



The Mainframe Software Partner
For The Next 50 Years

Abend-AID

Reference Summary

Abend-AID Release 16.05
Abend-AID for CICS Release 16.05

Global technical support contact information is available from
our Customer Support Web Site:

<http://go.compuware.com>

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Introduction

This quick reference summarizes the procedures for accessing and using Abend-AID and Abend-AID for CICS. For more information, refer to the *Abend-AID User/Reference Guide* and the *Abend-AID for CICS User's Guide*.

Getting Help

Compuware provides a variety of support resources to make it easy for you to find the information you need.

Compuware Go Customer Support Website

You can access online information for Compuware products via our Compuware Go customer support website at <http://go.compuware.com>.

Compuware Go provides access to critical information about your Compuware products. You can review frequently asked questions, read or download documentation, access product fixes, or e-mail your questions or comments. The first time you access Compuware Go, you are required to register and obtain a password. Registration is free.

Compuware now offers User Communities, online forums to collaborate, network, and exchange best practices with other Compuware solution users worldwide. To join, go to <http://groups.compuware.com>.

Contacting Customer Support

Phone

- USA and Canada: 1-800-538-7822 or 1-313-227-5444.
- All other countries: Contact your local Compuware office. Contact information is available at <http://go.compuware.com>.

Web

You can report issues via the Quick Link **Create & View Support Cases** on the Compuware Go home page.

Note: Please report all high-priority issues by phone.

Mail

Compuware Customer Support
Compuware Corporation
One Campus Martius
Detroit, MI 48226-5099

Corporate Website

To access Compuware's site on the Web, go to <http://www.compuware.com>.

The Compuware site provides a variety of product and support information.

Online Documentation

The Abend-AID Receive from Network (RFN) product installation package does not include the product documentation. Access the Abend-AID documentation from the Compuware Go customer support website at <http://go.compuware.com> in the following electronic formats:

- Release Notes in HTML format
- Product manuals in PDF format
- Adobe PDF index file (PDX file)
- Product manuals in HTML format.

The product documentation is available for viewing or downloading:

- View PDF files with the free Adobe Reader, available at <http://www.adobe.com>.
- View HTML files with any standard web browser.

Abend-AID Customer Support

If you need information about Abend-AID's operating or performance capabilities, or assistance in troubleshooting, first refer to the Abend-AID documentation set.

If you call Abend-AID Customer Support for troubleshooting assistance, provide the following information applicable to your problem so that we can help you as quickly as possible.

- The client number as displayed in the header of the Abend-AID report.
- The Abend-AID release number displayed in the header of the Abend-AID report.
- The operating system and release in use as displayed in the header of the Abend-AID report to help determine operating system dependencies.
- All printed output from the job in question, including console messages, JCL stream, Abend-AID output, and the standard dump (SYSUDUMP, SYSABEND, or SYSMDUMP).
- Output from jobs that were used to install or customize Abend-AID. This output includes the report produced by the CWVERIFY utility. \$11VERIF is the Abend-AID installation library member used to execute CWVERIFY.

If a problem arises while using the Abend-AID Viewer or Abend-AID for CICS, consult the documentation or the Abend-AID Viewer or Abend-AID for CICS technical representative at your site. If the problem persists, please obtain the following information (if applicable) before calling Compuware's 24-hour product support hotline. This information may be required to help determine the cause of the problem:

- The Abend-AID Viewer or Abend-AID for CICS release you are using. (To find the release level, enter the **SERVINFO** fast-path command on any Abend-AID for CICS screen. Position the cursor on the **RELEASE** field of the displayed screen and press Enter.)
- The CICS release you are using.
- The DB2 release you are using.
- The error message, if any, that was displayed. Please note the entire message as some messages report specific information such as parameter values.
- All Abend-AID Viewer or Abend-AID for CICS output for the task you were trying to perform.
- The MVS dump containing the Abend-AID Viewer or Abend-AID for CICS failure.
- A tape copy of the SVC, SLIP, or SYSMDUMP dump you were trying to import or view.
- The CICS region JES job log.
- The MVS SYSLOG for the involved time period.
- Screen prints of the Dump Analysis Message Log that show the results of importing the region dump.

Note: To display the Dump Analysis Message Log, either select a region dump from the Directory with the G (Messages) line command, or type MLOG in the COMMAND (or OPTION) field on any Abend-AID screen and press Enter. For MLOG to function, however, you must first select a region dump from the Abend-AID Directory.

- The contents of the viewing server, BDCAS, TDCAS, and CICS region JES output files.
- Any relevant SMP/E output.
- Any other relevant screen prints.

Accessing the Abend-AID Viewer

Note: The Abend-AID Viewer replaces the Compuware Viewing Facility (Compuware/VF) for online report viewing. Abend-AID Release 11.1 was the last release of the product to support Compuware/VF.

The Abend-AID Viewer supports the following access methods:

ISPF/PDF Select the option defined for the Abend-AID Viewer on your ISPF/PDF Primary Option (or other) menu, or execute the CLIST defined for the Abend-AID Viewer.

VTAM If your site uses a session manager, the Abend-AID Viewer may be defined as an option that you can select from the application selection (or other) menu.

If your site has not defined the Abend-AID Viewer as a menu option, enter the following logon command:

```
LOGON APPLID(applid-name)
```

Note: The parentheses are required as shown.

Once you enter the logon command, the Abend-AID Viewer displays the Server Logon screen, which shows your terminal ID in the Userid field by default. Enter your user ID in this field if you want to use the settings established in your user profile. If your site is using external security, you must enter your user ID and password.

CICS Enter an AADF transaction command directly from CICS on any blank screen.

Note: Your site must be licensed for and have installed Abend-AID for CICS to enable CICS access.

Abend-AID Web Browser Interface Enter your site's URL for the Abend-AID Web Browser Interface:

```
http://host_name:TCP_PORT/AAVIEW.HTML  
or  
http://IP_address:TCP_PORT/AAVIEW.HTML
```

See "Using the Abend-AID Web Browser Interface" on page 25 for information about using this interface.

Note: The Abend-AID viewing server must be active on the mainframe in order to use this Web interface.

For the steps required to establish these access methods, refer to the *Abend-AID Installation and Customization Guide*.

Fault Summary

The Fault Summary is the first screen displayed after accessing the product through ISPF or VTAM. To select an entire region or region group, place the cursor on the appropriate Region Descriptions name and press Enter. To select either a single entry type or all entries from a region or region group, place the cursor on the appropriate numeric value and press Enter.

Figure 1. Fault Summary

```

Compuware Abend-AID ----- Fault Summary ----- Row 000001 of 000076
COMMAND ===>                                     SCROLL ===> PAGE

Shared Directory/Database... AA.QC.R111.CX85.P2.RPT.SDIR
For a list of databases, select DBLIST
To view the Fault Summary for a specific type, select View

Job Name or      CICS      MVS      IMS/TM      CICS      Other      Total
Application      Trans     Batch    Trans     SVC       SVC        SVC
Description      *****  *****  *****  *****  *****  *****
*****
TOTAL ENTRIES           0         106         1         0         2         2
AA111S08                0          0          0          0         1         1
AA111APB                0          2          0          0         0         0
AA111A01                0          1          0          0         0         0
AA111A1C                0          1          0          0         0         0
AA111BKH                0          1          0          0         0         0
AA111BLK                0          1          0          0         0         0
AA111CBC                0          2          0          0         0         0
AA111CB3                0          2          0          0         0         0
AA111CC1                0          1          0          0         0         0
AA111CC2                0          1          0          0         0         0
AA111CC3                0          1          0          0         0         0
Online Technical Support available at: frontline.compuware.com
To display Copyright/Trade Secret notice select COPYRIGHT

```

Abend-AID Directory

The Abend-AID Directory lists all entries based on your selection on the Fault Summary. Note the job name, abend code, program, and offset. Press the default RIGHT PF key (PF11) to see the terminal ID, user ID, and other information. Place the cursor on the entry you want to view and press Enter to display the Primary Options menu.

