WebSphere MQ Integrator Reformat User Trace Utility Version 1.0

SupportPac IA0R

15 July 2002

First Edition, July 2002

This edition applies to Version 1.0 of WebSphere MQ Integrator Reformat User Trace Utility and to all subsequent releases and modifications unless otherwise indicated in new editions.

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Summary of Amendments

Date	Changes
15 July 2002	Initial release

Chapter 1. Overview

In developing WebSphere MQ Integrator (WMQI) Message flows, tracing function provided by WMQI is essential for checking the detail of process result. The *mqsireadlog* utility retrieves the trace log for the specified component. The *mqsiformatlog* utility formats the data retrieved by *mqsireadlog* utility into a form suitable for viewing.

An example of *mqsiformatlog* output is as follows.

```
Timestamps are formatted in local time, 540 minutes past GMT.↓
↓
2002-04-23 10:58:49.607322     1800   UserTrace   BIP2632I: Message received and propagated to 'out' termina
input node node 'PASSTHRU_IN.02ODBC_IN'. ↓
2002-04-23 10:58:49.608013     1800   UserTrace   BIP6060I: Parser type 'Properties' created on behalf of no
THRU_IN.02ODBC_IN' to handle portion of incoming message of length 0 bytes beginning at offset '0'. ↓
2002-04-23 10:58:49.609024     1800   UserTrace   BIP6061I: Parser type 'MQMD' created on behalf of node 'PA
N.02ODBC_IN' to handle portion of incoming message of length '364' bytes beginning at offset '0'. Parser typ
ed based on value 'MQHMD' from previous parser. ↓
2002-04-23 10:58:49.609825     1800   UserTrace   BIP6061I: Parser type 'XML' created on behalf of node 'PAS
.02ODBC_IN' to handle portion of incoming message of length '36' bytes beginning at offset '364'. Parser typ
ed based on value 'XML' from previous parser. ↓
2002-04-23 10:58:51.012718     1800   UserTrace   BIP4124I: Message propagated to 'out' terminal of compute
SSTHRU_IN.Compute1'. ↓
2002-04-23 10:58:51.015663     1800   UserTrace   BIP2638I: The MQ output node 'PASSTHRU_IN.02ODBC_OUT' atte
```

Since the column length of a record is sometimes too long (making viewing difficult), this SupportPac provides function to reformat the output of *mqsiformatlog* to make viewing easier. Column length of each line is within the specified maximum length. By using this SupportPac, users can find easily that the detail of message description and appropriate user action are also included in the output of *mqsiformatlog* utility in addition to the message id and brief description as specified in the message manual.

An example of the output of this SupportPac is as follows.

```
----------[2002-04-23 10:58:51.057102     1800   UserTrace  ]------------------↓
BIP6061I: Parser type 'XML' created on behalf of node 'PASSTHRU_IN.02ODBC_IN' to↓
          handle portion of incoming message of length '35' bytes beginning at ↓
          offset '364'. Parser type selected based on value 'XML' from previous ↓
          parser.↓
↓
----------[2002-04-23 10:58:51.120956     1800   UserTrace  ]------------------↓
BIP2231E: Error detected whilst processing a message 'PASSTHRU_IN.Compute1'.↓
↓
          The message broker detected an error whilst processing a message in no↓
          de 'PASSTHRU_IN.Compute1'. The message has been augmented with an exce↓
          ption list and has been propagated to the node's failure terminal for ↓
          further processing.↓
↓
          See the following messages for details of the error.↓
↓
```

Double byte character set (DBCS) messages for Japanese, Korean, Traditional Chinese and Simplified Chinese are supported in reformatting messages. All DBCS characters in each line are consistent. The following is a sample of formatted messages in Japanese.

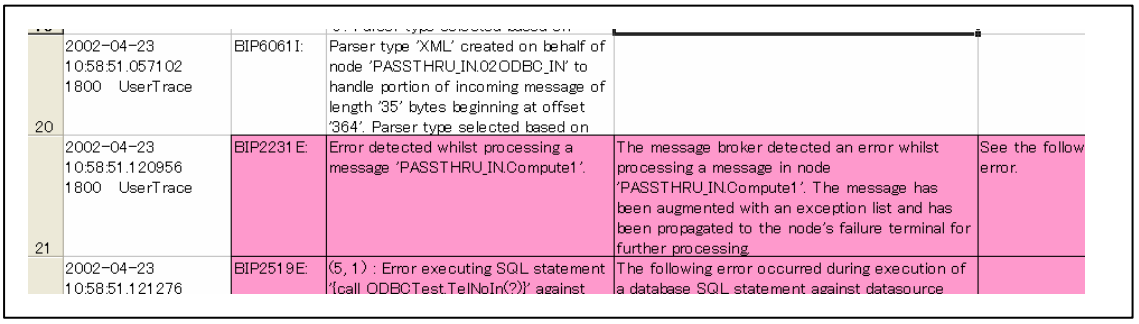
```
----------[2001-08-12 18:11:31.500999   2656  UserTrace  ]----------------------------------------
BIP2632I: メッセージが出力ターミナルに伝搬されます。ノード 'DB Commit.dbcommit'。

          ノード 'DB Commit.dbcommit' で MQSeries 入力キューから受け取られた入力メッセージが出力ター
          ミナルに 接続しているノードに伝搬されます。

          ユーザー処置は不要です。
```

Sometimes number of retrieved messages is so many. For checking large number of messages at a glance, this SupportPac provides function to reformat trace data using tab characters so that formatted data can be imported into spreadsheet such as Microsoft Excel. Date/time, message ID, brief description, detail of description and appropriate user action can be separated by tab character.

