



IBM Software Group

WebSphere Message Broker V7 - Common Problems and How to Resolve Them

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WebSphere Message Broker L2 Support
22 October 2010



WebSphere® Support Technical Exchange



Agenda

- Introduction
- Common Problems
 - ▶ Migration
 - ▶ Administration
 - ▶ Toolkit / MB Explorer
 - ▶ Runtime
- Other useful Links / Information



Common Problems - Migration

- *mqsigratecomponents* aborts during the database migration phase.
- Local Fix: Replace any NULL values with null bytes before the migration. The SQL needed would be:

```
UPDATE BRMRTDINFO  
SET RTD_MSG_SET_ALIAS = x'00'  
WHERE RTD_MSG_SET_ALIAS IS NULL;
```

Note: Always backup first!

- APAR IC68382 (FP1)

Common Problems - Migration

- XML Parsing Error & Unable to parse data received errors

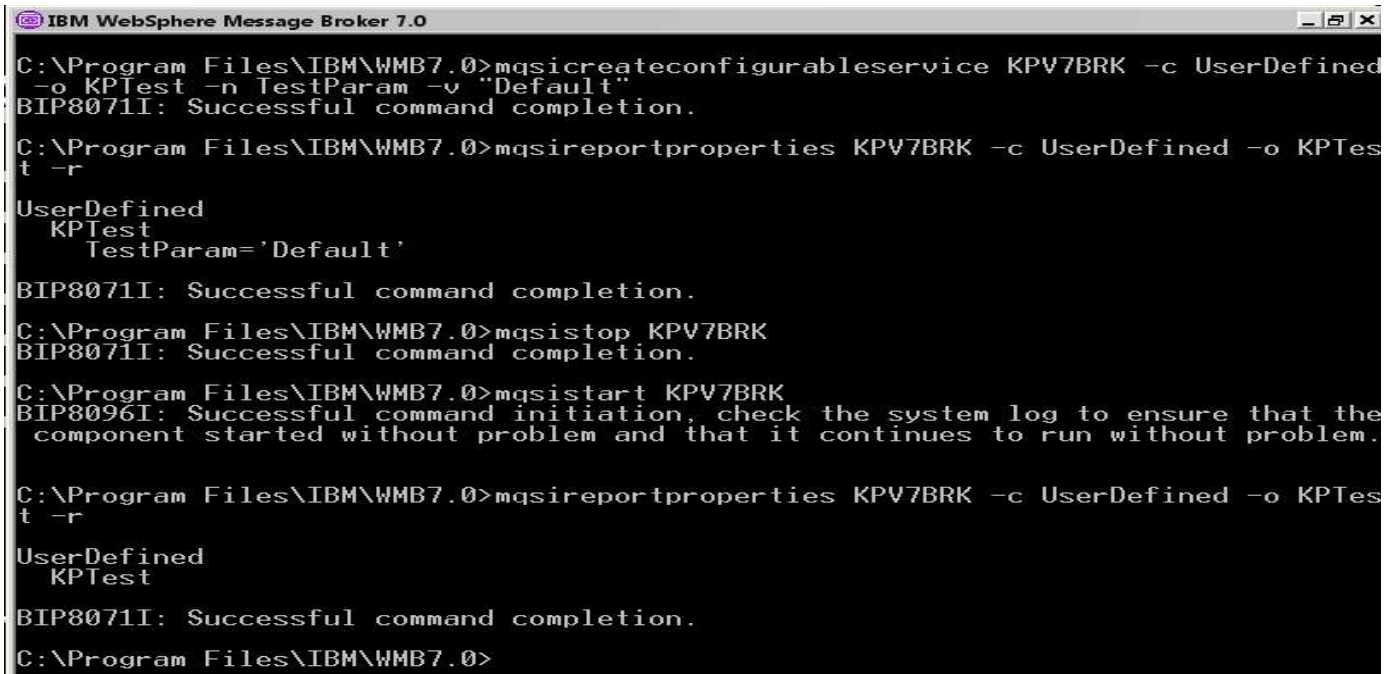
BIP5004E: An XML parsing error "Invalid document structure " occurred on line 1 column 1 when parsing element "". Internal error codes are '-1' and "".

BIP8047E: Unable to parse the data received, exception caught 'ImbException'. The command uses parser functions to analyze XML data, the parser has detected an error in the format of the XML data being parsed.