Figure 2. Abend-AID Directory

```

Compuware Abend-AID ----- Abend-AID Directory ----- Row 000001 of 000104
COMMAND ==> SCROLL ==> PAGE ==>

Shared Directory/Database... AA.QC.R112.CX85.P2.RPT.SDIR
For a list of databases, select DBLIST

M Menu      L Lock      H Dup History  R Recall     T Terminate Analysis
S Diag      U Unlock    I Information  E Migrate    C Change Priority
D Delete    G Messages  A Analyze     P Print      N Contact Information

      Abend
Entry  Job Name Code  JESID  Tran Program  Offset  Dups Time  Da
*****  *****  *****  *****  *****  *****  *****  *****  **
0000124 BFHRWAOC SNAP   J0666503  AADBCS1 000009EE  0 10:54:12 13
0000123 AA111PH2 SNAP   J0665329  AADBCS2 0000064E  0 08:58:38 13
0000122 AA111DKS SOC7   J0662311  PAYSRT7 00000E7A  0 15:25:03 12
0000121 AA111DKS SNAP   J0662311  PAYSRT7 00000E70  0 15:25:26 12
0000118 AA111DKS SOC7   J0662121  PAYSRT5 00000E7A  0 15:13:49 12
0000117 AA111DKS SNAP   J0662121  PAYSRT5 00000E70  0 15:13:08 12
0000112 AA111DKS SOC7   J0661982  PAYSRT5 00000E7A  0 15:00:38 12
0000111 AA111DKS SNAP   J0661982  PAYSRT5 00000E70  0 15:00:02 12
0000106 AA111DKS SOC7   J0661521  PAYSRT5 00000E7A  0 13:55:47 12
0000105 AA111DKS SNAP   J0661521  PAYSRT5 00000E70  0 13:55:19 12
Type a line command and press Enter to process it

```

Directory Line Commands

Below are the available line commands on the Abend-AID Directory.

For Batch/CICS Transaction Reports and SVC Dumps

- D** Deletes the entry.
- I** Displays the Entry Information screen.
- M** Displays the Primary Options menu.
- N** Displays the Contact Information screen.
- P** Prints a complete batch/CICS transaction abend report or a region dump summary report.
- S** Displays the Diagnostic Summary.

For Batch/CICS Transaction Reports Only

- H Displays history information for suppressed duplicate dumps
- L Locks the entry from automatic deletion.
- U Unlocks the entry for automatic deletion.

For SVC Dumps Only

- A Initiates dump analysis.
- C Changes the priority for scheduled dump analysis.
- E Migrates the dump dataset.
- G Displays the Dump Analysis Message Log.
- R Recalls the migrated dump dataset.
- T Terminates dump analysis.

Primary Options Menu

The Abend-AID Viewer Primary Options menu is the central access point for all analysis and storage. Press the default RETURN PF key (PF4) to return to this menu from any other screen. As an alternative, enter the **RETURN** primary command or the **MM** fast-path command. Position the cursor on the DIAG mnemonic and press Enter to display the Diagnostic Summary.

Figure 3. Primary Options Menu for Batch Abend Analysis

```

Compuware Abend-AID ----- Primary Options -----
OPTION ==>
1  DIAG    Diagnostic Summary      5  DB2      DB2 Information
2  PROG    Program Information      6  *IDMS    IDMS Information
3  FILE    File Summary             7  *MQINFO  WebSphere MQ Information
4  *IMS    IMS Information           8  LEINFO   LE Information

D  DIRECTRY  Abend-AID Directory        R  SRCDIR   Source Directory
S  SUMMARY   Fault Summary                 U  USER    User Control Facility
I  IMPORT    SVC Dump Import           C  *CSSUTIL CSS Utilities
N  NEWS     Product News                  X  EXIT    Exit

```

Diagnostic Summary

The Diagnostic Summary is the suggested starting point for error resolution. It contains a detailed description of the problem, the failing program, and the probable cause. New with Release 11.1, use the cursor point-and-shoot feature and press Enter at the **analysis** field to display detailed diagnostics information.

Figure 4. First Page of Diagnostic Summary for Batch Reports

```

Compuware Abend-AID ----- Diagnostic Summary ----- Row 000001 of 000071
COMMAND ==>                                           SCROLL ==> PAGE

A decimal-divide exception occurred during execution of program CWAADATE.

Analysis of Error
Root cause analysis is available for this abend.

  The decimal-divide exception occurred in the following statement:

000077          DIVIDE TEST-DATE BY RUN-YEAR GIVING ANN-YEARS
000078          REMAINDER NON-ANN-YEARS.

This statement is contained in paragraph 1000-CALC-YEARS-OF-SERVICE in
program CWAADATE .

Current values of fields on this statement:

Level/Field Name          Picture/Type          Value
01 TEST-DATE              9(6)                 072089

```

Exiting the Abend-AID Viewer

To exit Abend-AID Viewer from any screen, type **EXIT** or **=X** in the **COMMAND** (or **OPTION**) field, and then press Enter.

Online Help

Online help is available for any Abend-AID Viewer screen, field, system message, or command.

Screen Help

Screen help explains the purpose of each screen. To display screen help, position the cursor *off* any data field or system message, and then press the default **HELP** PF key (PF1).

Field Help

At a minimum, field help defines a field's label. In many cases, field help also describes the purpose of the field and how to use the information it contains. To display field help, position the cursor on the field, and then press the default **HELP** PF key (PF1).

Message Help

Message help explains the meaning and significance of Abend-AID Viewer informational, error, and warning messages. To display help for Abend-AID Viewer messages, position the cursor on the message, and then press the default **HELP** PF key (PF1).

Command Help

Command help describes the function, syntax, and restrictions (if any) of primary and fast-path commands. To display command help, use one of the following methods:

- In the **COMMAND** (or **OPTION**) field, type **HELP** followed by the name of the command. Next, press Enter. For example, to display help text for the **FIND** command, type:

HELP FIND

- Type either **CMDLIST** or **HELP COMMANDS** in the **COMMAND** (or **OPTION**) field, and then press Enter to display the list of commands. Place the cursor on the desired command, and then press Enter.
- To list the commands *available* from the currently displayed screen or field, use the **ASSIST** command or press the default **ASSIST** PF key (PF24).

Note: **ASSIST** is valid on only some screens at the screen level, but is available for all tab-selectable fields.

Abend-AID Viewer Navigation and Commands

This section describes the Abend-AID Viewer features for navigating within and between screens: the cursor point-and-shoot feature, masking and sorting, fast-path commands, and jump commands. It also describes the use of primary and line commands that perform specific functions.

Cursor Point-and-Shoot Feature

The cursor point-and-shoot feature gives you direct access to menu items, specific locations in storage, and to detailed information about specific data elements. Simply tab to the menu item, storage address, or key data element field. Press the Enter key or appropriate PF key. Alternatively, type the corresponding primary command, tab to the associated address or field, and press Enter. For information about using a mouse with the cursor point-and-shoot feature, refer to the *Abend-AID User/Reference Guide* or the *Abend-AID for CICS User's Guide*.

Masking and Sorting

The scrollable data area on Abend-AID Viewer list screens, such as the Abend-AID Directory shown in Figure 2 on page 3, includes a line of asterisks (*) beneath the column headings, called the *mask line*. This mask acts as a filter to display only the data you want to see. Overtyping the asterisks with the characters of the data you want to display, and press Enter.

You can also sort the column data by each of the column headings by entering the **SORT** primary command with a specified column heading. This command rearranges the column data. Alternatively, you can use the **SORT** command with the cursor point-and-shoot feature. Type **SORTa** or **SORTD** in the **COMMAND** field, position the cursor on the column that you want the data sorted by, and then press Enter. The column is sorted in ascending or descending order, respectively.

To restore the column mask for all columns and to restore the original view of the list, enter the **RESET** primary command.

Fast-Path Commands

Most screens have an assigned *fast-path command*, such as DIAG for the Diagnostic Summary or TRACE for the Abbreviated Trace Listing. With fast-path commands, you can access many screens in the product from other screens. Simply type the appropriate command in the COMMAND (or OPTION) field, and then press Enter.

For more information about fast-path commands, refer to the *Abend-AID User/Reference Guide* or the *Abend-AID for CICS User's Guide*.

Jump Commands

Another method for accessing screens directly is to use *jump commands*. These commands are ISPF-like selection strings that uniquely identify the screens *listed on the menus*. Not all Abend-AID Viewer screens are listed on the menus.

For example, to access the LE Heap Summary screen, which is the second selection on the LE Information menu, type =8.2 or >8.2 in the COMMAND (or OPTION) field, and then press Enter. The number 8 starts the command string, because the LE Information menu is the eighth selection on the Primary Options menu as shown in Figure 3 on page 5.

