

WebSphere® IBM WebSphere Multichannel Bank Transformation Toolkit
Version 7.1

Release notes



Note!

Before using this information and the product it supports, be sure to read the general information under “Notices” on page 9.

This edition applies to Version 7, Release 1, Modification 0, of *IBM WebSphere Multichannel Bank Transformation Toolkit* (5724-H82) and to all subsequent releases and modifications until otherwise indicated in new editions.

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Contents

**IBM WebSphere Multichannel Bank
Transformation Toolkit 7.1 release notes. 1**

New in this release 1

Product fix history 2

Hardware and software requirements 7

Limitations, known issues, and workarounds 7

Notices 9

Trademarks 11

IBM WebSphere Multichannel Bank Transformation Toolkit 7.1 release notes

This document contains information about version 7.1 of IBM® WebSphere® Multichannel Bank Transformation Toolkit. It describes the new components and functions at an architectural level.

New in this release

This topic describes the new features and enhancements that are provided with IBM WebSphere Multichannel Bank Transformation Toolkit.

WebSphere Multichannel Bank Transformation Toolkit version 7.1 provides the following new features and enhancements:

- “New Dojo-based UI support with customization for multichannel applications”
- “Enhanced Integrated Development Environment”
- “Enriched Web services invocation”
- “IBM Rational Application Developer V8.0 certification ”

New Dojo-based UI support with customization for multichannel applications

- Improved look, feel, and usability.
- Extensible tag libraries including common Dojo widgets.
- AJAX update support.
- Server-managed page flow support for Dojo-based pages.

Enhanced Integrated Development Environment

- New channel-neutral graphical UI tooling (WYSIWYG)
- Zero coding required for validation, cross-validation and event handling. Editing is 100% graphical.
- Extensible widget libraries including common banking UI widgets.
- Generation support for Dojo UI pages and event-handling logic. Previous experience and knowledge of Dojo is not required.
- New channel-neutral flow editor support, elegant UI, and simplified development process.

Enriched Web services invocation

- Both JAX-RPC and JAX-WS support
- Complete web service security and attachment support
- A one-stop wizard to generate WebSphere Multichannel Bank Transformation Toolkit data model and invocation definitions from a WSDL.

IBM Rational Application Developer V8.0 certification

WebSphere Multichannel Bank Transformation Toolkit version 7.1 provides support for IBM Rational® Application Developer version 8.0.

Product fix history

This section lists the closed APARs before WebSphere Multichannel Bank Transformation Toolkit version 7.1.

Table 1. List of close APARs against version 7.0.

APAR	Description
JR38362	InvocationException was thrown from BeanColl when the toString() method was invoked.
JR38331	Provides the ability to bind a context to an htmlstate.
JR38200	Htmlstate in page type can bind a context.
JR37735	csRequestFormat does not work.
JR37639	ListCollection clone error

Table 2. List of closed APARs against version 6.1.2

APAR	Description
JR34248	In bColl, when invoking setValue() method using composite key cust.0 to locate the data element, the setValue() method fails. Both array collection and list collection are effected by this issue.
JR34704	BTT Hashtable memory leak - out of memory error occurs when put different large objects with the same key into BTT hashtable.
JR34956	Migration tool: format/context definition migration error.
JR34957	Migration tool: cannot import ContextFactory automatically.
JR34958	Sometimes the system does not throw out root exception for service tag when the exception occurs.
JR34961	Migration tool: implementation class migration error.
JR34963	Migration tool: Chinese comments migration problem in .jsp file.
JR34971	Migration tool error: sequence, settings, device type migrate sequence error.
JR34984	Add support for new Web service data type and WSDL format and AXIS2 + Tomcat environment.
JR35012	Different scenarios throw same exceptions in the page. It is hard to trace and diagnose the problem. The scenarios include: null field, duplicated define input fields, submitted additional fields, data's dynamic property does not set to true, click after HTTP session expired.
JR35131	Serialization error happens for some data type when use it for transferring.
JR35228	concurrentModificationException occurs when taking clean operation.
JR35290	refService invoke problem occurs in operation context: When an operation A is invoking another operation B, the operation B cannot find the services defined in the context of operation A.
JR35596	WSDII invoker throws exception while return type is a not simple type.
JR35784	Sometimes, different user use same session ID in one browser.
JR35870	The input parameter name is mistakenly parsed by BTT Invoker, which result in some wsdl file cannot be invoked by dynamic Web Service invoker.
JR35879	BTT Invoker does not support the base extended type, such as <xs:extension base="tns:actpNWSearchBean"></xs:extension>
JR36111	XML format does not support some nesting format.