- Occurs only with Oracle DB
- APAR IC70595 (Targeted for FP2)

Common Problems - Administration

- UDN Configurable Service properties are not loaded
- Configurable services created with *mqsicreateconfigurableservice* command are lost on a broker restart.



```
IBM WebSphere Message Broker 7.0
C:\Program Files\IBM\WMB7.0>mqsicreateconfigurableservice KPV7BRK -c UserDefined
-o KPTest -n TestParam -v "Default"
BIP8071I: Successful command completion.

C:\Program Files\IBM\WMB7.0>mqsireportproperties KPV7BRK -c UserDefined -o KPTest
-r
UserDefined
  KPTest
    TestParam='Default'
BIP8071I: Successful command completion.

C:\Program Files\IBM\WMB7.0>mqsistop KPV7BRK
BIP8071I: Successful command completion.

C:\Program Files\IBM\WMB7.0>mqsistart KPV7BRK
BIP8096I: Successful command initiation, check the system log to ensure that the
component started without problem and that it continues to run without problem.

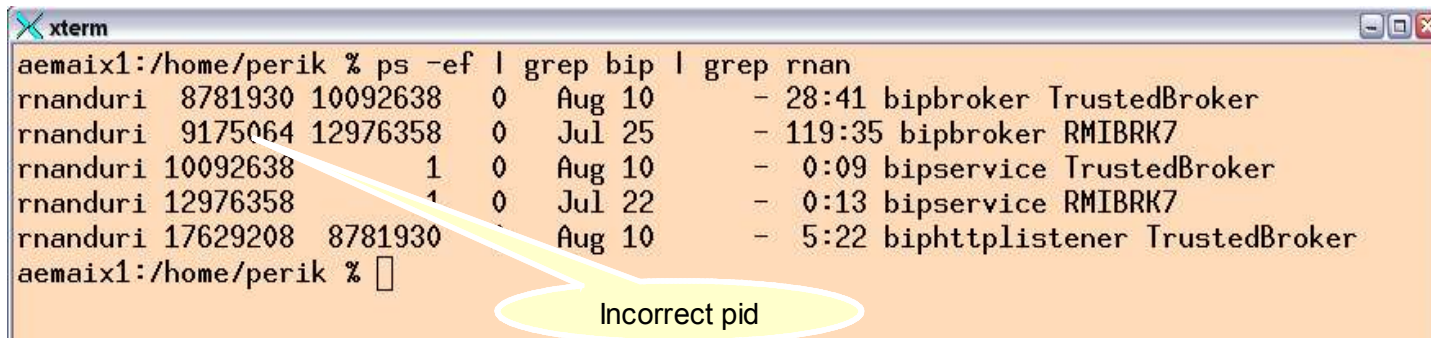
C:\Program Files\IBM\WMB7.0>mqsireportproperties KPV7BRK -c UserDefined -o KPTest
-r
UserDefined
  KPTest
BIP8071I: Successful command completion.

C:\Program Files\IBM\WMB7.0>
```

- APAR IC70930 (FP2)

Common Problems - Administration

- *mqsilist* command does not show correct PID for active broker/qmgr in an HA environment



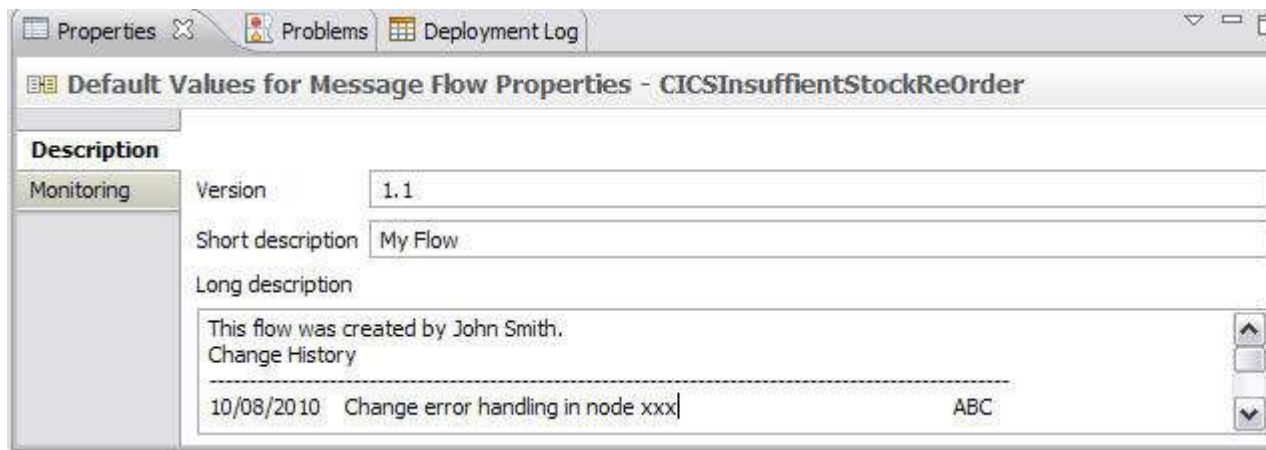
```
xterm
aemaix1:/home/perik % ps -ef | grep bip | grep rnan
rnanduri 8781930 10092638 0 Aug 10 - 28:41 bipbroker TrustedBroker
rnanduri 9175064 12976358 0 Jul 25 - 119:35 bipbroker RMIBRK7
rnanduri 10092638 1 0 Aug 10 - 0:09 bipservice TrustedBroker
rnanduri 12976358 1 0 Jul 22 - 0:13 bipservice RMIBRK7
rnanduri 17629208 8781930 Aug 10 - 5:22 biphttplistener TrustedBroker
aemaix1:/home/perik %
```

