TIBCO ActiveMatrix BusinessWorks™

Release Notes

Software Release 5.13.1
August 2018

Important Information

Contents

Preface

The TIBCO ActiveMatrix BusinessWorks integration platform enables companies to rapidly integrate systems and automate business processes. TIBCO ActiveMatrix BusinessWorks supports your integration project throughout the project lifecycle. It includes a common graphical user interface for adapter configuration, process design, and deployment. User administration, component management, and process monitoring are available via a web browser based GUI.

Topics

Related Documentation

This section lists documentation resources you may find useful.

TIBCO ActiveMatrix BusinessWorks Documentation

The following documents form the TIBCO ActiveMatrix BusinessWorks documentation set:

- *TIBCO ActiveMatrix BusinessWorks Concepts*   Read this manual before reading any other manual in the documentation set. This manual describes terminology and concepts of TIBCO ActiveMatrix BusinessWorks, and the other manuals in the documentation set assume you are familiar with the information in this manual.

- *TIBCO ActiveMatrix BusinessWorks Getting Started*   This manual steps you through a very simple example of designing, deploying, and monitoring a ActiveMatrix BusinessWorks process.

- *ActiveMatrix BusinessWorks Process Design Guide*   This manual describes how to create, edit, and test business processes using TIBCO ActiveMatrix BusinessWorks.

- *ActiveMatrix BusinessWorks Palette Reference*   This manual describes each of the palettes available in TIBCO ActiveMatrix BusinessWorks.

- *TIBCO ActiveMatrix BusinessWorks Administration*   This manual describes how to use TIBCO Administrator to deploy, manage, and monitor TIBCO ActiveMatrix BusinessWorks processes.

- *TIBCO ActiveMatrix BusinessWorks Installation*   Read this manual for information on installing one or more components of TIBCO ActiveMatrix BusinessWorks and setting up a ActiveMatrix BusinessWorks domain.

- *TIBCO ActiveMatrix BusinessWorks Error Codes*   This manual describes errors returned by TIBCO ActiveMatrix BusinessWorks.

- *TIBCO ActiveMatrix BusinessWorks Release Notes*   Read the release notes for a list of new and changed features. This document also contains lists of known issues and closed issues for this release.

Other TIBCO Product Documentation

TIBCO ActiveMatrix BusinessWorks is used with other products. You may find it useful to read the documentation for the following TIBCO products:

- TIBCO Enterprise Administrator software: The monitoring and managing interface for TIBCO ActiveMatrix BusinessWorks.

- TIBCO Adapter software.

Typographical Conventions

The following typographical conventions are used in this manual.

Table 1 General Typographical Conventions

Convention	Use
TIBCO_HOME	Many TIBCO products must be installed within the same home directory. This directory is referenced in documentation as *TIBCO_HOME*. The value of *TIBCO_HOME* depends on the operating system. For example, on Windows systems, the default value is `C:\tibco`.
ENV_HOME	Other TIBCO products are installed into an installation environment. Incompatible products and multiple instances of the same product are installed into different installation environments. The directory into which such products are installed is referenced in documentation as *ENV_HOME*. The value of *ENV_HOME* depends on the operating system. For example, on Windows systems the default value is C:\tibco.
BW_HOME	TIBCO ActiveMatrix BusinessWorks installs into a directory within *TIBCO_HOME*. This directory is referenced in documentation as *BW_HOME*. The value of *BW_HOME* depends on the operating system. For example on Windows systems, the default value is `C:\tibco\bw\5.12`.
`code font`	Code font identifies commands, code examples, filenames, pathnames, and output displayed in a command window. For example: Use `MyCommand` to start the foo process.
`bold code font`	Bold code font is used in the following ways: • In procedures, to indicate what a user types. For example: Type **`admin`**. • In large code samples, to indicate the parts of the sample that are of particular interest. • In command syntax, to indicate the default parameter for a command. For example, if no parameter is specified, `MyCommand` is enabled: `MyCommand [`**`enable`**`	disable]`

Table 1   General Typographical Conventions (Cont'd)

Convention	Use
italic font	Italic font is used in the following ways: • To indicate a document title. For example: See *TIBCO ActiveMatrix BusinessWorks Concepts*. • To introduce new terms For example: A portal page may contain several portlets. *Portlets* are mini-applications that run in a portal. • To indicate a variable in a command or code syntax that you must replace. For example: `MyCommand` *PathName*
Key combinations	Key name separated by a plus sign indicate keys pressed simultaneously. For example: Ctrl+C. Key names separated by a comma and space indicate keys pressed one after the other. For example: Esc, Ctrl+Q.
	The note icon indicates information that is of special interest or importance, for example, an additional action required only in certain circumstances.
	The tip icon indicates an idea that could be useful, for example, a way to apply the information provided in the current section to achieve a specific result.
	The warning icon indicates the potential for a damaging situation, for example, data loss or corruption if certain steps are taken or not taken.

Connecting with TIBCO Resources

For information about this product, you can read the documentation, contact TIBCO Support, or join TIBCO Community.

How to Access TIBCO Documentation

Documentation for TIBCO products is available on the TIBCO Product Documentation website mainly in the HTML and PDF formats.

The TIBCO Product Documentation website is updated frequently and is more current than any other documentation included with the product. To access the latest documentation, visit https://docs.tibco.com.