The following is an example of user trace data imported to Microsoft Excel. Date/time, message ID, brief description, detail of description and appropriate user action of a message are stored in separated cells in a row.



20	2002-04-23 10:58:51.057102 1800 UserTrace	BIP6061I:	Parser type 'XML' created on behalf of node 'PASSTHRU_IN.02ODBC_IN' to handle portion of incoming message of length '35' bytes beginning at offset '364'. Parser type selected based on		
21	2002-04-23 10:58:51.120956 1800 UserTrace	BIP2231E:	Error detected whilst processing a message 'PASSTHRU_IN.Compute1'.	The message broker detected an error whilst processing a message in node 'PASSTHRU_IN.Compute1'. The message has been augmented with an exception list and has been propagated to the node's failure terminal for further processing.	See the follow error.
	2002-04-23 10:58:51.121276	BIP2519E:	(5,1) : Error executing SQL statement '{call ODBCTest.TelNoIn(?)}' against	The following error occurred during execution of a database SQL statement against datasource	

Note that this SupportPac is only for WMQI user trace (-u option of *mqsireadlog* utility). **DO NOT USE** for WMQI service trace (-t option of *mqsireadlog* utility). The result is unpredictable.

Example of WMQI service trace

```
2002-07-10 14:40:09.505432     1800 { ImbMessage::ReadCursor::~ReadCursor
2002-07-10 14:40:09.505478     1800 } ImbMessage::ReadCursor::~ReadCursor
2002-07-10 14:40:09.505524     1800 { FieldReference::scalarEvaluate
2002-07-10 14:40:09.505681     1800   FieldReference::scalarEvaluate file:/build/S210_P/src/
bRdlFieldRef.cpp line:1234 message:2538.WMQIv210 e43f1ee9-ee00-0000-0080-d9f779e1fd83 ComIbr
xpression at (&1, &2) , 40, 5, InputBody.UserHeader.TO_FLE_ID, ODBCTST_01.Compute1_1
2002-07-10 14:40:09.505681     1800     UserTrace   BIP2538I: Node 'ODBCTST_01.Compute1_1':
nputBody.UserHeader.TO_FLE_ID' at (40, 5).
2002-07-10 14:40:09.505847     1800   { ImbMessage::ReadCursor::ReadCursor , 0
2002-07-10 14:40:09.505905     1800   } ImbMessage::ReadCursor::ReadCursor
2002-07-10 14:40:09.505944     1800   { SqlPath::navigateCursorFirst
2002-07-10 14:40:09.505981     1800     { PathElement::navigateCursorFirst
```

Chapter 2. Installation

Download ia0r.zip file to a work directory. Then use appropriate unzip program to unpack the ia0r.zip file.

The following files will be produced:

readme.txt	This introduction
license2.txt	License file
mqsitrcf.exe	Binary module for Windows
wmqiutrace.bat	Batch file for Windows
ia0r_aix.tar	Binary module and shell script for AIX
ia0r_solaris.tar	Binary module and shell script for Sun Solaris
ia0r_hpux.tar	Binary module and shell script for HP-UX
WmqiUserTrace.xls	Microsoft Excel file

For AIX, Solaris and HP-UX environment, unpack .tar file after transferring to target operating environment in binary mode. Two files, *mqsitrcf* and *wmqiutrace.sh*, are to be produced.

```
tar  -xvf  ia0r_aix.tar        (under AIX)
tar  -xvf  ia0r_solaris.tar    (under Sun Solaris)
tar  -xvf  ia0r_hpux.tar       (under HP-UX)
```

Chapter 3. Using Reformat User Trace Utility

3.1 mqsitrcf utility

The *mqsitrcf* utility reformats user trace data produced by *mqsiformatlog* utility.

The command syntax of mqsitrcf utility is as follows:

```
mqsitrcf { -help | -? | /? }

mqsitrcf [ { lrecl | -tab } [-ccsid nnn] ] < output_of_mqsiformatlog
```

Parameters :

-help, -?, /?	Show version and help information. "/?" can be used only under Windows
lrecl	Maximum length of a line in bytes. Default to 80
-tab	Output text is reformatted using tab characters. Date/time, message id, short description, detail of message description and user action are delimited by tab character. lrecl parameter and -tab parameter are mutually exclusive. If both parameters are not specified, lrecl 80 is assumed.
-ccsid nnn	Input CCSID for double byte character set (DBCS) handling. This parameter is referred to prevent first byte and second byte of a DBCS character from separating into multiple lines. Default CCSID is set using environment values. ('MQCCSID', 'LC_MESSAGES', 'LC_ALL', 'LANG') No effect if trace data does not contain DBCS character.
output_of_mqsiformatlog	User trace data produced by *mqsiformatlog* utility.