Incorrect pid

- The broker is able to switch over from active to the standby broker when using HA (multi-instance mode) but the *mqsilist* command does not show the correct process identifier (PID) for the broker process.
- APAR IC64650 (FP1)

Common Problems - Administration

- MB Explorer does not show the bar file correctly after a deploy
- Deploying a message flow that has a description that spans multiple lines can cause the EG label or parts of the bar file to disappear in the Message Broker Explorer even though it deployed successfully.



- APAR IC71046 (FP1)

Common Problems - Administration

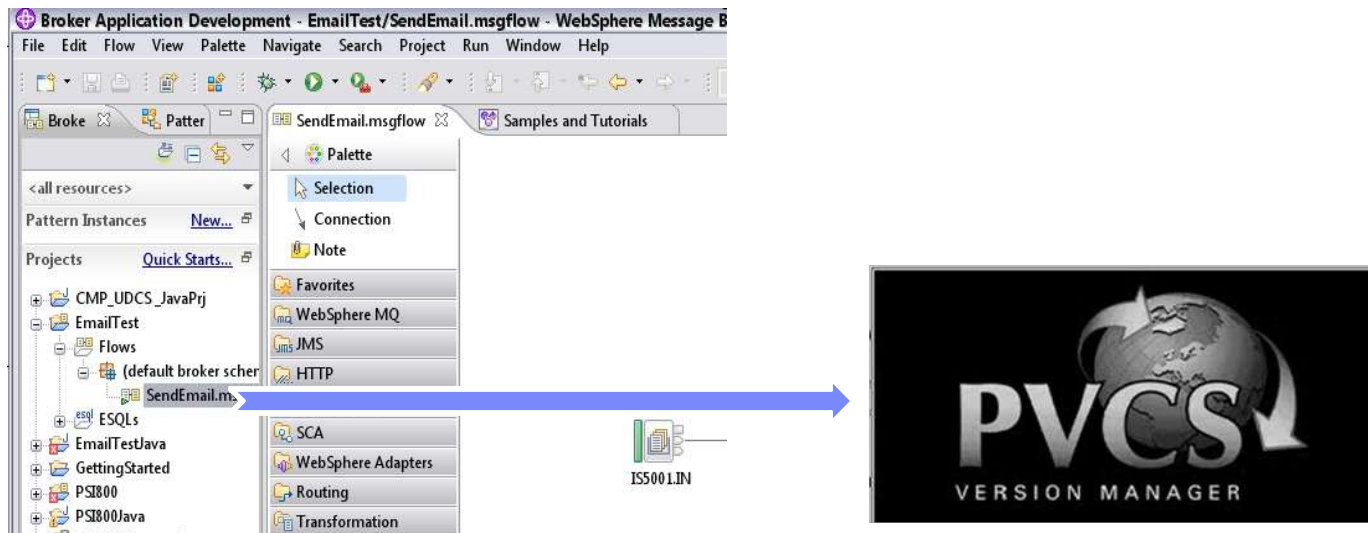
- \$MQSI keywords missing from the toolkit after a deploy
- The "Version" keyword and value appears in the flow properties after a deploy, but any other key word in \$MQSI envelope does not appear.