Documentation for TIBCO ActiveMatrix BusinessWorks is available on the https://docs.tibco.com/products/tibco-activematrix-businessworks

How to Contact TIBCO Support

For comments or problems with this manual or the software it addresses, contact TIBCO Support as follows:

- For an overview of TIBCO Support, and information about getting started with TIBCO Support, visit this site:

  http://www.tibco.com/services/support

- If you already have a valid maintenance or support contract, visit this site:

  https://support.tibco.com

  Entry to this site requires a user name and password. If you do not have a user name, you can request one.

How to Join TIBCO Community

TIBCO Community is the official channel for TIBCO customers, partners, and employee subject matter experts to share and access their collective experience. TIBCO Community offers access to Q&A forums, product wikis, and best practices. It also offers access to extensions, adapters, solution accelerators, and tools that extend and enable customers to gain full value from TIBCO products. In addition, users can submit and vote on feature requests from within the TIBCO Ideas Portal. For a free registration, go to https://community.tibco.com.

Release Notes

This *Release Notes* lists issues according to the topic area.

TIBCO Designer, TIBCO Administrator, and TIBCO Runtime Agent are now shipped as separate products, each with release notes of their own. The release notes for these products are no longer included with the *TIBCO ActiveMatrix BusinessWorks Release Notes*.

Check the TIBCO Product Support web site at http://support.tibco.com for product information that was not available at release time. Entry to this site requires a username and password. If you do not have one, you can request one. Your web browser must support cookies and you must have a valid maintenance or support contract to use this site.

The information prior to the release 5.4.0 has been removed from the current version of the release notes. Refer to the release notes of the older release versions to access that information.

Topics

New Features

This section lists features added since the last major release of this product.

Release 5.13.1

This release does not introduce any new features.

Release 5.13

The following are the new features in this release.

Detail element in fault schema

The SOAP default fault element schema displays the detail element.

This impacts fault messages for the following activities:

- Invoke Partner
- SOAP Request Reply

Passing dynamic HTTP and basic authentication attributes in SOAP Request Reply activity

Support added to dynamically pass the user name and password for each SOAP request.

This impacts the following activities:

- SOAP Request Reply
- Partner Link Configuration

Incoming and Outgoing HTTP Headers and Cookies in a SOAP Request

Support added to expose the HTTP headers and cookies in the following activities:

- SOAP Request Reply
- Partner Link Configuration

MTOM support with SOAP 1.1 binding

Support added for MTOM with SOAP 1.1 binding.

This impacts the following activities:

- SOAP Request Reply
- SOAP Event Source
- Partner Link Configuration
- Service

Reconnecting to JMS Servers for a list of exceptions

Support added for reconnecting to the JMS servers when connections are interrupted. Support is provided for a configurable list of exceptions.

For details, refer to the section Reconnecting to JMS Servers, in *TIBCO ActiveMatrix BusinessWorks Palette Reference* guide.

Log4j Configuration File

Support added to print the location of the log4j configuration file.

Sequenced Elements and Enumeration

Support added for sequenced elements and mapping enumeration to simple data type.

This impacts the following activities:

- Java to XML
- XML to Java

Removal of Manual Activity of adding the Prefix - Namespace pair

Support added for removal of the manual activity of adding the prefix-namespace pair to the association file.

It impacts Security Policy Association.

Overriding Content Type

Support added to override content type while sending MTOM messages.

This impacts the following activities:

- SOAP Request Reply
- SOAP Send Reply
- Invoke Partner

- Service

For details, refer to the section Overriding the Content Type MimeHeader, in *TIBCO ActiveMatrix BusinessWorks Palette Reference* guide.

Reading binary data directly from the file

Support added to read binary data directly from the file in a base64 field when MTOM is used.

This impacts the following activities:

- SOAP Request Reply

- SOAP Send Reply

- Invoke Partner

- Service

Filter messages using CorrelationID

Support added for filtering messages for the SOAP Request Reply activity using the Correlation ID.

It impacts SOAP Request Reply.

Checking for Mandatory or Optional fields in Continue On Error feature in Parse Data

Support added to check for mandatory or optional fields in the Continue on Error feature.

It impacts Parse Data.

Dependency Checks

Following are the required dependency checks for TIBCO ActiveMatrix BusinessWorks 5.13:

- TIBCO Runtime Agent 5.10.0

- TIBCO Rendezvous 8.4.3

Platform Support

The following are supported in this release:

- Microsoft Windows
  - — Windows 8.1 64 bit
  - — Oracle Enterprise Linux 7.x 64 bit
  - — RHEL 7.x 64 bit

Database Support

The following are supported in this release:

- Oracle 12c RAC
- Microsoft SQL Server 2014

Release 5.12

The following are the new features in this release.

Support for SQL datatypes

Support added for the following SQL datatypes:

- NCHAR
- NVARCHAR
- NCLOB
- SQLXML

New headers for SOAP Over JMS

Support added for new headers as per W3C SOAP Over JMS 1.0 Specification.

This impacts the following activities:

- SOAP Event Source
- SOAP Request Reply
- Partner Link Configuration
- Service

For details, refer to JMS Message Headers and Header Properties for SOAP messages in *TIBCO ActiveMatrix BusinessWorks Palette Reference*.

Delivery Mode for SOAP over JMS Response Messages

Support added to select the delivery mode while replying to messages using SOAP Over JMS.