Table 2. List of closed APARs against version 6.1.2 (continued)

APAR	Description
JR36293	Session management encounters problem when enabling cookies: A new session is created by mistake and the operation is executed on behalf of this session after that the original session cookie is rewritten.
JR36300	After iColl get the first kColl element, execute clone method, the system memory usage increases by 1G bytes, and a CPU exception occurs.
JR36406	Initialization problem with OperDef in btt.xml, it must support the following code: <pre><field id="operations"> <operDef id="anSelfOperation" value="anSelfOperation.xml" path="http://stlv:8070/Ur1EarWeb/bttC </field><field id="processors"> <procDef id="selfOpProc" value="selfOpProc.xml" path="http://stlv:8070/Ur1EarWeb/bttC </field></pre>
JR36460	In BTT LU0, modified BTT code to check the host application name in USERDATA of BIND RU instead of Primary LU Name of BIND RU.
JR38329	No result was returned to client if the return of operation was blank or null
JR38298	java.util.ConcurrentModificationException was thrown from the OperationInitializer.getSgmSelfDefinedOperation() method.
JR37577f_1	When a lot of same requests are going to execute operation, BTT will only allow one request to execute the operation. The rest of thread will hang. If there are enough double-click request, WAS server will crash.
JR37577	When a lot of same requests are going to execute operation, BTT will only allow one request to executing the operation. And the rest of thread will hung. If there are enough double-click request, WAS server will crash.
JR37423_1	Users can't login when disable cookie.
JR37424	
JR36496	beancoll clone problem
JR36944	Rename the element name in Icoll error
JR37423	Users can't login when disable cookie

Table 3. List of closed APARs against version 6.1.1

APAR	Description
JR30349	WAS throws out an Array index out of bound exception when the application gets a JCA Connection.
JR30460	If you define <step1 class="xxx" on1Do="return"/> in the operation step, when the return value of the step is not 1, BTT throws the information: Array index out of bound when getting steps.
JR30462	The Validation tool reports trace type not found error by mistake.
JR30581	CCSID cannot be set for MQ connection.
JR30582	When operState and htmlState are used in mixture, a debug level information should be thrown instead of an information level log.
JR30712	The IO Exception is thrown when there are comments in Chinese in the XML file.
JR30816	Sometimes, BTT LU0 cannot receive multi-frame messages from host.
JR31018	BTT Web Application fails when cookie is disabled in the Internet Explorer.
JR31060	When the re-connection period is over, BTT creates many threads to notify WAS that there is a connection error. The fix avoids creating too many threads.

Table 3. List of closed APARs against version 6.1.1 (continued)

APAR	Description
JR31902	Add the ASYNC event support to LU0.
JR32041	Add CSServer Services, such as <CSServer id="realCSServer" inactivityClientTimeout="600000" timeBetweenSessionCheck="600000"/>. This service is used for channel and session management, and processor timeout.
JR32042	Add Channel Event mechanism. This mechanism is used to check the channel and processor expiration, fire channel timeout event, processor timeout, and handle the event.
JR32043	Add the cookie=false mechanism.
JR32045	Defining <refService> within a context is supported. Context maintains the service lifecycle management. The following code example demonstrates how to define <refService>: <pre><context id="accountTransferCtx" type="oper"> <refKColl refId="accountTransferData"/> <refService refId="JournalService" alias="JournalService" type="journal"/> </context></pre>
JR32194	Establishsessiontimeout should be no less than 50 seconds, because BTT needs at least 50 seconds to identify that the session establishment is failed.
JR32405	MQ 2018 error: MQ connection is unavailable or disconnected after MQ connection pool is initialized.
JR32173	There are globalization problems in initializer and elementfactory. The solution is to make the encoding of the file and the definition in the first line of the file consistent.
JR38541f_1	WebContainer thread pool is highly used and only half pool is available for the clients due to hanging threads.
JR38566	java.util.ConcurrentModificationException was thrown when executing input mapper
JR38541	WebContainer thread pool is highly used and only half pool is available for the clients due to hanging threads.
JR38030f_2	java.lang.NullPointerException was thrown when executing subflow
JR38030	dse_errorMessages and dse_ErrorFlag are missing in subflow
JR37649	To get the custom properties value of SNA LU0 Connection Factory
JR37156	java.lang.ArrayIndexOutOfBoundsException thrown when BTT LU0 sent bind

Table 4. List of closed APARs against version 6.1.0

APAR	Description
JR29446	NullPointerException is thrown when initiating html flow processor.
JR29837	Improper exception is thrown from BTT LU0 JCA when destroying connection.
IZ25604	OOM error when parsing client request.
JR30273	Html Request Handler throws abnormal exception when the sessionpersistence value is set to be true in BTSM.properties.
JR30458	log.error() can not accept multiple parameters.
JR30459	OperDef Tag supporting multiple operation definitions problem: When more than one operation is defined in one self-defined operation, the self-defined XML must be defined within the same directory as file BTT.xml.

