

## AUTOMATED PROBLEM SOLVING SUPPORT FOR WEBSHERE MQ CROSS-PLATFORM APPLICATIONS

More than ever, the IT challenge is to combine speed and quality — reducing time to market and meeting release dates while ensuring every aspect of application reliability and performance. Abend-AID support for WebSphere MQ meets this challenge by helping respond to and resolve failures when using WebSphere MQ, in both test and production.

The screenshot shows the Compuware Abend-AID application window. The title bar indicates the user is PFHRHHO on server H01AC118. The main content area displays the 'WebSphere MQ 2033 Reason Code' report for entry 0550472. The report includes a diagnostic section stating that an MQGET call failed with completion code 2 and reason code 2033 (MQRC\_NO\_MSG\_AVAILABLE). It notes that the queue manager could not find a message in the CF.ALIAS.QUEUE.ONE queue. A list of 'Other items to consider' includes: the condition may be expected (end of queue reached), an application may not have successfully added a message, another application may have already retrieved the message, the application adding messages may not have committed them, the desired message may have passed its expiry time, the message may have been defined as non-persistent and the queue manager has been restarted, and on busy systems, subsequent messages may be delayed. A 'Note' at the bottom explains that the current queue depth value at the time of the 2033 occurrence may have changed before the report was generated.

*This Abend-AID report provides specific WebSphere MQ information including the result of the last MQ request on z/OS.*

Abend-AID support for WebSphere MQ supports popular legacy renewal systems in batch, IMS and CICS environments. Abend-AID support for WebSphere MQ extends the benefits of the Abend-AID family of products to IT projects that use WebSphere MQ.

### MEETING WEBSHERE MQ PROBLEM-SOLVING CHALLENGES

WebSphere MQ integrates back-end legacy systems with newer client/server and web-based systems. Though it unifies diverse

applications and information systems, WebSphere MQ can present major challenges when problems occur in test and production.

WebSphere MQ is similar to DB2 in that it does not normally abend when there is a problem. Instead, each WebSphere MQ API call has an associated return and reason code. While there are only a handful of return codes, there are hundreds of unique reason and error codes that often don't reveal the actual source of a coding error. The associated messages and codes give developers limited problem-solving information.

## BENEFITS OF ABEND-AID SUPPORT FOR WEBSHERE MQ

Resolving MQ problems requires specialized skills. Limited resources compound the problems caused by complex technology. With Abend-AID support for WebSphere MQ, IT organizations can manage and support their enterprise systems by:

- reducing production downtime
- meeting service level agreements
- lessening the impact of new technologies
- diminishing the effect on limited resources.

## AUTOMATED PROBLEM DETECTION AND DIAGNOSIS

Abend-AID support for WebSphere MQ helps detect, analyze and diagnose problems automatically in WebSphere MQ, freeing developers from struggles with unfamiliar codes and vague messages that rarely locate the source of trouble.

Abend-AID support for WebSphere MQ:

- supports batch, IMS and CICS
- cuts through layers of complexity to pinpoint the real problem

- clearly defines reason, return and error codes
- provides the description of the last MQ request
- supplies diagnostic information from the MQ queue manager, including the task list and task queue name
- removes the mystery of untangling the API interface by clearly listing the configuration in place at the time of a failure and showing the MQ API call structure for the last MQ API call
- provides diagnostic information for all open MQ queues at the time of application abend or dump/snap
- displays the current message in the buffer
- provides IMS connection information
- provides diagnostic support for problems common to traditional CICS programming, such as storage violations, transaction abends and regional abends.

Overall, the capabilities of Abend-AID support for WebSphere MQ function as built-in expertise for programmers at all levels of experience — dramatically shortening or even eliminating the learning curve. This saves critical time in test and production recovery.

The screenshot displays the Compuware Abend-AID application window. The title bar shows 'User: PFHRHHO Server: H01AC118'. The main window is titled 'Last WebSphere MQ Call Info' with 'Entry: 0550472'. The interface is divided into a left-hand navigation pane and a main content area. The navigation pane includes sections for 'Application Controls' and 'Tools', with a detailed 'Navigation' tree listing various diagnostic and system information options. The main content area displays the following MQ call details:

```
CALL 'MQGET' USING
Hconn..... 00000000
Hobj..... 00000001
MsgDesc..... 39439E10
GetMsgOpts..... 39439F58
BufferLength.... 00000050      Decimal... 80
Buffer..... 39432648
DataLength..... 00000000      Decimal... 0
CompCode..... 2              MQCC_FAILED
Reason..... 2033            MQRC_NO_MSG_AVAILABLE
```