This impacts the following activities:

- Service
- SOAP Send Reply
- SOAP Send Fault

TCP Connection Pooling

Support added for TCP connection pooling on the client side.

It impacts the resource TCP Connection. For details, refer to the section Connection Pooling, under TCP Connection in *TIBCO ActiveMatrix BusinessWorks Palette Reference*.

Support for selecting Key Identifier Type

Support added for selecting the Key Identifier Type while referring to the security token. The Issuer Serial Key Identifier Type is also supported.

It impacts Security Policy.

Different passwords for Keystore and Private keys

Support added for keystores having different passwords for the keystore and the private keys stored inside it. The keystores supported are JKS and JCEKS.

It impacts Security Policy.

External WSDL

Support added for importing external WSDL or XSD from a HTTP network location into a local WSDL without physically importing them into the project repository.

It impacts the WSDL Palette.

Restricting specific HTTP Methods

Using the property, "bw.plugin.http.server.restrictHttpMethods"specific HTTP methods can be disabled. The restrictions are applicable to all resources accessed on the server, for all roles.

It impacts the HTTP Palette

Dependency Checks

Following are the required dependency checks for TIBCO ActiveMatrix BusinessWorks 5.12:

- TIBCO Runtime Agent 5.9.0
- TIBCO Rendezvous 8.4.2

Platform Support

The following is supported in this release:

- Microsoft Windows
  - Windows 8 (x86, x86-64)
  - Windows 2012
  - Windows Server 2012 R2
  - Oracle Enterprise Linux 6.x (x86 and x86-64)

Database Support

The following are supported in this release:

- Oracle 12c
- Microsoft SQL Server 2008
- Microsoft SQL Server 2008 R2
- Microsoft SQL Server 2012
- Microsoft SQL Server 2012 R2

Release 5.11

The following are new features in this release:

Support for SHA256, SHA384, SHA512 Algorithm

Support added for SHA256, SHA384, and SHA512 signature algorithms in the Security Policy resource (Inbound/Inbound Fault and Outbound/Outbound Fault policy types) that can be used for:

- creating signatures for outgoing messages.
- checking signatures of incoming messages.

For more information, refer to the *Integrity* section under *Security Policy,* in *TIBCO ActiveMatrix BusinessWorks Palette Reference*.

Dynamic Properties

This is an enhancement in the JMS receiver activities to allow an aspect to add properties at run-time. It impacts the following activities:

- JMS Queue Receiver
- JMS Topic Subscriber
- Wait for JMS Queue Message
- Wait for JMS Topic Message
- Get JMS Queue Message
- JMS Queue Requestor
- JMS Topic Requestor

Dynamic Headers

This enhancement supports additional header parameters for incoming HTTP messages. It impacts the following HTTP activities:

- Send HTTP Request
- HTTP Receiver
- Wait for HTTP Request

Dependency Checks

Following are the required dependency checks for TIBCO ActiveMatrix BusinessWorks 5.11:

- TIBCO Runtime Agent 5.8.
- TIBCO Rendezvous 8.4.0 hotfix02 (Contact Support for assistance, if needed.)
- JRE 1.7

  (JRE 1.6 and lower versions are not supported. Refer to Deprecated and Removed Features, page 27 and Third-Party Software Support, page 31 to see a list of older platforms that are no longer supported in this release for compatibility with JRE 1.7.)

Database Support

The following is supported in this release:

— DB 10.1

Release 5.10

The following are new features in this release:

Persistent Connection with HTTPS

The following new engine property has been introduced.

bw.plugin.http.client.usePersistentConnectionManagerForSSL - This property specifies that a pool of HTTPS connections to each HTTP server must be created for connections to be reused by the Send HTTP Request activities. This property when set to "True", enables the persistent connections for all SSL Send HTTP Request activities in that ActiveMatrix BusinessWorks engine.

Global Variable to Define Timeout Value in Partner Link Configuration

Global Variable is now supported in "Timeout" field in the Partner Link Configuration.

Unshared State Failover (UFO) support in JMS

This feature introduces a new checkbox to indicate the usage of "Unshared State Failover" in JMS. This field appears only when the "Use JNDI for Connection Factory" field is unchecked. When using Unshared Failover setup, if a connection loss is detected to server (A), BW will try to connect to server (B) as defined in the connection factory configuration. For more information on Unshared State Failover, refer to *TIBCO Enterprise Message Service User 's Guide*.

After enabling this checkbox you can pass the provider URL in the form of UFO. For example: `"tcp://serverA:7222+tcp://serverB:7222"` where serverA and serverB are two EMS servers configured for Unshared State Failover.

Runtime Property in the Outgoing JMS Message

The Runtime property is an additional property that can be added to the outgoing JMS message. This feature is only supported for the Send activity.

The activities supported are:

• JMS Queue Sender

• JMS Queue Requestor

- JMS Topic Publisher
- JMS Topic Requestor

Dynamic Headers

The Dynamic Headers is an additional header parameter to add runtime headers to the Outgoing Http Messages. This is visible in the Input tab of Send HTTP Request and Send HTTP Response only.

Support for Request Reply Model When Using JMS Bridge Between Different Types of Destinations

Reply To JMS Message activity has been changed to identify the reply destination based on the actual JMSReplyTo property message at run-time.

This feature can be enabled with the following plugin property: `'bw.plugin.jms.enableBridge'`.