Flow Description	Toolkit	Explorer
\$MQSI Version=v1.0 MQSI\$ \$MQSI Author=Jim Smith MQSI\$ \$MQSI Date=10.11.2010 MQSI\$	Version=v1.0	Version=v1.0 Author=Jim Smith Date=10.11.2010

- APAR IC64979 (FP1)

Common Problems - Administration

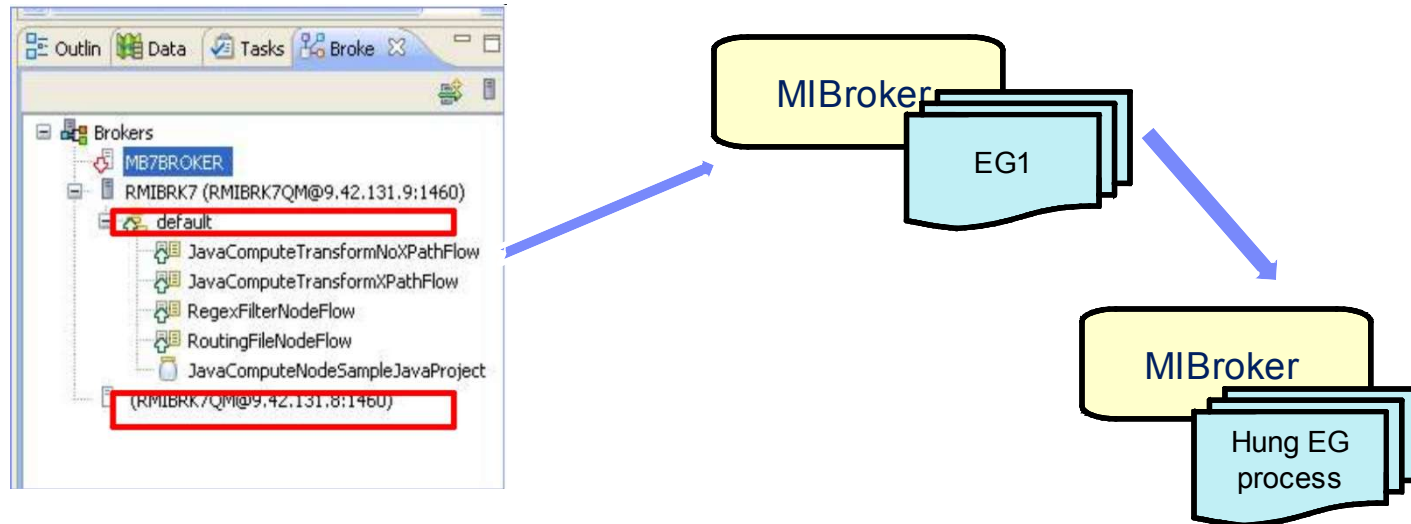
- Broker Toolkit can not be used with PVCS Dimensions.



- Conflict of .metadata in both PVCS Dimensions and UDN projects causes toolkit errors
- Fix: APAR IC70952 (FP2)

Common Problems - Administration

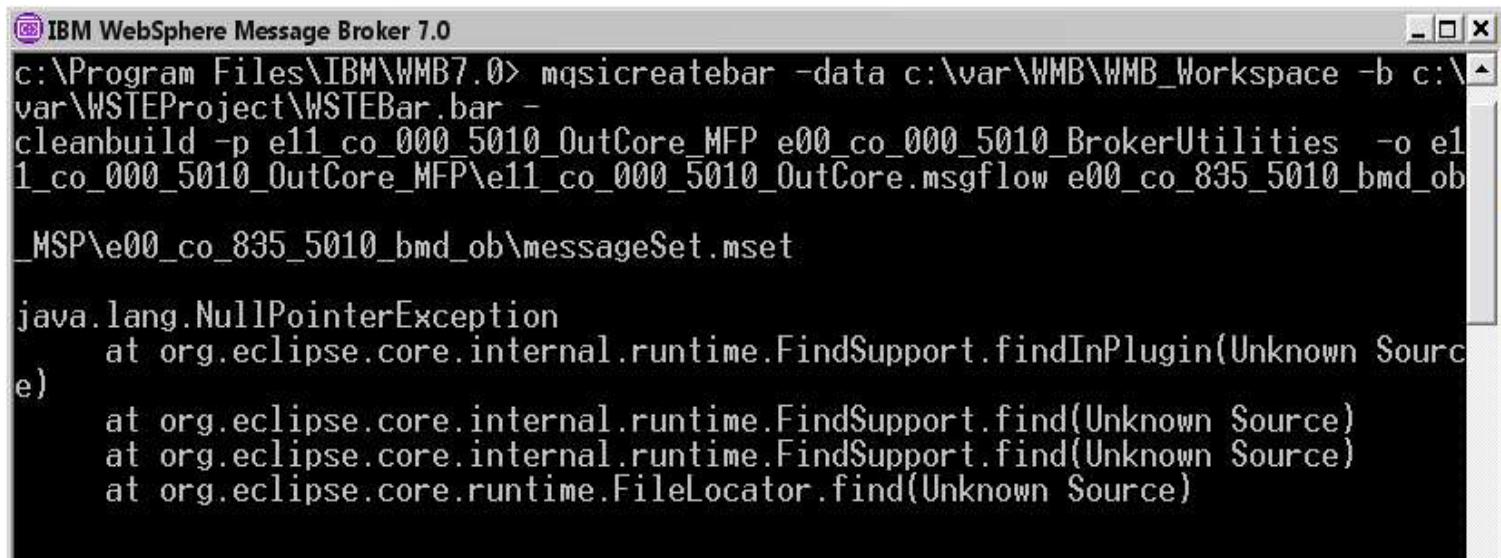
- Deploy failures may cause a MIB to hang