Below this, an 'Expanded Call Information' section provides further details:

```
QMGr Name..... MMQM
Queue Used in Call.... CF.ALIAS.QUEUE.ONE
Open Options..... 00002074
Get Options..... 00000040
```

*Abend-AID support for WebSphere MQ provides detailed analysis of the last MQ call, identifying the queue and completely formatting all pertinent MQ information.*

Compuware Abend-AID® User: PFHRHH0 Server: H01AC118

Home CMD: A A A

**Application Controls**

**Navigation**

- Navigation
  - Fault Summary
  - Abend-AID Directory
  - Source Directory
  - User Control Facility
  - SVC Dump Import
  - Product News
  - Exit
- Main Menu
  - Diagnostic Summary
  - Program Information
  - CICS Trace
  - Last 3270 Screen
  - Terminal Detail
  - WebSphere MQ Informatio
  - Task Detail
  - Control Blocks/Storage
  - LE Information

**Tools**

**System Information**

---

**Opened Queues at Dump Time** Entry: 0550472

QMgr Name..... MMQM CICS Transaction..... MQ  
 Number of API Calls..... 6 CICS Abend Code..... GET2  
 Number of Opened Queues..... 4 Abend Date and Time.. 01APR2011 09:28:21

Handle	Queue Type	Open Options	Get Options	Put Options	Queue Name
00000001	QALIAS	00002074	00000042	00000000	CF.ALIAS.QUEUE.ONE
00000002	QALIAS	00002070	00000000	00000000	CF.ALIAS.QUEUE.TWO
00000003	QLOCAL	00002070	00000000	00000000	CF.LOCAL.QUEUE.ONE
00000004	QLOCAL	00002072	00000000	00000000	CF.LOCAL.QUEUE.TWO

Type a line command and press **Enter** to process it

For CICS environments: information on all opened queues at time of error is displayed.

Compuware Abend-AID® User: PFHRHH0 Server: H01AC118

Home CMD: A A A

**Application Controls**

**Navigation**

- Navigation
  - Fault Summary
  - Abend-AID Directory
  - Source Directory
  - User Control Facility
  - SVC Dump Import
  - Product News
  - Exit
- Main Menu
  - Diagnostic Summary
  - Program Information
  - CICS Trace
  - Last 3270 Screen
  - Terminal Detail
  - WebSphere MQ Informatio
  - Task Detail
  - Control Blocks/Storage
  - LE Information

**Tools**

**System Information**

---

**Local Queue Definition Page 1** Entry: 0550472

QMgr Name : MMQM  
 Queue Name : CF.LOCAL.QUEUE.TWO  
 Description: CF.LOCAL.QUEUE.TWO ATTRIBUTES

Queue Type..... QLOCAL Current Queue Depth..... 0  
 Usage..... NORMAL Maximum Queue Depth..... 20  
 Put Enabled..... YES Maximum Message Length.... 80  
 Default Persistence..... YES Message Delivery Sequence. FIFO  
 Default Priority..... 1 Permit Shared Access..... SHARE  
 Get Enabled..... YES Default Share Option..... SHARED  
 Storage Class..... DEFAULT Index Type..... MSG\_ID  
 Creation Method..... PREDEFINED

**Trigger Definition:**

Trigger Type..... EVERY Trigger Msg Priority..... 5  
 Trigger Set..... YES Trigger Depth..... 555  
 Trig. Data: SAMPLE TRIGGER DATA  
 Process Name..... PROCQ02  
 Initiation Queue..... CF.LOCAL.QUEUE.Q02.INITQ

Complete queue definition information is displayed.

## EXTENDING THE VALUE OF ABEND-AID PRODUCTS

By reporting, addressing and documenting faults automatically, Abend-AID Fault Manager extends the value of Abend-AID products to help reduce application downtime and ensure service level agreements. With Fault Manager, you can effectively address and resolve problems before they become a crisis.

Abend-AID Fault Manager's advanced technology provides a high-level, accurate view of WebSphere MQ fault activity for cross-platform applications.

To learn more about Abend-AID, visit [compuware.com/abendaid](http://compuware.com/abendaid)

Compuware Corporation, the technology performance company, provides software, experts and best practices to ensure technology works well and delivers value. Compuware solutions make the world's most important technologies perform at their best for leading organizations worldwide, including 46 of the top 50 Fortune 500 companies and 12 of the top 20 most visited U.S. web sites. Learn more at: [compuware.com](http://compuware.com).

**Compuware Corporation World Headquarters** • One Campus Martius • Detroit, MI 48226-5099

© 2011 Compuware Corporation

Compuware products and services listed within are trademarks or registered trademarks of Compuware Corporation. Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

06.11