The activities supported are:

- JMS Palette
  - JMS Queue Receiver
  - JMS Topic Subscriber
  - Wait For JMS Queue Message
  - Wait For JMS Topic Message
  - Reply to JMS Message
- AE Adapter Palette
  - Adapter Subscriber
  - Respond to Adapter Request
  - Wait for Adapter Message
  - Wait for Adapter Request
  - Adapter Request-Response Server
- SOAP Palette
  - SOAP Event Source
  - SOAP Send Reply
  - SOAP Send Fault
- Service Palette
  - Partner Link Configuration
  - Service

TIBCO EMS Explicit Dups OK

This new option had been added in the Acknowledge Mode for the following activities. Refer to *TIBCO ActiveMatrix BusinessWorks Palette Reference* for details.

- Get JMS Queue Message
- JMS Queue Receiver

- Wait for JMS Queue Message
- JMS Topic Subscriber
- Wait for JMS Topic Message
- SOAP Event Source
- Service

Engine.ShutdownOnAllStartupErrors BusinessWorks Engine Property

This property has been added to check all activation errors related to the BusinessWorks engine.

To catch all the exceptions or errors related to BusinessWorks engine startup and activation, enable the property `Engine.ShutdownOnAllStartupErrors = true` to ensure that BusinessWorks engine throws `ShutDownException` and stops the BusinessWorks engine.

TCP Keep-Alive

This check-box is now added in the Configuration tab of TCP Receiver and Wait for TCP Request. Select this checkbox to specify whether the TCP connections should use the keep-alive feature of sockets. Note TCP Keep-Alive behaves differently from HTTP keep-Alive. Refer to TCP Keep-Alive documentation for details.

NTLM Authentication Support

Support for NTLM Authentication for SOAP/HTTP Requests is now added. HTTP Authentication drop-down provides an option to choose from NONE, BASIC,and NTLM. NTLM Authentication support is added to the following activities:

- Send HTTP Request
- Proxy Configuration
- SOAP Request Reply
- Partner Link Configuration

SSL Support for the Receive Mail and Send Mail Activities

SSL support is added to the Receive Mail and Send Mail activities in the Mail palette.

Partner Link Configuration Allows Overriding of JMS Transport Parameters

This is an enhancement for JMS transport. Refer to Additional Configuration for JMS Endpoints in Partner Link Configuration section in *TIBCO ActiveMatrix BusinessWorks Palette Reference*.

Support for Large Attachments Using Write to File Feature

This release supports handling large attachments (files of gigabyte size can be shared between Client/Server irrespective of Heap size) using Write to File feature. Write to File Configuration tab is added for the following activities:

- Send HTTP Request
- HTTP Receiver
- Send HTTP Response
- SOAP Event Source
- SOAP Request Reply
- SOAP Send Reply
- Service Resource

Unqualified Elements Support

The unqualified elements support is now added to the Security Policy Association.

Partner Link Configuration Timeout Value in Milliseconds

Partner Link Configuration Timeout value which was in seconds (sec) is now in milliseconds (msec).

SOAP Request Reply Activity Timeout Value in Milliseconds

SOAP Request Reply activity has Timeout value as seconds (sec) by default. Now you can also select Timeout as milliseconds (msec).

Dependency Checks

Following are the required dependency checks for TIBCO ActiveMatrix BusinessWorks 5.10:

- TIBCO Runtime Agent 5.7.4
- TIBCO Rendezvous 8.3.2 hotfix06 or 8.4.0 hotfix02 (Contact Support for assistance, if needed.)

Release 5.9.3

Following are the required dependency checks for TIBCO ActiveMatrix Business Works 5.9.3:

- TIBCO Runtime Agent 5.7.3

Release 5.9.2

Following are the required dependency checks for TIBCO ActiveMatrix Business Works 5.9.2:

- TIBCO Runtime Agent 5.7.1
- TIBCO Rendezvous 8.3.1

Platform Support

The following is supported in this release:

- AIX 7.1
- SUSE Linux Enterprise Server 10 on zSeries

Release 5.9

The following are new features in this release:

Headers for Declared Faults

A Fault Headers tab has been added to the Advanced SOAP Settings. You can map the context resource values to the configured header using the Fault Context tab.

Platform Support

The following is supported in this release:

- Microsoft Windows
  - Windows Server 2003 R2 (x86, x86-64)
  - Windows Server 2008 R2 (x86-64)
  - Windows 7 (x86, x86-64)

- Database Support

    — Database support for Oracle 11g R2 , Oracle 11g R2 with RAC, DB2 9.5 and DB2 9.7

Release 5.8

The following are new features in this release:

SOAP Undescribed Headers

Undescribed headers support is added on the Service Resource and Partner Link Configuration. Undescribed headers are SOAP headers that may appear in the SOAP message but are not part of the WSDL binding description.

SOAP Fault Sub-Element Propagation

This feature allows the SOAP Fault sub-elements - faultcode, faultstring, and faultactor to be specified on SOAP faults generated by TIBCO ActiveMatrix BusinessWorks. With this mechanism the SOAP faults generated within the TIBCO ActiveMatrix Business Works process can be propagated to the framework in which it is embedded. To configure and propagate the SOAP fault context, the SOAP endpoint configuration user interface for the service and partner link configuration resources are enhanced to include the configuration of fault context.