Supported CCSIDs for DBCS character handling are as listed below.

CCSID		Locales default to CCSID
932, 942, 943	Japanese (PC)	Ja_JP Ja_JP.IBM-932 ja_JP.SJIS Ja_JP.IBM-943 ja_JP.PCK JA_JP
954, 5050, 33722	Japanese (EUC)	ja_JP ja_JP.IBM-eucJP

		ja_JP.eucJP ja
949, 1363	Korean (PC)	
970	Korean (EUC)	ko_KR ko_KR.IBM-eucKR ko_KR.eucKR ko
1386	Simplified Chinese (GBK)	Zh_CN Zh_CN.GBK
1381	Simplified Chinese (IBM GB)	
1383	Simplified Chinese (EUC)	zh_CN zh_CN.IBM-eucCN
5488	Simplified Chinese (GB18030)	
964	Traditional Chinese (EUC)	zh_TW zh_TW.IBM-eucTW zh_TW.eucTW
950	Traditional Chinese (BIG5)	zh_TW.BIG5 zh_TW.big5 Zh_TW.big5 Zh_TW
1370	Traditional Chinese	

3.2 wmqiutrace shell/batch file

Script/batch files which invoke *mqsireadlog*, *mqsiformatlog* and *mqsitrcf* utility in sequence are provided to make it easier to get WMQI user trace.

For Unix systems, interface to change locale temporally for selecting language is also provided in the shell script.

Command syntax is:

(For AIX, Solaris and HP-UX)
```
wmqiutrace.sh  wmqi_broker_name  wmqi_execution_group_name
```

(For Windows)
```
wmqiutrace.bat  wmqi_broker_name  wmqi_execution_group_name
```

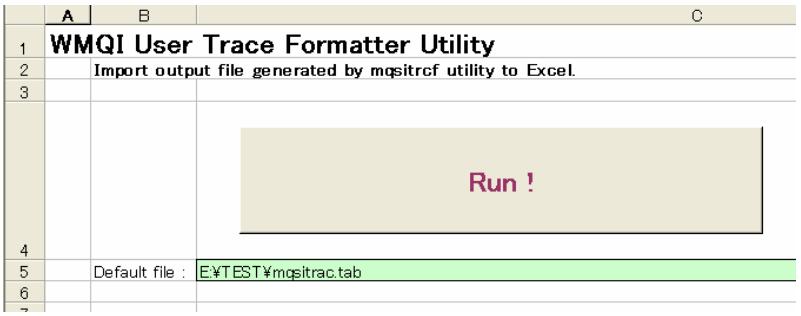
The following three files are generated.

mqsitrac.xml	Message data extracted by mqsireadlog utility.
mqsitrac.txt	Formatted text data by mqsiformatlog utility and mqsitrcf utility. (Plain text)
mqsitrac.tab	Formatted text data by mqsiformatlog utility and mqsitrcf utility. (Text delimited by tab character) This file is suitable for importing into spreadsheet.

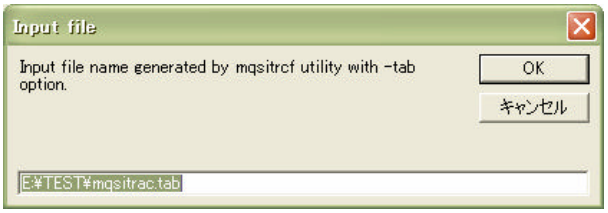
3.3 WmqiUserTrace.xls file (Microsoft Excel file)

This file provides macro to import file generated by *mqsitrcf* utility with -tab option. Message contents are put into cells in Excel worksheet. Cells containing error messages are colored.

Press run button for importing file.

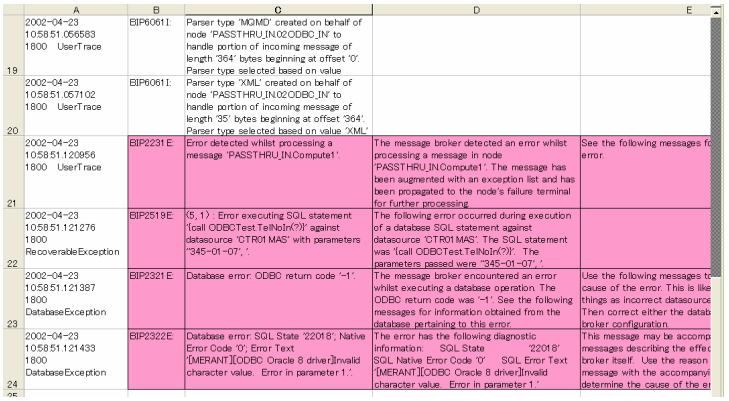


Input file name and press OK button in the following window.



Specified file is imported into Excel sheet. Cells containing error message are colored.

Example:



If macro execution is disabled in your system or you do not want to execute macros developed by outsiders, import manually with setting tab character as delimiting character and modify cell sizes and the other attributes appropriately.

End of Document