- APAR IC65474 (FP1)

Common Problems - Administration

- *mqsicreatebar* command generates a Java™ NullPointerException.



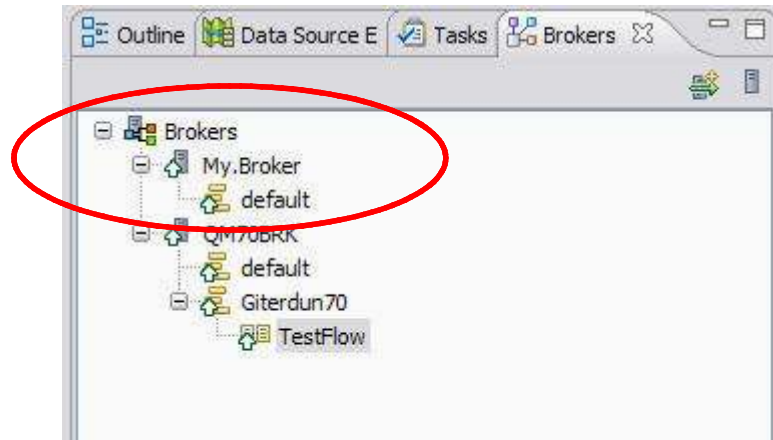
```
IBM WebSphere Message Broker 7.0
c:\Program Files\IBM\WMB7.0> mqsicreatebar -data c:\var\WMB\WMB_Workspace -b c:\var\WSTEPProject\WSTEBBar.bar -
cleanbuild -p e11_co_000_5010_OutCore_MFP e00_co_000_5010_BrokerUtilities -o e11_co_000_5010_OutCore_MFP\
e11_co_000_5010_OutCore.msgflow e00_co_835_5010_bmd_ob_MSP\
e00_co_835_5010_bmd_ob\messageSet.mset

java.lang.NullPointerException
    at org.eclipse.core.internal.runtime.FindSupport.findInPlugin(Unknown Source)
    at org.eclipse.core.internal.runtime.FindSupport.find(Unknown Source)
    at org.eclipse.core.internal.runtime.FindSupport.find(Unknown Source)
    at org.eclipse.core.runtime.FileLocator.find(Unknown Source)
```

- Fix: APAR IC70825 (FP1)

Common Problems - Toolkit

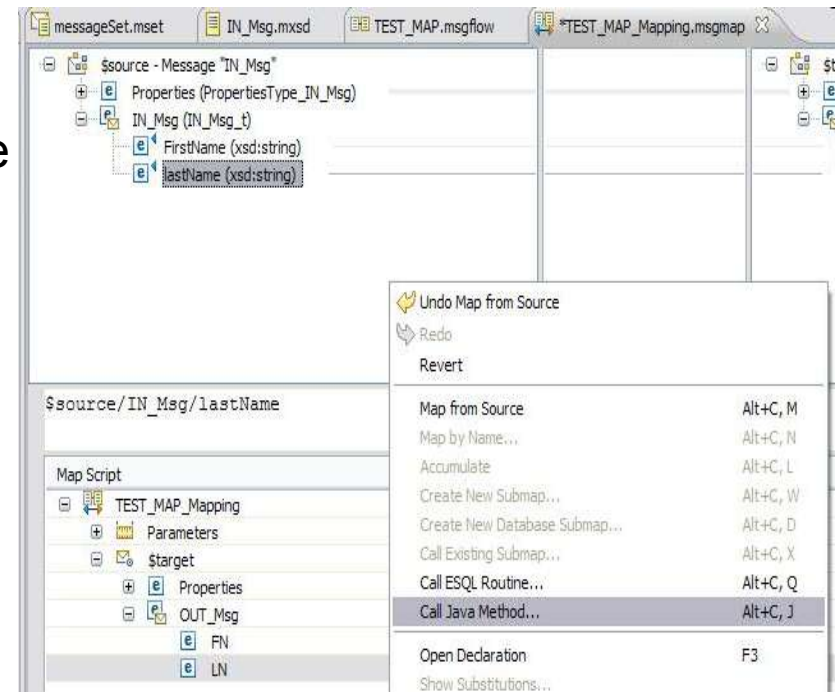
- Toolkit does not recognize a period (.) character as valid in the broker or QMGR name. Toolkit throws error saying the name is invalid.