On Error Activity

This activity provides error handling mechanism for all the errors that happen outside the job boundaries while processing the messages triggered via Service Resource.

Platform Support

The following is supported in this release:

- SUSE Linux Enterprise 11 on x86 & x86-64

Release 5.7.2

The following are new features in this release:

MTOM Parser Activity

This activity is responsible for parsing the MTOM messages into a SOAP message that contains the binary attachments as an inline data of the SOAP message. The output can be either in a text or a binary format.

Applying Policy on a Partner Link Configuration

Security policies can be applied to the endpoint operation of a partner link defined in a Partner Link Configuration resource.

Associating Policy with Invoke Partner Activity

Invoke Partner activity is bound using the partner links and the activity can now support message level security.

Release 5.7.1

This release does not introduce any new features.

Release 5.7.0

The following are new features in this release:

MTOM

This is a new mechanism for serializing SOAP messages with attachments.

Receive Partner Notification Activity

The notification partner services can be invoked from TIBCO BusinessWorks processes using the Receive Partner Notification activity. This activity resides in the Service Palette and you can invoke services on Partners defined in the process. As the Invoke activity depends only on a Partner, it is transport agnostic and the transport bindings can be specified in a Partner link configuration Resource.

Support for XSLT 2.0 (Saxon engine)

SaxonB 9.0 is exposed as a third party engine in XML Transform activity to support XSLT 2.0 transformations.

HTTP Components

Apache project called "HTTP Components" provides a lighter-weight and more scalable HTTP server implementation based on NIO. The scope of this feature is HTTP Shared resource in BW HTTP plug-in. This resource gets used by all the event sources which are configured to receive events on http transport and so has a runtime impact on the performance of those event sources.

JDBC Connection Pool metrics

The JDBC connection pool metrics can be viewed through the Hawk Interface and the JMX. The metrics contains the information about:

- all the Database Connections opened by a single BW engine instance.

- all the Open connections - will consist of JDBC Connection Name, username and the owner of the connection. The owner of the connection would contain the Activity Name and the Job-id for which the connection is acquired.

- all the Idle connections - will consist of JDBC Connection Name, username and the Idle Time in minutes

Activity elapsed time

The new feature allows the user to view the Elapsed time for all the JDBC activities in their output Schema. You can configure the Elapsed Time property per activity or for all the JDBC activities for which you want the elapsed time to be in the output schema. Elapsed time is an optional field and is of 'long' data type.

This is not a recommended method to gather statistics for the elapsed time.

Outbound Security Context Propagation

TIBCO ActiveMatrix BusinessWorks can propagate the incoming security context information from TIBCO ActiveMatrix Policy Manager while invoking services using SOAP Request Reply.

Based on the transport used by SOAP Request Reply it propagates the security context information (user document), either as HTTP Header or JMS application property. The header name or the JMS property name is the same which is used in the inbound message.

Support for JMS properties for Inbound SOAP Messages

In this release Service resource and SOAP event source provide support for JMS application properties.

Platform Support

This following platforms are supported in this release.

- Red Hat Enterprise Linux 5 and 5.1
- Microsoft Windows Server 2003 SP1 on x86_64
- Microsoft Windows Vista Business Edition (x86) with latest patches
- Database support for Sybase 15

New Features in TIBCO ActiveMatrix BusinessWorks 5.6

The following sections describe the new features in this release.

Change in Product Name

TIBCO BusinessWorks has been rebranded as TIBCO ActiveMatrix BusinessWorks. ActiveMatrix BusinessWorks 5.6 is backward compatible with the earlier 5.x versions of BusinessWorks.

Platform Support

HPUX 11i v3/11.31 on PA-RISC and IA-64/Itanium is now supported.

Service Container

TIBCO ActiveMatrix BusinessWorks now offers a new feature, service container in this release. Once you enable a service container, you can upload multiple EAR files in the same container. All the processes running in a service container are isolated and independent of each other. So if there is a need to add new services or upgrade the existing services in future, you can:

- deploy additional EAR in the same service container without bringing down all the running services.
- upgrade an existing process already running in a service container without affecting all the other processes running in the same service container.

To know more about the service container feature, read the TIBCO BusinessWorks Service Container chapter in *TIBCO ActiveMatrix BusinessWorks Administration*.

Partner Service Invocation

To manage lifecycle of BW service through ActiveMatrix administrator, the BW services need to invoke and be invoked by other TIBCO ActiveMatrix components.

TIBCO ActiveMatrix BusinessWorks introduces the following mechanism to invoke services from BW processes using abstract partner definitions:

- Partner tab on the BW process—Defines a list of partners that can be referenced in the Process. Partners provide services which are defined by WSDL Interfaces. Partners provide well defined services and BW can invoke Partners over one of multiple transport channels.

- Partner Link Configuration resource—Associates abstract partner portTypes with concrete port bindings. This allows you to easily link to new partner services without changing the process definitions that invoke the partners.

- Invoke Partner activity—Invokes Partner services from BW processes. It uses abstract Partner definitions for service invocation. Transport binding information for Partner definitions will be provided in the Service Resource.

- Partner Binding—BW type Service Resources allow Partners to be bound to transport through the Service Resource's Partner Binding tab.

To know more about the partner service invocation feature, read the *TIBCO ActiveMatrix BusinessWorks Palette Reference* and *TIBCO ActiveMatrix BusinessWorks Process Design Guide*.