Jump Command Prefixes

By definition, a jump command is preceded by either an equal sign (=) or a greater than sign (>). Which sign you use determines the path the Abend-AID Viewer takes when you exit the screen with the END command or PF key (PF3). Preceding the jump command with the equal sign (=) returns you to the Primary Options menu; the greater than sign (>), to the previous screen where you entered the jump command.

For more information about jump commands, refer to the *Abend-AID User/Reference Guide* or the *Abend-AID for CICS User's Guide*.

Primary Commands

Primary commands, such as the FIND or LPRINT command, perform specific functions, other than just displaying Abend-AID Viewer screens as do fast-path and jump commands. Refer to the *Abend-AID User/Reference Guide*, the *Abend-AID for CICS User's Guide*, or use the Abend-AID Viewer online help for a complete description of each primary command and its valid syntax. Refer to “Command Help” on page 6 for specifics on using the online help.

Frequently Used Fast-Path and Primary Commands

Below are some of the most frequently used fast-path and primary commands. The first column shows the command and any required parameter(s). The second column names the displayed screen or menu for fast-path commands, or describes the resultant action for primary commands. Note that the characters in uppercase are the minimum abbreviation for the command.

For Batch/Transaction Reports and CICS Region/SVC Dumps

Directory, Server, and Report/Dump Information

| | |
|------------------|---|
| DIRectory | Abend-AID Directory. |
| INFO | Entry Information screen. |
| MLVL | Abend-AID or Abend-AID for CICS Module List screen. |
| NEWS | Summary of changes for the current release. |
| SERVInfo | Server Information screen. |
| SUMMARY | Fault Summary. |

Dump Analysis and Elimination (DAE) Support

| | |
|-----------------|--|
| RESETDae | Updates the DAE sequence number for internal viewing server dumps. |
|-----------------|--|

General Navigation

| | |
|--------------------|---|
| ARRange | Rearranges the columns on a left-right scrollable screen. |
| BOTTOM | Displays the bottom of a screen's scrollable area. |
| CANCEL | Cancels the current operation. |
| DOWN | Scrolls down. |
| END | Ends the current operation and returns to the previous display. |
| EXIT | Terminates the current session. |
| Find string | Locates the specified data string. |
| LEFT | Scrolls left. |
| MAINmenu | Primary Options menu. |

| | |
|---------------|---|
| MM | Primary Options menu. |
| RESet | Resets the masking and sorting on list screens. |
| RETURN | Returns to the Primary Options menu. |
| RFIND | Repeats the previously issued Find command. |
| RIGHT | Scrolls right. |
| SORTa | Sorts the list by the specified column heading in ascending order. |
| SORTD | Sorts the list by the specified column heading in descending order. |
| TOP | Scrolls to the top of a screen's scrollable area. |
| UP | Scrolls up. |

Memory Display and Navigation

| | |
|-----------------------|--|
| AMODE 24 31 64 | Changes or displays the AMODE setting for the current user session. |
| RESET Query | |
| CHAIN | Runs a control block chain based on user-specified criteria. |
| COre address | Displays storage located at the specified address. |
| DECOde address | Disassembles a single assembler instruction at the specified address. |
| DISAsm address | Disassembles all assembler instructions in storage, starting at the specified address. |
| DSECT | Displays storage in DSECT format. |
| Find x'string' | Locates the specified hexadecimal, character, |
| c'string' | or mixed-case character data string. |
| t'string' | |
| HEXD | Displays storage in hexadecimal format. |
| MAPd | Displays storage in DSECT format. |
| MODE 31 | Toggles the Memory Display navigation mode between |
| 64 | 31-bit and 64-bit mode for the current session. |
| @offset | Positions the display at the fullword address at the specified hexadecimal offset. |
| -offset | Scrolls the display backward to the specified hexadecimal offset. |
| #offset | Scrolls the display forward to the specified offset relative to the start address. |
| +offset | Scrolls the display forward to the specified hexadecimal offset. |
| RFIND | Repeats the previously issued Find command. |
| RESet | Resets the display to offset zero. |
| SMAP | Storage Map Display. |
| UNSTck address | Interprets the store clock date and time. |

Paperclip Function

| | |
|---------------|---|
| CLIP | Displays the first (oldest) entry from the paperclip table. |
| PCLP | Current Paperclip Table screen. |
| SACLIP | Saved Paperclip List screen. |
| SAVE | Saves the current paperclip table. |

Diagnosis

| | |
|--------------|--|
| DIAG | Diagnostic Summary. |
| TRACE | Abbreviated Trace Listing screen (CICS region dumps only). |

Customization

| | |
|-------------------|-------------------------------------|
| ARRange | Rearrange screen columns. |
| ATTRBUTE | Screen Attributes screen. |
| BORDERs ON | Controls display of screen borders. |
| OFF | |
| KEYS | PF Key Definitions screen. |
| PROFile | User Profile screen. |
| USER | User Controls menu. |

Printing

| | |
|---------------|--|
| LIST | Print Options and Initiation screen. |
| LPRINT | Prints logical screen images and reports. |
| PRINT | Prints physical screen images and reports. |

The optional parameters #ALL, #D2ALL, #SUMMARY, and #D2SUMM for the LPRINT and PRINT commands let you print Abend-AID Viewer reports. Refer to the *Abend-AID User/Reference Guide*, the *Abend-AID for CICS User's Guide*, or use the online help for a description of these parameters and the reports they generate.

For Batch/CICS Transaction Reports Only

Duplicate Dump Information

HISTory Duplicate History Log.

Source Support

REMote List of Remote Source Files screen.

SD Source Directory screen.

SHOWcopy ON Toggles suppressed COBOL, PL/I, or Assembler suppressed
OFF source lines ON or OFF.

SOURCE ON Toggles source processing ON or

OFF OFF.

RESET Resets source processing for the current dump to the value set in the user profile.

SRCDIR Source Directory screen.

For Batch Reports Only

Diagnosis

LIBRary JOBLIB or STEPLIB Concatenation screen.

MODS Load/PDSE Object Modules screen.

PARM Parameter data on the PSW Information screen.

PSW PSW Information screen.

REGs Registers screen.

Program Information

PROG Program Summary Information screen.

Assembler Programs

CALLFROM Save Area screen in the call to this CSECT.

CALLTO Save Area screen in the call to another program from this CSECT.

| | |
|-----------------|--|
| STGCSECT | Assembler Storage Selection List screen. |
|-----------------|--|

Language Environment Information

| | |
|-------------|-----------------------------------|
| LECB | LE Control Blocks Selection List. |
|-------------|-----------------------------------|

| | |
|---------------|------------------|
| LEHEAP | LE Heap Summary. |
|---------------|------------------|

| | |
|---------------|----------------------|
| LEINFO | LE Information menu. |
|---------------|----------------------|

| | |
|--------------|----------------------------------|
| LEOCB | LE Options Control Block screen. |
|--------------|----------------------------------|

File and Database Information

| | |
|------------|-----------------------|
| DB2 | DB2 Information menu. |
|------------|-----------------------|

| | |
|--------------|--|
| FADB2 | File-AID for DB2 Interface screen (ISPF only). |
|--------------|--|

| | |
|--------------|---------------|
| FILEs | File Summary. |
|--------------|---------------|

| | |
|-------------|------------------------|
| IDMS | IDMS Information menu. |
|-------------|------------------------|

| | |
|------------|-----------------------|
| IMS | IMS Information menu. |
|------------|-----------------------|

For CICS Transaction Reports Only

Diagnosis

| | |
|---------------------------|--|
| ABENDtxt abendcode | Displays information about the specified abend code. |
|---------------------------|--|

| | |
|-------------------------|---|
| IBMmsg abendcode | Displays the IBM message text for the specified abend code. |
|-------------------------|---|

Program Information

| | |
|---------------|------------------------------|
| DFHRpl | DFHRPL Concatenation screen. |
|---------------|------------------------------|

| | |
|---------------------------|------------------------|
| PGMdet programname | Program Detail screen. |
|---------------------------|------------------------|

| | |
|----------------|----------------------------------|
| PGMLink | Program Link Information screen. |
|----------------|----------------------------------|

| | |
|----------------|-------------------------------------|
| PGMSumm | Program Summary Information screen. |
|----------------|-------------------------------------|

| | |
|-------------|---------------------------|
| PROG | Program Information menu. |
|-------------|---------------------------|

| | |
|------------|------------------------------|
| RPL | DFHRPL Concatenation screen. |
|------------|------------------------------|