- APAR IC65871 (FP1)

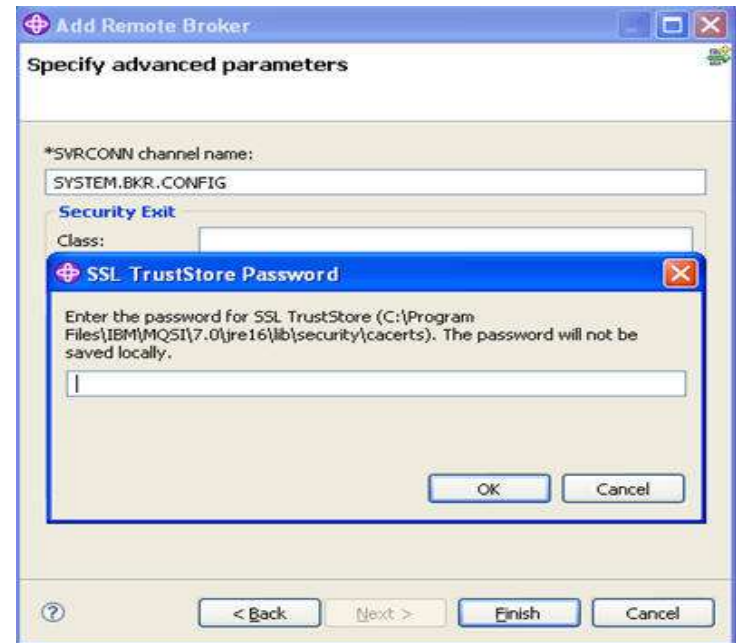
Common Problems - Toolkit

- Can not use a java method call from a message map IF clause.
- The IF statement in a Message Map does not accept a Java function call in the condition clause. The Message Map is not compiled or added to the BAR file and so the flow is unable to be deployed.
- APAR IC65036 (FP2)



Common Problems - Toolkit

- Users cannot connect to a remote broker requiring SSL connection.
- Can specify a keystore and truststore, but the broker's view does not allow the user to specify passwords for the keystore and truststore during connection.
- Toolkit has been modified so that user will be prompted for a password in this situation.
- APAR IC66666 (FP1)



Common Problems - Runtime

- BIP3614 message received when using SOAPInput node because CDATA element is not associated with WSDL by SOAPInput node.

BIP3614E: A SOAP logical tree cannot be built from the message bitstream. The bitstream is not a valid Web service message.

- Local Fix: Alter WSDL so that the first child of Body is not a CDATA section, either by reordering the fields or by moving the CDATA section into a child element of the first child.
- APAR IC67360 (FP1)



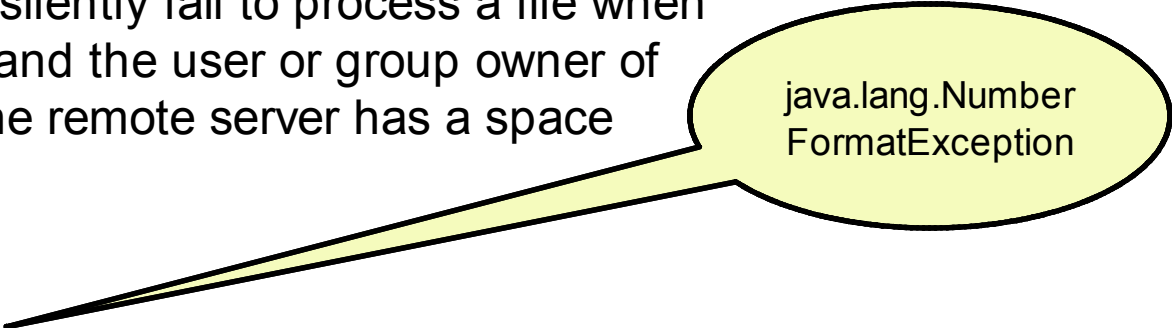
Common Problems - Runtime

- Trace node does not output to file after an out-of-space error has been resolved.
- Local Fix: Force the flow to open new file handles, either by re-deploying the flow with file names, or by taking the following steps:
 - ▶ Stop the flow, copy trace node files
 - ▶ Delete trace node files and restart
- APAR IC67322 (FP1)