XPath Functions for BusinessWorks Process Information

TIBCO ActiveMatrix BusinessWorks provides functions in the XPath Formula builder that can be used to fetch process related information for any activity. The available functions are `getCurrentProcessName(`*processID*`)`, `getCurrentActivityName(`*processID*`)`, and `getHostName()`.

See *TIBCO ActiveMatrix BusinessWorks Process Design Guide* for details about the XPath functions for BusinessWorks process information.

Built-in Resource Provider

The Built-in resource provider enables the engine to listen on the configured port to retrieve resources such as WSDL, XSD, WSIL, or any other file, without creating a RetrieveResource process. You can set the following property in bwengine.xml to enable the Built-in resource provider:
`bw.platform.services.retrieveresources.Enabled = true`

The Built-in resource provider feature can be controlled by setting several other properties in bwengine.xml. See *TIBCO ActiveMatrix BusinessWorks Palette Reference* for details.

Java Authentication and Authorization Service (JAAS) Login

TIBCO ActiveMatrix BusinessWorks supports authentication using Java Authentication and Authorization Service (JAAS). By default, JAAS login is not available in BusinessWorks. You can set the following property in bwengine.tra to enable JAAS login:

`java.property.com.tibco.bw.security.login.jaas=true`

See *TIBCO ActiveMatrix BusinessWorks Process Design Guide* for details.

JMS Local Transaction

TIBCO ActiveMatrix BusinessWorks supports JMS local transactions in the JMS plug-in. JMS local transaction is a new transaction group type into which JMS activities can be added. A JMS process starter can also be linked to this group. At runtime, the underlying JMS activities uses the same transacted JMS session to provide transaction semantics for messages sent and received by the JMS activities. See *TIBCO ActiveMatrix BusinessWorks Process Design Guide* for details.

JDBC Palette

The JDBC Call Procedure, Query and Update activities now support Oracle Objects, BLOB and CLOB, PLS_INTEGER, and PL/SQL table datatypes. The input schema for the JDBC Query activity and the input and output schemas for the JDBC Call Procedure activity display the components of these complex data types in a tree structure.

To support the PLS_INTEGER data type, the driver jar files need to be added to the *TIBCO_HOME*\tpcl\5.5\jdbc\lib location or the absolute path to the jar file has to be provided to the TIBCO environment.

Security Context Propagation from TIBCO Policy Manager

TIBCO ActiveMatrix BusinessWorks populates the security context for Service resource or SOAP Event Source activity with the security information sent by TIBCO ActiveMatrix Policy Manager. Depending on the transport, the security information is sent either as an HTTP header or a JMS Message property. See *TIBCO ActiveMatrix BusinessWorks Process Design Guide* for details.

New Features in TIBCO BusinessWorks 5.4

The following sections describe the new features in this release.

Platform Support

SQL Server 2005 and the IBM DB2 Universal Database driver on AS/400 are now supported by the activities in the JDBC palette.

Monitoring XA Transactions

New TIBCO Hawk microagent methods have been added to monitor XA transaction activity when using TIBCO XA Transaction Manager or Arjuna Transaction Manager. The `ListInflightTransaction()` method returns information about currently active transactions and the `GetTransactionStatistics()` method returns information for all transactions since the process engine started. See *TIBCO ActiveMatrix BusinessWorks Administration* for more information.

Policy Palette

The Security Policy resource now allows you to specify a Java object for implementing custom password lookup functions. See *TIBCO ActiveMatrix BusinessWorks Process Design Guide* and *TIBCO ActiveMatrix BusinessWorks Palette Reference* for more information.

Rendezvous Transport

For activities that can use the TIBCO Rendezvous RVCMQ transport (for example, activities in the Rendezvous or ActiveEnterprise Adapter palettes), the `Config.Tibrv.cmQueueTransport.TaskBacklogLimitInBytes` property has been introduced to set the backlog limit (in bytes) of the task scheduler for the transport. See *TIBCO ActiveMatrix BusinessWorks Administration* for more information.

Security Context

The SOAP Event Source process starter and the Service resource can now specify that the security context of the incoming message is available to the process instance. The security context includes items such as the username and password of the client when basic authentication is used, or it can include the X509 certificate when Web Service Security policies are used. See *TIBCO ActiveMatrix BusinessWorks Palette Reference* for more information about the security context in the SOAP Event Source and Service resources.

Changes in Functionality

This section lists changes in functionality since the last major release of this product.

Release 5.13.1

Disabling DOCTYPE declaration

For XML Payload, ActiveMatrix BusinessWorks does not support the DOCTYPE declaration.

To enable DTD, set the property `bw.plugin.disableDTD` to `false`.

Release 5.13

There are no changes in functionality in this release.

Release 5.12

There are no changes in functionality in this release.

Release 5.11

This section lists changes to existing product functionality in this release.

There are no changes in functionality in this release.

Release 5.10

This section lists changes to existing product functionality in this release.

TIBCO EMS Explicit — (Only Available for TIBCO Enterprise Message Service)

A message which is not acknowledged using the Confirm activity before the process instance ends, is redelivered instead of all messages in the session. The session is not blocked and one session handles all incoming messages for each process instance.

In the TIBCO ActiveMatrix BusinessWorks 5.10 release, there is a change in the behavior of this feature. Now only the messages that are not confirmed, would be redelivered.