Table 4. List of closed APARs against version 6.1.0 (continued)

APAR	Description
JR30496	When the application fails to get a new connection from LU0 Connection Factory, the bid thread of the unsuccessful ManagedConnection is not destroyed.

Table 5. List of closed APARs against version 5.2

APAR	Description
JR26373	NameNotFoundException is thrown from Context. The JMS function of BTTEvent is turned on by default. So, if JMS queue is not configured in WebSphere Application Server, exceptions are thrown.
JR26375	The <code>getElementAt()</code> API is missing from OperationStep.
JR26378	Several GUI problems are restricting the use of the application. When using the DSEGuiBeans for the Java™ client, frequent screen freezes and unexpected behaviour with text fields and combo boxes are encountered.
JR26627	ava.lang.ClassCastException is thrown when using org.apache.struts.ActionMapping and com.ibm.btt.struts.BTTActionMapping together in BTT 5.2.0.
JR26283	<p>The following two verbs are added to get the LU name from an LU62 connection:</p> <ul style="list-style-type: none"> Verb SYNC_GET_LOCAL_LU_NAME, used to get local LU name for the LU62 conversation Verb SYNC_GET_PARTNER_LU_NAME, used to get remote LU name for the LU62 conversation. <p>For the two new verbs, BTT will call SNA CPI-C APIs: Extract_Local_LU_Name and Extract_Partner_LU_Name by JNI call. Note: The two APIs only apply to the Communication Server running on AIX® and Linux systems.</p> <p>The following code is the sample code for the two verbs:</p> <pre>Lu62InteractionSpec ixnSpec = new Lu62InteractionSpec(); Lu62Record outgoingData = new Lu62Record(); Lu62Record returnData = new Lu62Record(); ixnSpec.setInteractionVerb(ixnSpec.SYNC_GET_LOCAL_LU_NAME); connection.execute(ixnSpec, outgoingData, returnData); System.out.println("Local LU name :"+returnData.getData());</pre>
JR27142	String leaks in the CHA EJB cache.
JR27127	In general, there are two ways to manage conversations when sending continuous messages. One is to establish a new conversation for every message. The other is to create a single conversation and reuse it for sending different messages. The second method results in better performance. This APAR Viewer provides support for the first conversation mode: the host closes the conversation used by each unsolicited message.
JR27170	This APAR Viewer provides two parameters to configure the length of a TID/thread name in trace.
JR27198	In a performance environment, there might be thousands of threads pending, which can cause an out of memory crash in WebSphere Application Server. Each thread is waitOn Semaphore in the receive() method. When the connection is terminated, the waiting thread cannot be notified on Semaphore. As a result, it cannot exit. This APAR Viewer changes the event notification method to avoid creating too many threads.
JR27406	BTT does not support Opera Browser.

Table 5. List of closed APARs against version 5.2 (continued)

APAR	Description
JR27597	BTT provides an extension for WTS to implement the <code>BTTRequestProcessorUtil.getProcessId (HttpServletRequest request)</code> method. However, when processing a transaction request, <code>createProcessorId()</code> is invoked unexpectedly, which causes the BTT module to replace the original processor ID with a new one. As a result, a new context is created. This causes a memory leak.
JR27322	Referenced objects are reserved after the conversation/ Lu62ManageConnection is terminated. These objects should be deleted, because this causes a memory leak.
JR27685	BTT LU62 JCA parameter establishConversationRetries does not work if its value is greater than 0.
JR27954	When BTT JCA deallocates LU conversation, a conversation object must be printed in the trace. However, before printing, the conversation object is set to null. After BTT JCA deallocates an LU conversation, the object in the conversation is accessed. This APAR Viewer fixed these two problems.
JR28052	Every time BTT JCA creates a conversation, it loads a library, which is time-consuming.
JR28061	When implementing an invoker class which extends <code>com.ibm.btt.cs.invoker.base.BeanInvokerImpl</code> , the reference to the CHA Instance Id from the <code>HttpSession</code> will be removed and the <code>HttpSession</code> will be invalidated. So when the BTT client application calls the logoff operation (<code>BTTServerOperation</code>) on the server, the <code>IllegalStateException</code> from <code>http session</code> will be thrown.
JR28183	Request WAS pool to destroy BTT JCA connection immediately.
JR28225	JCA Performance issue: Exception is thrown when server stops.
JR27898	Missing header message when LU62 Message has multiple frames.
JR28208	Request to add parameter in BTT LU0 JCA to control whether to send TERMSELF after timeout.
JR28209	Change Request: a new custom property "sendInitSelf" is provided in order to disable sending init-self. The default value is true. Set it to false to disable sending init-self.
JR28345	JCAERR00047R timeout problem. Convert the <code>getListenThreadSem()</code> method to a synchronized method to prevent JCA timeout problem.
JR28687	BTT JCA supports 64-bit AIX systems.
JR28841	LU API SYNC_GET_ACTUAL_LU_NAME does not work in version 5.2.
JR28704	Unknown corrupt trace message because of the I18N problem.
JR28375	The <code>establishSession</code> is slow for the listen thread because <code>run()</code> is pending on <code>sleep(timeBetweenBidRetry)</code> if <code>init()</code> is not executed.
IY43326f_1	Session down is not correctly recovered when <code>Lu0SnaSession</code> is using a LU that belongs to a Communication Server pool.
JR37155	LU0 Service which do not response the received data