Common Problems - Runtime

- FileInputNode throws a java.lang.NumberFormatException with SFTP
- The FileInput node may throw a java.lang.NumberFormatException or otherwise silently fail to process a file when using SFTP and the user or group owner of that file on the remote server has a space in the name.



java.lang.Number
FormatException

Group = dev group1

- APAR IC64419 (FP1)

Common Problems - Runtime

- BIPCHPR job (*mqsichangeproperties*) on z/OS results in semaphores being created with incorrect group ownership causing abends.

BIP2228E WT06BRK6.mqsichangeproperties 1067775324151873536 Severe error: /build/S700P/src/CommonServices/Unix/ImbNamedMutex.cpp 1426 semctl
Abend file: /usr/lpp/wmqi/WT06BRK6/common/errors/
WT06BRK6.mqsichangeproperties.16843086. 1067775324151873536.abend
action: abort

- APAR AN16158 (FP1)



Common Problems - Runtime

- TIMEOUTNOTIFICATION node's internal queue handles get invalidated

BIP4617E or BIP4620E reporting that the TimeoutNotification node failed to access its internal store with MQ reason codes 2019/2036/2037.

2019 - MQRC_HOBJ_ERROR

2036 - MQRC_NOT_OPEN_FOR_BROWSE

2037 - MQRC_NOT_OPEN_FOR_INPUT

- After the error occurs, the TimeoutNotification node stops working and the DataFlowEngine consumes high CPU until the flow is restarted.

(contd.)

Common Problems - Runtime

- Local fix – increase the size of the internal broker cache to ensure that the broker does not invalidate the handle used by the Timeout internal processing.

```
mqsichangeproperties <Broker name> -e <ExecutionGroup name> -o  
ComIbmMQConnectionManager -n QueueCacheMaxSize -v <n>
```

<n> is an integer value (default cache size is 10).

Can be adjusted based on customer's specific needs.

- APAR IZ74531 (FP1)



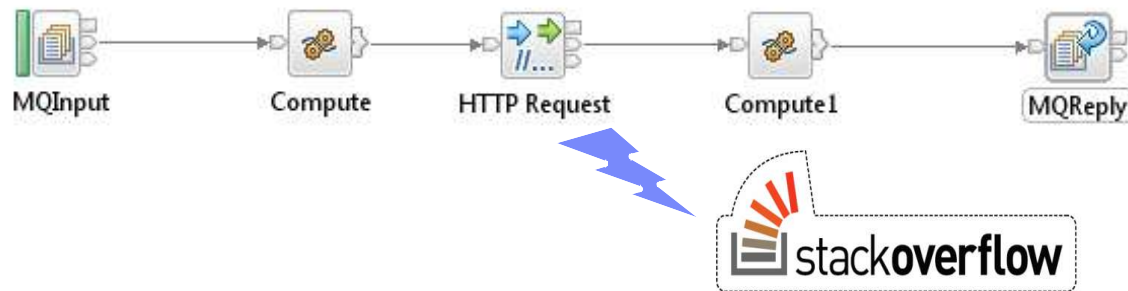
Common Problems - Runtime

- Service Federation Management (SFM) Proxy runtime artifacts created in wrong EG
- Scenario: If a broker with multiple EGs is enabled for Service Federation and one or more EGs are used as a connectivity provider within the Service Federation domain
- APAR IC64821 (FP1)



Common Problems - Runtime

- HTTP Nodes might cause a stack overflow.



- On Windows® (only) HTTP Request node can cause a stack overflow due to a large allocation.
- APAR IC71361 (FP2)

Common Problems - Runtime

- Collector node throws BIP4395E:java NullPointerException
- If errors occur during the operation of the collector node then complete and incomplete collections can be left on the MQ queues which the collector node uses. A restart of the message flow is required to process these collections further.