COBOL Programs

| | |
|--------------------------|---|
| COBoI programname | COBOL Storage Areas menu. |
| DSA programname | Memory Display for the Dynamic Storage Area. |
| EXTRn programname | Memory Display for external cells storage. |
| LINK programname | Program Listing screen for the linkage section. |
| LOCL programname | Program Listing screen for local storage. |
| TGT programname | Memory Display for TGT storage. |
| WORK programname | Program Listing screen for working storage. |

COBOL, PL/I, and Assembler Programs

| | |
|--------------------------|--|
| PLIST programname | Program Listing screen. |
| SD | Source Directory screen. |
| SOURCE ON | Turns source processing ON. |
| SOURCE OFF | Turns source processing OFF. |
| SRCDIR | Source Directory screen. |
| SRCINST ON | Turns source support instructional window ON. |
| SRCINST OFF | Turns source support instructional window OFF. |

PL/I Programs

| | |
|-----------------------------|--|
| AUTO programname | PL/I Automatic Storage List screen. |
| CONTRol programname | PL/I Controlled Storage List screen. |
| EXTERnal programname | PL/I External Storage List screen. |
| PLI programname | PL/I Storage Areas menu. |
| STATic programname | Memory Display for static storage areas. |

Assembler Programs

| | |
|------|-----------------------------|
| PSW | Program Status Word screen. |
| REGs | Registers screen. |

LE Information

| | |
|-------|----------------------------------|
| LEIN | LE Information menu. |
| LEOcb | LE Options Control Block screen. |

Transaction and Task Information

| | |
|------|--|
| EIBS | System Execute Interface Block screen. |
| EIBu | User Execute Interface Block screen. |
| ENQ | Enqueues Held screen. |
| TASK | Task Detail screen. |

Terminal and Screen Information

| | |
|----------|------------------------------|
| DATastrm | Data Stream Analysis screen. |
| SCREen | Last 3270 screen image. |
| TERm | Terminal Detail screen. |

File and Database Information

| | |
|------|------------------------|
| DB2 | DB2 Information menu. |
| DLI | DL/I Information menu. |
| FILE | File Request Summary. |

Hogan and MSA Information

| | |
|-------|-------------------------|
| HOGAN | Hogan Information menu. |
| MSA | MSA Information menu. |

CICS Web Interface Information

| | |
|-----|-------------------------------|
| CWI | Web Information Summary menu. |
|-----|-------------------------------|

For CICS Region/SVC Dumps Only***Dataset Import***

| | |
|--------|------------------------|
| IMPort | Dataset Import screen. |
|--------|------------------------|

Dump Analysis

| | |
|----------|---------------------------------------|
| ASCB | Address Space Control Block screen. |
| ASIDList | Address Space Summary. |
| ASXB | Address Space Extension Block screen. |
| CB | Control Blocks/Storage screen. |
| CVT | Communications Vector Table. |
| DMPHdr | Dump Header Record screen. |
| PSA | Prefixed Save Area screen. |
| SDPList | SVC Dump Parameter List screen. |
| SUBS | MVS Sub Systems Summary. |
| SVCDiag | SVC Diagnostic Summary. |
| ZOSSDMP | z/OS SVC Dump Analysis menu. |

Dump Import and Analysis Messages

| | |
|------|----------------------------|
| MLOG | Dump Analysis Message Log. |
|------|----------------------------|

LE Information

LEInfo LE Information Summary.

IPCS

IPCS IPCS Command Facility screen.

MVS Information

MVSEnv MVS Environment Summary.

MVSInfo MVS Information Menu.

MVS Virtual Storage

ASMap Allocated Storage Map.

CSASP Summarized CSA Subpools screen.

CSASUm Common Service Area Summary.

LPAmapping Link Pack Areas Map.

LSQAsum LSQA Summary.

LSQASP Summarized LSQA Subpools screen.

MVSStg MVS Storage Analysis menu.

NUCmap Nucleus Map.

PVTSP Allocated Private Subpools screen.

PVTSUm Private Area Summary.

SQASP Summarized SQA Subpools screen.

SQASUm SQA Summary.

VSMMap Virtual Storage Map.

For CICS Region Dumps Only

Storage Identification

| | |
|--------------|---|
| MATch | Locates data matching the specified parameters and displays corresponding TCBs, TCAs, and KETASKs that have addressability to the data. |
| WHERE | Displays a list of storage areas and control blocks that contain the specified address or symbol. |
| WHO | Lists TCBs, TCAs, and KETASKs that have addressability to the specified address. |

Domain Information

| | |
|----------------|----------------------------|
| DOMains | CICS Domain Analysis menu. |
| WB | Web Domain menu. |

Task/Wait Analysis Information

| | |
|-----------------|----------------------------|
| TASKList | Task/Wait Analysis screen. |
| TASks | Task/Wait Analysis menu. |
| TASKSUmm | Task Summary. |

Line Commands

Line commands perform specific functions for individual items on Abend-AID Viewer list screens such as the Abend-AID Directory and the Program Summary Information screen, among others. Line commands are displayed at the top of the screen. Enter them to the left of the selected list item. Use the online help for an explanation of any line command.

Refer to “Directory Line Commands” on page 3 for a list of the available line commands on the Abend-AID Directory.

PF Keys

This section lists the PF keys defined in the Abend-AID Viewer. Enter **KEYS** as a fast-path command to display the PF Key Definitions screen, which lists the current PF-key settings. Press Enter to toggle between the displays for PF13–PF24 and PF1–PF12. Overtyping any settings you want to change. Press the default END PF key (PF3) to save your changes.

Table 1. Default Abend-AID Viewer PF Key Definitions

| Key | Command | Description |
|----------|----------|--|
| PF1/PF13 | HELP | Provides cursor-sensitive information. |
| PF2/PF14 | SPLIT | Divides the display screen into two logical, functionally independent screens. Valid for ISPF access only. |
| PF3/PF15 | END | Ends the current function and redisplay the previous level screen or menu. |
| PF4/PF16 | RETURN | If you have selected a report, redisplay the Primary Options menu. If you have not selected a report, redisplay the Fault Summary. Executing this command from the Fault Summary screen exits the product. |
| PF5 | RFIND | Repeats the last FIND command executed. |
| PF6 | MAINMENU | Displays the Abend-AID Primary Options menu for the selected report/dump. |
| PF7 | UP | Scrolls backward through a screen's scrollable area. |
| PF8 | DOWN | Scrolls forward through a screen's scrollable area. |
| PF9 | SWAP | Moves the cursor to the other logical screen when the display is in split screen mode. Valid for ISPF access only. |
| PF10 | LEFT | Scrolls toward the first column of data. |
| PF11 | RIGHT | Scrolls toward the last column of data. |
| PF12 | RETRIEVE | Redisplay the last command entered in the COMMAND or OPTION field. |
| PF17 | DISASM | Disassembles <i>all</i> assembler instructions in storage. The Abend-AID Viewer displays this information on the Storage Disassembly screen, starting with the address specified. |
| PF18 | HEXD | Displays storage in hexadecimal format. |
| PF19 | DSECT | Displays storage in DSECT format. |
| PF20 | INFO | Displays the Entry Information screen for the current dump. |
| PF21 | WHO | For Abend-AID for CICS region dumps only. Lists TCBS (for any dump), TCAs (for CICS dumps only), and KETASKs (for CICS dumps only) that have addressability to the address specified. |

| Key | Command | Description |
|------|---------|---|
| PF22 | MATCH | For Abend-AID for CICS region dumps only. Lists TCBS (for any dump), TCAs (for CICS dumps only), and KETASKs (for CICS dumps only) that have data matching the data at the address specified. |
| PF23 | LPRINT | Prints a logical image of a screen to a sequential dataset. |
| PF24 | ASSIST | Displays the commands available for the current screen, scrollable table, or field. |

Source Support

This section describes the Abend-AID Viewer source support for batch/CICS transaction reports.

Source Directory

The Source Directory allows you to browse and manage programs compiled using the Compuware COBOL language processor, the Compuware PL/I language processor, and the Assembler language processor. To access the source directory, select a batch or CICS transaction entry from the Abend-AID Directory and then enter either the **SD** or **SRCDIR** fast-path command. A list of source listing files/source shared directories available for the selected entry is displayed as shown in Figure 5.

