td>A high-impact problem indicates significant business effect to you. The program is usable but severely limited.</td>
</tr>
<tr>
<td>Severity 3 Moderate</td>
<td>A moderate-impact problem involves partial, non-critical functionality loss or a reasonable workaround to the problem. A “fix” may be provided in a future release.</td>
</tr>
<tr>
<td>Severity 4 Low</td>
<td>A low-impact problem is a “how-to” or an advisory question.</td>
</tr>
<tr>
<td>Severity 5 Enhancement Request</td>
<td>This is a request for software or documentation enhancement. Our business units review all requests for possible incorporation into a future release of the product.</td>
</tr>
</tbody>
</table>
Candle has established the following service-level objectives:

<table>
<thead>
<tr>
<th>Call Status</th>
<th>Severity 1 Goal</th>
<th>Severity 2 Goal</th>
<th>Severity 3 Goal</th>
<th>Severity 4 Goal</th>
<th>Severity 5 Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Call Time to Answer</td>
<td>90% within one minute</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level 1 Response</td>
<td>90% within 5 minutes</td>
<td>90% within one hour</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Normal Business Hours)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level 2 Response</td>
<td>Warm Transfer</td>
<td>90% within two hours</td>
<td>90% within eight hours</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Normal Business Hours)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scheduled follow-up</td>
<td>Hourly or as agreed</td>
<td>Daily or as agreed</td>
<td>Weekly or as agreed</td>
<td>Notification is made when an</td>
<td></td>
</tr>
<tr>
<td>(status update)</td>
<td></td>
<td></td>
<td></td>
<td>enhancement is incorporated into a</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>generally available product.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Notification is made when a fix is</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>incorporated into a generally</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>available product.</td>
<td></td>
</tr>
</tbody>
</table>

The above information is for guideline purposes only. Candle does not guarantee or warrant the above service levels. This information is valid as of October 1999 and is subject to change without prior notice.

Recording and Monitoring Calls for Quality Purposes

Candle is committed to customer satisfaction. To ensure that our customers receive high levels of service, quality and professionalism, we’ll monitor and possibly record incoming and outgoing Customer Support calls. The information gleaned from these calls will help us serve you better. If you prefer that your telephone call with Candle Customer Support in North America not be monitored or recorded, please advise the representative when you call us at (800) 328-1811 or (310) 535-3636.

Customer Support Escalations

Candle Customer Support is committed to achieving high satisfaction ratings from our customers. However, we realize that you may occasionally have support issues that need to be escalated to Candle management. In those instances, we offer the following simple escalation procedure:

If you experience dissatisfaction with Candle Customer Support at any time, please escalate your concern by calling the Candle support location closest to you. Ask to speak to a Customer Support manager. During standard business hours, a Customer Support manager will be available to talk with you or will return your call. If you elect to hold for a manager, you will be connected with someone as soon as possible. If you wish a return call, please tell the Candle representative coordinating your call when you will be available. After contacting you, the Customer Support manager will develop an action plan to
resolve your issue. All escalations or complaints received about support issues are logged and tracked to ensure responsiveness and closure.

Above and Beyond

What differentiates Candle’s support services from our competitors? We go the extra mile by offering the following as part of our Base Maintenance Plan:

- Unlimited multi-language defect, installation and operations support
- eSupport using the World Wide Web
- Regularly scheduled product updates and maintenance provided at no additional charge
- Over 200 specialized technicians providing expert support for your Candle products
Enhanced Support Services

Overview

Our Base Maintenance Plan provides a high level of software support in a packaged offering. However, in addition to this plan, we have additional fee-based support services to meet unique customer needs.

The following are some examples of our added-value support services:

- **Assigned Support Center Representative Services (ASCR)**
  - An assigned focal point for managing support escalation needs
  - Proactive notification of available software fixes
  - Proactive notification of product version updates
  - Weekly conference calls with your ASCR to review active problem records
  - Monthly performance reviews of Candle Customer Support service levels
  - Optional on-site visits (extra charges may apply)

- **Maintenance Assessment Service (MAS)**
  - On-site assessment services
  - Advice about product maintenance and implementation
  - Training your staff to develop efficient and focused procedures to reduce overall cost of ownership of your Candle software products
  - Analysis of your Candle product environment: versions, updates, code correction history, incident history and product configurations
  - Reviews to ensure that purchased Candle products and solutions are used effectively

- **Multi-Services Manager (MSM)**
  Multi-Services Manager provides highly valued services to customers requiring on-site full time expertise to complement their technical resources.
  - Dedicated on-site Candle resource (6 months or one year) at your site to help ensure maximum use and effectiveness of your Candle products
  - Liaison for all Candle product support activities, coordination and assistance with implementation of all product updates and maintenance releases
  - Works with your staff to understand business needs and systems requirements
- Possesses technical and systems management skills to enhance your staff’s knowledge and expertise
- Other projects as defined in Statement of Work for MSM services
Customer Support Contact Information

Link to Worldwide Support Telephone and E-mail information

To contact Customer Support, the current list of telephone numbers and e-mail addresses can be found on the Candle Web site, www.candle.com/support/.

Select Support Contacts from the list on the left of the page.
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