Partner Link Configuration Activity

When Partner Link Configuration is created, the fields get populated with the values from the concrete WSDL. You can override the values in Partner Link Configuration. If the concrete WSDL is changed after configuring Partner Link Configuration, the changes will not be reflected in the Partner Link Configuration.

Release 5.9.3

This section lists changes to existing product functionality in this release.

Full Installer

TIBCO ActiveMatrix BusinessWorks 5.9.3 is a full installer and does not need a prior installation of 5.9.0 or 5.9.2 version.

Release 5.9.2

This section lists changes to existing product functionality in this release.

Full Installer

TIBCO ActiveMatrix BusinessWorks 5.9.2 is a full installer and does not need to be installed over 5.9.0 version.

ActiveEnterprise Adapter Palette

Adapter Subscriber behavior was different than the JMS Receiver when Auto confirm was not selected. This has been fixed in Adapter Subscriber (JIRA ID: BW-8970). Now, if the checkbox is not selected then the message will be acknowledged at a later point by using the Confirm activity. If the message is not confirmed before the process instance ends, the message is redelivered and a new process instance is created to handle the new incoming message. Ensure that your process definition confirms the message.

Release 5.9

There are no changes in functionality in this release.

Release 5.8

There are no changes in functionality in this release.

Release 5.7.2

There are no changes in functionality in this release.

Release 5.7.1

There are no changes in functionality in this release.

Release 5.7.0

There are no changes in functionality in this release.

Release 5.6.0

This section lists changes to existing product functionality in release 5.6.

HTTP Palette

You can flush the output after every Send HTTP Response activity, instead of buffering the response and sending it, using the new Flush Response option on the Configuration tab.

The HTTP connection parameters are now exposed for data compression and performance tuning. You can now specify the parameters in the Advanced tab of the HTTP Connection Shared Resource or in the bwengine.tra file. HTTP connection parameters for IP-based access control are available as custom engine properties, which you can specify in the bwengine.tra file. See *TIBCO ActiveMatrix BusinessWorks Palette Reference* for details.

Parse Palette

When parsing large files, you can use the Continue on Error option in the ParseData activity to continue processing the file even after encountering an error. In previous releases, when parsing large files if an error was encountered, the Parse Data activity stopped processing the file and exited with an error.

Also, a custom line separator is supported in the Data Format shared resource with the new Line Separator field.

Changes in 5.4

This section lists changes to existing product functionality in release 5.4.

SSL Cipher Suites

Some activities that use SSL connections can specify the Strong Cipher Suites only field. In previous releases, checking this field did not always expose the strongest cipher suites available. The custom engine property `bw.plugin.security..minstrength` has been introduced to allow you to specify the minimum strength of the cipher suites you wish to use. See *TIBCO ActiveMatrix BusinessWorks Administration* for more information.

HTTP Palette

Multiple name/value pairs can be sent in the Cookie header element of the Send HTTP Request activity. Also, the custom engine property `bw.plugin.http.protocol.single-cookie-header` has been added to specify that multiple cookies should be combined into one header element when the request is sent. See *TIBCO ActiveMatrix BusinessWorks Palette Reference* and *TIBCO ActiveMatrix BusinessWorks Administration* for more information.

Mail Palette

In previous releases, the Receive Mail activity threw exceptions when receiving email, if the email was in rich text format and the first mime part contained nested mime sub parts. You can fix this by setting the `bw.plugin.mail.receiverFlattenNestedAttachments` property to `true` which flattens out the message structure so that all parts are siblings.

In previous releases, the Receive Mail activity did not handle incoming mime messages with mime types application/*, audio/*, video/*, or image/*. While fetching these types of emails, TIBCO ActiveMatrix BusinessWorks threw exceptions. You can fix this by setting the `bw.plugin.mail.receiverHandleDiscreteTypes` property to `true`.

See *TIBCO ActiveMatrix BusinessWorks Administration* for more information.

JMS Palette

The behavior of the Client ID field in JMS connections has been changed. Previously, client IDs were automatically generated in a variety of circumstances. Now, there is a field named Auto-Generate Client ID that controls whether client IDs are automatically generated or not. See *TIBCO ActiveMatrix BusinessWorks Palette Reference* for more information about the new behavior of the fields in the JMS Connection resource.

For activities that receive JMS messages (for example, JMS Queue Receiver or Wait for JMS Topic Message), the Receiver Timeout field has been added to the Advanced tab to allow you to specify a polling interval for the receiver. The custom engine property `bw.plugin.jms.receiverTimeout` has also been added to allow you to specify a default timeout for all JMS receiver activities. See *TIBCO ActiveMatrix BusinessWorks Palette Reference* and *TIBCO ActiveMatrix BusinessWorks Administration* for more information.

Rendezvous Palette

The Publish Rendezvous Message activity now has a replySubject element in the activity input. This allows you to specify a reply subject for the message so that a Wait For Rendezvous Message activity later in the process can receive replies to the message.

Deprecated and Removed Features

This section describes deprecated features (if any), and lists features, if relevant, that may be useful alternatives to the deprecated features. Any use of a deprecated feature should be discontinued as it may be removed in a future release. You should avoid becoming dependent on deprecated features and become familiar with the suggested alternative features.

This section also lists features that are removed (if any).

Release 5.13.1

Deprecated Features

No features are deprecated in this release.

Removed Features

No features are removed in this release.

Release 5.13

Deprecated Features

No features are deprecated in this release.