Figure 5. Source Directory

```

Compuware Abend-AID ----- Source Directory ----- Row 000001 of 000005
COMMAND ==>                                     SCROLL ==> PAGE
                                                ==>

To add a dataset to the list, select Add

S Directory      I Information      X Include/Exclude      D Delete

Dataset Name                Status      Defined      Remote
*****                  *****      *****      *****
AA.BETA.TEST.PGMFILE                User      AACSRVR3
AA.FX.BETA.DEMO.LISTFILE                User      AACSRVR3
AA.QC.R111.CX83.P1.LIST.SDIR          ABNLLIST
SYS2.CPWR.AA.R111.LISTING                Server
AC.QC.R020200.P1.QCAC0202.CWPDDIO      CWPDDIO
AA.QC.R111.CX83.P2.LIST.SDIR          Server
USER.COBOL.TEST.SSD                  SSD

```

Enter the **S** line command to display the Source Program Directory for a source listing file or source shared directory.

Figure 6. Source Program Directory

```

Compuware Abend-AID ---- Source Program Directory ----- Row 000001 of 000014
COMMAND ==> SCROLL ==> PAGE

Dataset Name..... AA.BETA.DEMO.LISTFILE

S Select          L Lock          I Information
U Unlock          D Delete

Program   Compile   Compile   Return
*****   Date      Time      Code     Language  Size      Locked   Completion
- AAPROG1 06JAN2007 10:55:35  4        COBIIIR3  63K      LOCKED-M INCOMPLETE
s CCAADEMO 02JAN2007 10:51:14  0        COBIIIR3  191K     LOCKED-M COMPLETE
- CCAADEMO 26MAR2007 13:59:14  8        COBIIIR3  159K     LOCKED-M COMPLETE
- CCASQLD 28MAR2007 11:45:17  4        OSVSCOB   223K     LOCKED-M COMPLETE

```

Enter the **S** line command to select and browse a program in the Source Program Directory for a source listing file or a source shared directory.

Adding a Dataset to the Source Directory

Source listing datasets defined to the server at the time theabend occurred display as ABNLLIST, CWROUTE, CWPDDIO, or Server, as shown in Figure 5 on page 21. To add a dataset to the Source Directory, press Enter at the Add field. Source listing datasets defined in this way display as Defined By User on the Source Directory.

You can use any of the line commands displayed on the screen. These commands affect only the display of the user-defined source datasets list on the Source Directory for the logged-on user who executes them and do not affect the actual datasets. The X (Include/Exclude) and D (Delete) line commands are *not* valid for source datasets that display as anything other than *User*.

Using Distributed Viewing Support

Distributed Viewing Support (DVS) lets you view a batch/CICS transaction directory entry using source support when the source listings for the abending program reside on an MVS system other than the one on which theabend occurred. For example, if you develop applications at a central site and distribute them to other remote sites, DVS eliminates the need to distribute source listing datasets with the applications.

If your site has implemented Distributed Viewing Support, you can enter the new REMOTE fast-path command to display the List of Remote Source Files screen. From this screen, you can add a user-defined source dataset name as described above for a listing that resides on an MVS system other than the one on which theabend occurred. A valid user ID and password are required for access to the remote server as well as READ authority for the source listing dataset. Refer to the

Abend-AID User/Reference Guide or the *Abend-AID for CICS User's Guide* for more information about using Distributed Viewing Support.

Mismatched Source Processing

The Abend-AID Viewer compares the compile date and time of the abending program with the compile date and time of programs in the source listing file(s). If no match exists, the Source Mismatch Selection screen is displayed.

Figure 7. Source Mismatch Selection Screen

```

Abend-AID ----- Source Mismatch Selection -----
COMMAND ==>
MSDSD5501I The program compile date and time does not match a source listing
No matching Compuware Source Listing is available to provide source support
for this program. To provide source support use one of the options below.

          Program Information                Most Current Source Information
Program Name..... COBTEST                 Source Program Name..... COBTEST
Compile Date..... 10FEB2014                Source Compile Date..... 30JAN2014
Compile Time..... 09:06:47                 Source Compile Time..... 11:26:17
Program Language..... COB Z/OS             Program Language..... COBOL II
Language Release..... V3R2M0                Language Release..... V1R4M0

Select one of these to use an available Compuware-processed Source listing:
  To use the most current, select CURRENT
  To display listings for the same compiler release, select LISTING
  For all listings for this program for any compiler release, select LISTALL
Select one of the following to create a Compuware Source listing:
  To convert an existing compiler listing, select CONVERT
  To execute site-specific utilities (ISPF only), select UTILITIES

To continue without source-level support, select NO SOURCE

```

Use the cursor point-and-shoot feature and press Enter at *one* of the following fields:

- CURRENT field to select the most current source listing for source processing in all subsequent displays of the program.
- LISTINGS field to display the Source Program Directory for source mismatch selection, which displays every occurrence of a listing for the selected program in all available source listing files.
- LISTALL field to displays more listings that may be suitable for this program.
 - For COBOL and PL/I, the Source Program Directory displays all listings for the language for the selected program name, including listings for different releases of the compiler.
 - For Assembler, the Source Program Directory displays all Assembler listings, including listings for different program names. This is

particularly useful for those Assembler applications where the selected CSECT name does not match the name used for the listing.

- CONVERT field to display the Convert Program Compiler Listing screen
- UTILITIES field to display the Source Support Utilities screen.
- NO SOURCE field to suppress source processing in all subsequent displays of the program.

If at a later time you want to override your selection regarding source processing for this program, enter the **SOURCE RESET** primary command on any Abend-AID Viewer screen displaying information about this program. The program returns to its previous mismatched condition, and the Abend-AID Viewer displays the Source Mismatch Selection screen, from which you can make a different selection.

Using the Abend-AID Web Browser Interface

The Abend-AID Web Browser Interface is an easy-to-use interface that lets you access the Abend-AID Viewer mainframe viewing server databases using standard Web browser software. Communication between the Web browser client and the Abend-AID viewing server is accomplished through HTTP requests. See “Abend-AID Web Browser Interface” on page 1 for the valid URL format for accessing the interface.

Page Layout

For Release 16.05, the Abend-AID Web Browser Interface has been enhanced with a new look and feel. As shown in Figure 8, after you enter the Abend-AID Web Browser Interface URL your site has assigned for this product and you log in with your user ID, the Home menu is displayed with icons for the most frequently used screens and major facilities. Use the mouse to click on each large icon to access that screen or menu. The toolbar, shown in Figure 9, is located at the top of the page and shows the screen names in order from left to right of the screens as you access them. If you access several screens during your session, the names are collapsed, but are still in access-order. At the far-right on the toolbar are three small icons for performing actions/functions: Tools, Fast Path Commands, and Help Information. Click on each icon to display its associated screen or, if applicable, its menu of functions.

Figure 8. Abend-AID Web Browser Interface Page Layout

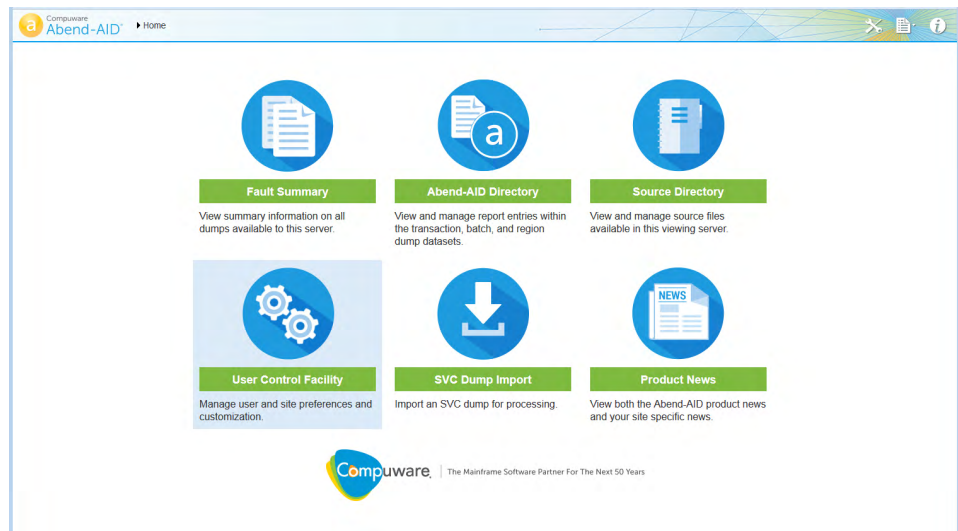
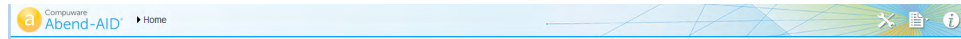


Figure 9. Abend-AID Web Browser Interface Toolbar

Diagnostic/Informational Displays

As shown in Figure 10, once you select a report from the Abend-AID Directory and access any of the diagnostic/informational screens for that report, click on the down arrow following Navigation in the upper-left of the screen to display links to related screens/menus for the selected report. Click on the arrow following Abend Code in the center of the screen above the screen title to display such additional report information as program, date, offset, and time. Scroll bars are available at the right and bottom of the screen for lengthy and wide displays, respectively.