Table 6. List of closed APARs against version 4.3

APAR	Description
IZ01114	<p>In the JCA clone environment, a new method in the BTT LU0 service for closing an LU0 session is established on another clone. Currently, the ccClose() method uses the user session ID, , but you need the same method using the LU0 name, which is passed as a parameter. A new API ccClose(String luName) is added to Lu0SnaSessionService and Lu0SnaSession class.</p> <p>The method will call Communication Server NOF API deactivate_lu0_to_3 to terminate the LU0 session for the specified LU name. On the other clone that has already established a session for the LU, it will receive an UN-BIND message from the host and terminate the session.</p>
JR26363	Add a new method setInitSelfUserData in Lu0SnaSessionService to send user data to the host when BTT LU0 Connector send INIT-Self to establish LU0 session.
JR24998	Cannot establish conversation with host using LU6.2.

Hardware and software requirements

For details on the hardware and software requirements of IBM WebSphere Multichannel Bank Transformation Toolkit, refer to the Hardware and software requirements topic in the IBM WebSphere Multichannel Bank Transformation Toolkit Installation Guide.

Limitations, known issues, and workarounds

This section lists the limitations and known issues of this release. It also provides information about any fixes or workarounds that exist for resolving these limitations and issues.

The following limitations have been identified:

- Transaction editor and XUI editor:

The IBM WebSphere Multichannel Bank Transformation Toolkit Transaction editor and XUI editor support only Windows platforms.

- Processor:

BeanCollection cannot be defined as a child data element of KeyedCollection.

For example, in the following code sample, a BeanCollection is defined as the child element of a Keyed Collection:

Processor definition:

```
<context id="creditCardsCtx" type="process">
  <refKColl refId="creditCardApp1Data"/>
</context>
```

Data definition:

```
<kColl id="creditCardApp1Data">
  <bColl id="creditCardApp1DataBean" bean="com.ibm.btt.beancoll.CreditCardApp1Bean" />
</kColl>
```

You must revise it as follows:

```
<context id="creditCardsCtx" type="process">
  <refKColl refId="creditCardApp1Data"/>
</context>
```

Data definition:

```
<bColl id="creditCardApplData" bean="com.ibm.btt.beancoll.CreditCardApplBean" />
```

- Channel:

There is a default rule in WebSphere Multichannel Bank Transformation Toolkit channels to define the data formatter and response formatter.

If you do not specify them in the request, WebSphere Multichannel Bank Transformation Toolkit uses `csRequestFormat` and `csReplyFormat` configured in operation as data format and response format.

The operation configuration file is as follows:

```
<QueryStockOp.xml>
<operation id="QueryStockOp" context="stockCtx"
  implClass="com.ibm.btt.poc.opstep.QueryStockOp">
  <refFormat name="csRequestFormat" refId="stockFmt" />
  <refFormat name="csReplyFormat" refId="stockFmt" />
</operation>

<fmtDef id="stockFmt">
  <fXML dataName="stockCtxData">
    <fString dataName="code" />
    <fString dataName="price" />
  </fXML>
</fmtDef>
</QueryStockOp.xml>
```

- Trace:

WebSphere Multichannel Bank Transformation Toolkit trace must be initialized at first before the applications use it. Otherwise, the default trace configuration is set and the trace configuration in `btt.xml` will not take effect.

If WebSphere Multichannel Bank Transformation Toolkit is not initialized, the default trace target is WAS by using `BTTLogFactoryToWASImp` as the implementation class of `BTTLogFactory`.

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