A NullPointerException: BIP4395E: Java exception: 'java.lang.NullPointerException'; thrown from class name: 'com.ibm.broker.eda.CollectorNode', method name: 'removeCollection', file: 'CollectorNode.java',

- APAR IC71265 (FP2)

Common Problems - Runtime

- WMB CBF thread discards MQ session ID after receiving MQRC_NO_MSG_AVAILABLE causing QMGR to throw MQRC_NO_SELECTION_AVAIL.
- When MB is publishing a message with PublishNode that is configured to put errors to specified queue with the commands:

```
SET OutputRoot.MQMD.Report = MQRO_NAN;  
SET OutputRoot.MQMD.MsgType = MQMT_DATAGRAM;  
SET OutputRoot.MQMD.ReplyToQ = 'BCOM.TO.PUBLISH.FAIL';
```
- All of the messages showed the same pscr reason 2551 (MQRC_SELECTION_NOT_AVAILABLE) MQ error.
- APAR IC71255 (FP2)



Common Problems - Runtime

- BIP2176S error during flow execution with ESQL THROW

```
--Check for Order number lower than permitted range
IF Body.OrderNumber < 100000 THEN
    THROW USER EXCEPTION CATALOG 'BIPv700' MESSAGE 2591 VALUES
        ('Order number too low', Body.OrderNumber);
-- Check for Order number higher than permitted range
....
ELSE DO
    -- invoice number is within permitted range
    -- complete normal processing
ENDIF;
```

BIP2176S: Could
not find message
2591 in catalog
BIPv700

```
--Check for Order number lower than permitted range
IF Body.OrderNumber < 100000 THEN
    THROW USER EXCEPTION CATALOG 'BIPmsgs' MESSAGE 2591 VALUES
        ('Order number too low', Body.OrderNumber);
-- Check for Order number higher than permitted range
....
ELSE DO
    -- invoice number is within permitted range
    -- complete normal processing
ENDIF;
```

- APAR IC71125

Common Problems - Runtime

- CBF worker list is not thread-safe preventing execution groups from shutting down.
- If Content Based Filtering is enabled on Execution Groups and having more than one evaluation threads defined may experience hangs during broker shutdown which can only be resolved by issuing either `mqsistop -i` or killing the DataFlowEngine process.
- APAR IC71192 (FP2)



Common Problems - Runtime

- CMP API *getConfigurableServices* method does not return correct list of configurable services

```
+import java.util.*;

public class TestCMP {

    public static void main(String[] args) throws InterruptedException
    {
        String bkName = args[0];
        BrokerProxy b = null;
        Properties p = new Properties ();
        try {
            b = BrokerProxy.getLocalInstance(bkName);
        } catch (ConfigManagerProxyLoggedException e) {
            e.printStackTrace();
        }
        if (b != null) {
            try {
                ConfigurableService[] configurableServices = b.getConfigurableServices("");
                StringBuffer key = new StringBuffer("getConfigurableServices(\""+\""+\"")");
            }
        }
    }
}
```

A blue arrow points from the line `b = BrokerProxy.getLocalInstance(bkName);` to the line `while (!b.hasBeenPopulatedByBroker()) {}`.

Summary

This presentation covered some of the more common problems reported by users of WebSphere Message Broker V7.

Common Problems

- migration
- administration
- tooling / MB Explorer
- runtime

For additional details on these and other problems, please refer to published technotes on WMB Support website.



Useful Links

- Information Center for WMB 7.0
<http://publib.boulder.ibm.com/infocenter/wmbhelp/v7r0m0/index.jsp>
- Information Center for MQ 7.0.1
<http://publib.boulder.ibm.com/infocenter/wmqv7/v7r0/index.jsp>
- General website for Message Broker
http://www.ibm.com/support/entry/portal/Overview/Software/WebSphere/WebSphere_Message_Broker
- Support Packs
<http://www.ibm.com/software/integration/support/supportpacs/>



Additional WebSphere Product Resources

- Learn about upcoming WebSphere Support Technical Exchange webcasts, and access previously recorded presentations at:
http://www.ibm.com/software/websphere/support/supp_tech.html
- Discover the latest trends in WebSphere Technology and implementation, participate in technically-focused briefings, webcasts and podcasts at:
<http://www.ibm.com/developerworks/websphere/community/>
- Join the Global WebSphere Community:
<http://www.websphereusergroup.org>
- Access key product show-me demos and tutorials by visiting IBM® Education Assistant:
<http://www.ibm.com/software/info/education/assistant>
- View a webcast replay with step-by-step instructions for using the Service Request (SR) tool for submitting problems electronically:
<http://www.ibm.com/software/websphere/support/d2w.html>
- Sign up to receive weekly technical My Notifications emails:
<http://www.ibm.com/software/support/einfo.html>



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■ Questions and Answers