Figure 10. Diagnostic/Information Screens

Diagnostic Summary

A fixed-point-divide exception occurred during execution of program COBTEST. The expected completion code is S0C9.

Analysis of Error

Root cause [analysis](#) is available for this abend.

The fixed-point-divide exception occurred in the following statement:

```
000044      COMPUTE BAD-IN = WS-SUB2 / WS-SUB1.
```

This statement is contained in paragraph 0100-READ in program COBTEST .

Current values of fields on this statement:

| Level/Field Name | Picture/Type | Value |
|------------------|--------------|------------------|
| 02 BAD-IN | # S9(S) | COMP=3 X'E3C8C9' |
| 77 WS-SUB2 | S9(04) | VALUE +55 |
| 77 WS-SUB1 | S9(04) | VALUE +0 |
| | S9(04) | COMP =+0 |

- Indicates field contains invalid data that does not match the field description in the program. Note that even valid data could cause an error (for example, a zero divide).

An attempt was made to divide a number by zero.

The IBM message that corresponds to the condition is:

```
CEE3209S The system detected a fixed-point divide exception (System      Completion
Code=0C9).
```

Program Information

The program COBTEST was compiled on 16AUG2015 at 09:27:44 and is 00000976 bytes long. It is part of load module COBTEST.

The module was loaded from STEPLIB library PFHRH0_TEST.PQWS.LOAD.

You can access additional related screens for the report by clicking the Tools Icon on the toolbar and then the Command Line option. Here you can enter fast-path and primary commands. The Command List option from the Tools Icon displays the list of available commands for the current screen.

Mouse Right-Click

The mouse right-click provides ease of use for several screens and menus. Because the results of using a right-click differ depending upon where you are clicking, several of the most common uses are described below.

- Right-clicking anywhere on any screen pane that does not have an overriding right-click option displays a drop-down menu containing several common commands such as Back, Home, Cancel, Refresh, and Help.
- Right-clicking on a table heading or in a masking field brings up the drop-down menu described in “Reset Mask” below.
- Clicking on a checkbox selects the checkbox and displays a drop-down menu of various screens and actions.
- Right-clicking on any field brings up a drop-down menu, with (at minimum) the Help command.

Reset Mask

To reset the masking parameters in any field, simply type over the characters, use the space bar, or delete them. To reset all of the masking fields, mouse right-click any of the table headings or masking fields. A drop-down menu appears with the following options:

- Help
- SORT Ascending
- SORT Descending
- Resets
 - Reset SORT only
 - Reset MASK only
 - Reset Columns only
 - Reset ALL
- Hide column data

By default, Abend-AID does not restore the mask parameters from your last session on the Abend-AID Directory and the Source Program Directory. To enable this functionality in your user profile, refer to the *Abend-AID User/Reference Guide* or the *Abend-AID for CICS User's Guide*.

Sorting

Use sorting to organize data alphabetically or chronologically. Sorting is done on a column-by-column basis, but more than one column cannot be sorted at any time. If you sort another column, the previous column automatically reset.

To sort a column, hover your cursor over the column heading until the heading is highlighted and the option **Click to SORT by this column** appears. Click on the column heading and the reports sort accordingly.

Reset Sorting

When you hover your cursor over the column heading after initially sorting the column, the option **Click to RESET SORT on this column** appears. Click on the column heading, and the data returns to the original organization.

Online Help

Online help is available for any Abend-AID Web Browser Interface screen, field, system message, or command. You can access Help information by clicking on the Help Information icon on the Abend-AID Web Browser Interface toolbar or by right-clicking on a field. When you click on the Help icon from the toolbar, a drop-down menu appears with the following options:

- **Help for current screen:** Provides access to screen, field, message or command help.
- **Visit Compuware.com:** Displays a pop-up window for access to the main Web site, Compuware.com.
- **Compuware FrontLine:** Displays a pop-up window for access to Compuware's FrontLine technical support website. From Frontline, you can access technical support, search and view knowledge-based articles and documentation, use product forums, and download the latest patches and fixes.
- **About Abend-AID:** Displays product copyright information.

When you right-click on a field to select Help, Help information for that particular field is displayed in a new screen. To return to the previous screen, you can click on the screen title on the toolbar, press PF3, or enter **End** on the Command Line option of the Tools icon menu.

PF Keys

Table 2 describes the Abend-AID Web Browser Interface default definitions assigned to all 24 PF keys. For the Abend-AID Viewer default PF key definitions, see Table 1 on page 20.

Table 2. Default Abend-AID Web Browser Interface PF Key Definitions

| Key | Command | Description |
|----------|----------|--|
| PF1/PF13 | HELP | Display screen-level help. |
| PF2/PF14 | SPLIT | Not applicable. |
| PF3/PF15 | END | Ends the current function and redisplay the previous level screen or menu. |
| PF4/PF16 | RETURN | If you have selected a report, redisplay the Primary Options menu. If you have not selected a report, redisplay the Fault Summary. Executing this command from the Fault Summary screen exits the product. |
| PF5 | RFIND | Repeats the last FIND command executed. |
| PF6 | MAINMENU | Displays the Primary Options menu for the selected report/dump. |

| Key | Command | Description |
|------|----------|--|
| PF7 | UP | Scrolls backward through a screen's scrollable area. |
| PF8 | DOWN | Scrolls forward through a screen's scrollable area. |
| PF9 | SWAP | Not applicable. |
| PF10 | LEFT | Not applicable. |
| PF11 | RIGHT | Not applicable. |
| PF12 | RETRIEVE | Redisplays the last command entered in the COMMAND or OPTION field. |
| PF17 | DISASM | Disassembles <i>all</i> assembler instructions in storage. The Abend-AID Web Browser Interface displays this information on the Storage Disassembly screen, starting with the address specified. |
| PF18 | HEXD | Not applicable. Instead, using the mouse, right-click the address, table entry, or control block symbol and select HEXD from the drop-down menu. |
| PF19 | DSECT | Not applicable. Instead, using the mouse, right-click the address, table entry, or control block symbol and select DSECT from the drop-down menu |
| PF20 | INFO | Displays the Entry Information screen for the current dump. |
| PF21 | WHO | For Abend-AID for CICS region dumps only. Lists TCBS (for any dump), TCAs (for CICS dumps only), and KETASKs (for CICS dumps only) that have addressability to the address specified. |
| PF22 | MATCH | For Abend-AID for CICS region dumps only. Lists TCBS (for any dump), TCAs (for CICS dumps only), and KETASKs (for CICS dumps only) that have data matching the data at the address specified. |
| PF23 | LPRINT | Prints a logical image of a screen to a sequential dataset. |
| PF24 | ASSIST | Displays the commands available for the current screen, scrollable table, or field. |

Using Batch Abend-AID

Abend-AID intercepts and analyzes application program failures and provides a report that presents vital diagnostic information. Review the Abend-AID report in the following sequence:

Diagnostic Section:

Includes a comprehensive explanation of the error condition.

Next Sequential Instruction Section:

Provides information for locating the statement in error. Extended Language Support (XLS) identifies the exact location of the error.

Trace Section:

Provides a trace of called/linked programs on the save area chain. Includes application program attributes.

Program Storage Section:

Formats program storage for application programs on the calling chain.

File Section:

Gives a status of each open file along with formatted current and previous records.

Specialized Database Support:

Provides database-specific support for DB2, IMS, and IDMS if the Abend-AID support for that environment is installed on the system.

MQSeries Section:

Displays either MQSeries batch or MQSeries IMS information created by the Abend-AID for WebSphere MQ product.

LE Section:

Validation and analysis of heap storage.

Abend-AID HOTKEY Command Report Access

Use the Abend-AID HOTKEY command to access your batch Abend-AID reports from any ISPF screen by simply executing a two- to eight-character command. Upon executing the command, you are taken either directly to your most recent Abend-AID report or you are prompted with a selection list similar to the one shown in Figure 11.

Figure 11. List of Your Abend-AID Reports

```

+-----Abend-AID Reports-----+
| COMMAND INPUT ==>                               Row 1 to 3 of 3 |
| AUTOSEL=30  AUTOSAVE=0N                          |
| Jobname     Jobid   Program   Code      Date       Time      |
|_ AA10130F   J0688830 ABNDTEST  S06F    07 DEC 2010 12:18 PM |
|_ AA941A01   J0387339 CWAADATE  S0C7    07 DEC 2010 12:18 PM |
|_ TS0USER   J0573079 COBBLF2   S0C9    08 DEC 2010  6:04 PM |
| -- S-View, D-Delete, I-Info, R-Register, E-Edit, P-Print -- |
+-----+

```

Line Commands

You can enter the following line commands to the left of the Jobname field on the selection list of batch Abend-AID reports.

- S:** View the report
- D:** Delete the report from the list
- I:** Information about the report
- R:** Register the report
- E:** Edit the report
- P:** Print the report

For more information about using the HOTKEY command, press the HELP key (PF1) within the selection list, or refer to the *Abend-AID User/Reference Guide*.

Abend-AID One-Key Access

Optional to the Abend-AID HOTKEY command access, you can configure a PF key to access your batch Abend-AID reports by assigning the Abend-AID HOTKEY command to a PF key. For more details, refer to the *Abend-AID User/Reference Guide*.

SNAP-AID

You can use SNAP-AID to produce a batch Abend-AID report without terminating the program. SNAP-AID is invoked by a call to the module SNAPAID from COBOL, PL/I, Assembler, or FORTRAN programs. SNAP-AID can help in resolving difficult logic problems or when working with a DB2 or IDMS database management system.

To use SNAP-AID, perform the following steps:

1. Code a call to the module SNAPAID (or SNPAID for FORTRAN).

2. Compile and link-edit the program using one of the following:
 - The DYNAM compiler option, which is available for COBOL
 - A //SYSLIB DD statement for the link-edit that includes the Abend-AID load library:

```
//SYSLIB DD DSN=SYS1.ABENDAID,DISP=SHR
```

- A linkage editor INCLUDE statement for the SNAPAID subroutine module:

```
//SYSIN DD *
INCLUDE SYSLIB(SNAPAID)
```

3. Add an //ABENDAID DD statement to the execution JCL.

Normally, the SNAP-AID report is written using the site default report shared directory named by CWROUTE. However, you can override this destination by specifying as follows:

- //ABNLTERM DD, which overrides
- CWEXIT02, which overrides
- CWJOBTAB, which overrides
- CWROUTE routing group specification, which overrides
- CWROUTE site default report shared directory specification.

To write the SNAP-AID report to the //ABENDAID DD, use CWEXIT02, CWJOBTAB, or a CWROUTE routing group to designate that the report be written to SYSOUT. Refer to the *Abend-AID Installation and Customization Guide* for more information about routing report output.

Example 1

Calling SNAP-AID without using a parameter list:

- COBOL:

```
CALL 'SNAPAID'
```

- PL/I:

```
CALL SNAPAID )
```

- Assembler:

```
LA R1,0      Indicate 'no parameter list'
CALL SNAPAID
```

SNAP-AID Parameter List

Using a parameter list in a call to SNAPAID lets you:

- Customize your SNAP-AID report by selecting or suppressing specified report sections.
- Identify SNAP-AID reports in the Abend-AID report file directory.
- Cause dynamic allocation of the //ABENDAID DD.
- Display storage ranges between selected addresses.

To code a SNAP-AID parameter list, define the parameter interface in your program with the following fields:

- **Identification:** This six-byte field must be coded as SNPRML.
- **Action flag:** This field is used to select the action (display or suppress) that SNAPAID applies to the sections specified. Valid values are:
 - 0 (default): Display all report sections
 - 1: Display specified report sections
 - 2: Suppress specified report sections.
- **Section selection flags:** When the action flag is set to 1 or 2, use the section selection flag(s) to identify the report section(s) to be displayed or suppressed. Valid values are:
 - 0 (default): Do not apply the action specified by the action flag.
 - 1: Apply the action specified by the action flag.
- **Comment:** This ten-character field is used to identify the SNAPAID call that generated the report. The contents of the comment field is displayed in the DESC (Description) field on the report file directory.

Example 2

Calling SNAP-AID using a parameter list:

- COBOL:

```
CALL 'SNAPAID' USING PARM-INTERFACE.
```

- PL/I:

```
CALL SNAPAID (PARM_INTERFACE)
```

- Assembler:

```

                OI   ADDRO,X'80'           Set end-of-list bit
                LA   R1,PARMLIST         Point to parameter list
                B    AROUND_LIST
PARMLIST DS    0F
ADDRO     DC    A(SNPMITR)             Address of SNAPAID parameters
AROUND_LIST EQU *
                CALL SNAPAID

```

Sample Programs

Figure 12 on page 34 through Figure 14 on page 36 show sample programs with the parameter interface.

Figure 12. Parameter Interface in a COBOL Program

```

01  PARM-INTERFACE.
03  PARM-IDENT          PIC X(6)  VALUE 'SNPRML'.
03  PARM-ACTION         PIC 9      VALUE ZERO.
    88  DISPLAY-ALL-SECTIONS      VALUE 0.
    88  DISPLAY-SECTION          VALUE 1.
    88  SUPPRESS-SECTION         VALUE 2.
*
*      0 FULL SNAP AID REPORT (NO CUSTOMIZATION)
*      1 DISPLAY SELECTED SECTIONS
*      2 SUPPRESS SELECTED SECTIONS
03  PARM-SECTION-SELECTION.
    05  NSI-SECTION          PIC 9      VALUE ZERO.
    88  DO-NOT-APPLY-PARM-ACTION VALUE 0.
    88  APPLY-PARM-ACTION     VALUE 1.
*
*      0 DO NOT APPLY PARM-ACTION TO THIS SECTION
*      1 APPLY PARM-ACTION TO THIS SECTION
    05  REGISTERS-PSW        PIC 9      VALUE ZERO.
    05  TRACE-SUMMARY        PIC 9      VALUE ZERO.
    05  PROGRAM-STORAGE      PIC 9      VALUE ZERO.
    05  FILES-SECTION        PIC 9      VALUE ZERO.
    05  IMS-SECTION          PIC 9      VALUE ZERO.
    05  IDMS-SECTION         PIC 9      VALUE ZERO.
    05  DB2-SECTION          PIC 9      VALUE ZERO.
    05  SORT-SECTION         PIC 9      VALUE ZERO.
    05  EBS-SECTION          PIC 9      VALUE ZERO.
    05  PARML-VERSION        PIC 9      VALUE ZERO
*
*      DYNAMIC ALLOCATION INFORMATION NOT PRESENT IF BLANK
*      1 DYNAMIC ALLOCATION INFORMATION PRESENT
03  PARM-COMMENT        PIC X(10) VALUE SPACE.
03  DYNALC-REQ          PIC X      VALUE SPACE.
    88  DON'T-ALLOCATE-ABENDAID VALUE SPACE.
    88  ALLOCATE-ABENDAID     VALUE 'D'.
    88  ALLOC-AND-FREE-ON-CLOSE VALUE 'F'.
*
*      THE ABENDAID DD WILL NOT BE DYNAMICALLY ALLOCATED IF
*      BLANK
*      D DYNAMICALLY ALLOCATE THE ABENDAID DD
*      F DYNAMICALLY ALLOCATE THE ABENDAID DD AND FREE=CLOSE
03  OUTPUT-CLASS        PIC X      VALUE SPACE.
03  HOLD-OUTPUT         PIC X      VALUE SPACE.
    88  DONT-HOLD-DEF        VALUE SPACE.
    88  HOLD                 VALUE 'Y'.
    88  DONT-HOLD            VALUE 'N'.
03  FILLER              PIC X      VALUE SPACE.
03  DESTINATION-PARM    PIC X(8)   VALUE SPACE.
03  USERID              PIC X(8)   VALUE SPACE.
03  OUTPUT-WRITER       PIC X(8)   VALUE SPACE.
03  USER-FORM           PIC X(4)   VALUE SPACE.

```

Figure 13. Parameter Interface in a PL/I Program

```

DECLARE          1  PARM_INTERFACE,
                2  PARM_IDENT          CHAR(6)  INIT('SNPRML'),
                2  PARM_ACTION         CHAR(1)  INIT('0'),
/*              = 0 FULL SNAP AID REPORT (NO CUSTOMIZATION)  */
/*              = 1 DISPLAY SELECTED SECTIONS                */
/*              = 2 SUPPRESS SELECTED SECTIONS                */
                2  PARM_SECTION(11)
                CHAR(1)  INIT((11)('0'),(1)('1')),
/*              (1) NSI                                       */
/*              (2) REGISTERS-PSW                             */
/*              = 0 DO NOT APPLY PARM_ACTION FOR THIS SECT  */
/*              = 1 APPLY PARM_ACTION FOR THIS SECTION      */
/*              (3) TRACE-SUMMARY                             */
/*              (4) PROGRAM-STORAGE                           */
/*              (5) FILES                                       */
/*              (6) IMS-SECTION                               */
/*              (7) IDMS-SECTION                             */
/*              (8) DB2-SECTION                               */
/*              (9) SORT-SECTION                             */
/*              (10) UNUSED                                    */
/*              (11) PARML-VERSION                            */
/*              = 1 DYNAMIC ALLOCATION DATA IS PRESENT      */
                2  PARM_COMMENT        CHAR(10) INIT((10) ' '),
                2  DYNALC-REQ          CHAR(1)  INIT('F'),
/*              = D DYNAMIC ALLOCATION OF THE ABENDAID DD     */
/*              = F DYNAMICALLY ALLOCATE AND DO FREE=CLOSE  */
                2  OUTPUT-CLASS        CHAR(1)  INIT('A'),
/*              = X ANY VALID OUTPUT CLASS                  */
                2  HOLD-OUTPUT         CHAR(1)  INIT('Y'),
/*              = Y HOLD THE OUTPUT                         */
/*              = N DON'T HOLD THE OUTPUT                   */
                2  FILLER              CHAR(1)  INIT(' '),
                2  DESTINATION          CHAR(8)  INIT('RMT5'),
                2  USERID              CHAR(8)  INIT('MYID'),
                2  OUTPUT-WRITER        CHAR(8)  INIT(' '),
                2  USER-FORM           CHAR(4)  INIT('SPCL');
DCL SNAP AID EXTERNAL ENTRY OPTIONS(RETCODE,ASSEMBLER);

```

Figure 14. Parameter Interface in an Assembler Program

| | | | | |
|-----------|-----|-------------|-----|--|
| SNPRMITR | DS | 0H | | |
| PARMIDEN | DC | CL6'SNPRML' | +0 | CALLER ID |
| * | | | | |
| PARMACTN | DC | CL1'0' | +6 | ACTION FLAG |
| * EQUATES | | | | TO BE USED IN SETTING PARMACTN (ACTION). |
| FULLFLG | EQU | C'0' | | FULL SNAPAID REPORT |
| * | | | | (NO CUSTOMIZATION) |
| DISPLYFLG | EQU | C'1' | | DISPLAY SELECTED SECTIONS |
| SUPPRFLG | EQU | C'2' | | SUPPRESS SELECTED SECTIONS |
| * | | | | |
| PARMSECT | EQU | * | | SECTION FLAGS - SET TO "0" OR "1" |
| NSISCT | DC | CL1'0' | +7 | NSI |
| REGSCT | DC | CL1'0' | +8 | REGISTERS-PSW |
| TRACSCT | DC | CL1'0' | +9 | TRACE-SUMMARY |
| PROGSCT | DC | CL1'0' | +10 | PROGRAM-STORAGE |
| FILESCT | DC | CL1'0' | +11 | FILES |
| IMSSCT | DC | CL1'0' | +12 | IMS-SECTION |
| IDMSCT | DC | CL1'0' | +13 | IDMS-SECTION |
| DB2SCT | DC | CL1'0' | +14 | DB2-SECTION |
| SRTSCT | DC | CL1'0' | +15 | SORT-SECTION |
| ECMSET | DC | CL1'0' | +16 | E-COMMERCE-SECTION |
| PRMLVERS | DC | CL1'1' | +17 | DYNAMIC ALLOCATION DATA PRESENT |
| * EQUATES | | | | TO BE USED IN SETTING SECTION FLAGS ABOVE. |
| SECTNOFF | EQU | C'0' | | DO NOT APPLY DISPLAY/SUPPRESS |
| * | | | | ACTION TO THIS SECTION. |
| SECTNON | EQU | C'1' | | APPLY DISPLAY/SUPPRESS ACTION |
| * | | | | TO THIS SECTION. |
| PARMCMNT | DC | 10CL1' ' | +18 | COMMENT - APPEARS IN PROGRAMMER |
| * | | | | COLUMN OF REPORT FILE DIRECTORY |
| DYNASECT | EQU | * | | DYNAMIC ALLOCATION SECTION |
| DYNALC | DC | CL1' ' | +28 | DYNAMICALLY ALLOC ABENDAID |
| * | | | | AND OPTIONALLY SPECIFY |
| * | | | | FREE=CLOSE |
| DYNALLOC | EQU | C'D' | | DYNAMICALLY ALLOC ABENDAID |
| FREEQCLS | EQU | C'F' | | SPECIFY FREE=CLOSE TOO |
| OUTPTCLS | DC | CL1' ' | +29 | SYSOUT CLASS TO BE USED |
| HOLDOUTP | DC | CL1' ' | +30 | HOLD THE OUTPUT (Y/N) |
| UNUSE2 | DC | CL1' ' | +31 | UNUSED |
| DESTNATN | DC | CL8' ' | +32 | DESTINATION (LOCAL / REMOTE) |
| USERID | DC | CL8' ' | +40 | USER I.D. |
| OUTWRTR | DC | CL8' ' | +48 | OUTPUT WRITER NAME |
| USERFORM | DC | CL4' ' | +56 | USER FORM NAME |
| SNPRMLNG | EQU | *-SNPRMITR | | |
| | END | | | |

Abend-AID DD Statements

Abend-AID provides the following DD statements. If two mutually exclusive DD statements are present in the JCL, the last one encountered takes effect.

//ABENDAID DD SYSOUT: Alternate DD for Abend-AID output. This DD statement is required for SNAP-AID and when the //SYSMDUMP DD is used. If there is an error while writing to a report dataset, Abend-AID output is written to this DD. If it is not present in the JCL, it may be dynamically allocated.

//ABNLDUMP DD DUMMY: Requests printing of the normal IBM dump, in addition to the Abend-AID report.

//ABNLENAB DD DUMMY: Enables Abend-AID when it has been disabled in the CWGLOBAL table.

//ABNLHELP DD DUMMY: Produces the Abend-AID help pages.

//ABNLIGNR DD DUMMY: Suppresses Abend-AID and allows normal IBM dump processing.

//ABNLIGNS DD DUMMY: Suppresses SNAP-AID.

//ABNLINCL DD DUMMY: Causes all active load modules to be considered for CSECT inclusion via CWINCLUDE table.

//ABNLLIST DD DSN: Specifies Compuware source shared directory or source listing file in the job JCL to be used to merge the source into the Abend-AID report.

//ABNLLPDS DD DSN: Specifies a partitioned dataset containing COBOL compiled source listings that may be used to provide the source code of the statement in error when a matching listing is not available in a Compuware source listing file.

//ABNLNDUP DD DUMMY: Produces a report for an error in a job step even if duplicate dump suppression is enabled.

//ABNLTERM DD DSN: Specifies an Abend-AID report dataset for Abend-AID output.

//ABNLTERM DD SYSOUT: Routes Abend-AID output to SYSOUT in 72-column format, in addition to writing to the Abend-AID report dataset.

//ABNLWIDE DD DUMMY: Specifies 121-column output when the default is 72 columns.

//ABNLYDUP DD DUMMY: Causes a report for an error in a job step to always be considered for suppression using JOBNAME, but not SYSID.

Notes

You can use the space below to note site-specific information about your site's Abend-AID, Abend-AID for CICS, Abend-AID Viewer, or Abend-AID Web Browser Interface installation.