Removed Features

No features are removed in this release.

Release 5.12

Deprecated Features

The following is no longer supported:

- MD5

    The signature method MD5 is no longer supported in the Policy Palette. WSS4J 1.0 is upgraded to WSS4J 1.6 and with this upgrade support for the

signature method MD5 has been removed by the XML Security jars (xmlsec1.5).

Removed Features

No features are removed in this release.

Release 5.11

Deprecated Features

The following are no longer supported:

- HP-UX (PA-RISC)
    - — HP-UX 11i v1
    - — HP-UX 11i v2
    - — HP-UX 11i v3
- Red Hat Enterprise Linux 3.x and 4.x
- AIX 5
- Solaris (SPARC) 8.x and 9.x
- JRE 1.6 and lower

Removed Features

No features are removed in this release.

Release 5.10

Deprecated Features

No features are deprecated in this release.

Removed Features

No features are removed in this release.

Release 5.9.3

Deprecated Features

No features are deprecated in this release.

Removed Features

No features are removed in this release.

Release 5.9.2

The following feature is deprecated in this release.

• TIBCO ActiveMatrix BusinessWorks Integration Plug-in Software 1.0.0

Release 5.9

The following features are deprecated in this release:

• WorkFlowServerConnection for shared resource at project level.

Release 5.8

The following features are deprecated in this release:

• TIBCO ActiveMatrix BusinessWorks Manual Work Flow plug-in

• TIBCO ActiveMatrix BusinessWorks service container introduced in 5.6.0 release

Release 5.7.2

There are no deprecated features in this release.

Release 5.7

The following features are deprecated in this release:

• DataDirect JDBC drivers

It is recommended to use the vendor provided native JDBC drivers (if supported) instead of DataDirect JDBC drivers. See Database Not Supported on page 31 for the list of supported JDBC drivers.

Migration From Previous Releases

Projects created in any 5.x release can be opened and saved in this release. Projects from Release 2.x must be migrated to Release 5.x before they can be used. TIBCO Designer has a tab labeled Administration on the startup menu that allows you to convert `.dat` files containing projects from Release 2.x to the current format. You can also use the `bw20migrate.exe` utility to perform batch conversions of projects. Once a project created in Release 2.x is migrated to release 5.x, you can open the project in this release.

Migrating projects is described in *TIBCO ActiveEnterprise Features, Migration, and Compatibility* in the TIBCO Runtime Agent documentation set.

It is recommended to take manual back up of existing BW 5.13.0 environment before installing 5.13.1

Third-Party Software Support

TIBCO ActiveMatrix BusinessWorks can be used to work with external systems such as databases and JMS servers. This section lists the third-party products that TIBCO ActiveMatrix BusinessWorks supports.

Any products that are not mentioned in this section are not officially supported.

Supported Platform

Apache Tomcat Support

Apache Tomcat 7.0.82 support is added for TIBCO Runtime Agent 5.10.1.

Apache Tomcat 7.0.62 support is added for TIBCO Runtime Agent 5.10.0.

Unsupported Platform

JRE 1.6 Not Supported

JRE 1.6 (Java 6) is no longer supported with TIBCO ActiveMatrix BusinessWorks 5.12.0 and TIBCO Runtime Agent 5.9.0.

It is recommended not to upgrade to TIBCO ActiveMatrix BusinessWorks 5.12.0 and TIBCO Runtime Agent 5.9.0, if you are using JRE 1.6.

Database Not Supported

- Oracle 8.1.x
- Microsoft SQL Server 2000
- Microsoft SQL Server 2005

JDBC Support

TIBCO ActiveMatrix BusinessWorks can communicate with a database using the JDBC Connection shared configuration resource. The connection can be used to perform database work with activities in the JDBC palette or it can be used to specify the data store for a process engine's internal data. See *TIBCO ActiveMatrix BusinessWorks Administration* for more information about specifying a process engine's data store. See *TIBCO ActiveMatrix BusinessWorks Palette Reference* for more information about using the JDBC palette.

Database Support

TIBCO ActiveMatrix BusinessWorks supports the following databases:

- Oracle 11g
- Oracle 11g with RAC
- Oracle 11gR2
- Oracle 11gR2 with RAC
- Oracle 10g with RAC
- Oracle 10g
- Oracle 9i with RAC
- Oracle 9.x
- Oracle 12c
- Oracle 12c RAC
- Microsoft SQL Server 2008
- Microsoft SQL Server 2008 R2
- Microsoft SQL Server 2012
- Microsoft SQL Server 2012 R2
- MySQL 5.x
- Sybase 12.x and 15
- DB2 8.2
- DB2 9.0
- DB2 9.5
- DB2 9.7
- DB2 10.1

- DB2 10.5

- TimesTen 5.0.x

For the 5.0.34 release of the TimesTen database, the maximum size of an object inserted into the database is 4 MB. Therefore, checkpoints, shared variables, and data in Notify Configurations cannot exceed this limit.

As of Release 5.2.0, the TimesTen database has been tested with the Checkpoint activity to store process engine data. DB2 has been tested with JDBC activities. Other uses of these databases is supported, but has not been tested. If you experience problems using these databases, contact TIBCO Support with details of your usage scenario.

Supported Drivers That Are Not Bundled

The JDBC Connection resource also lists the following drivers in the drop-down list:

- `oracle.JDBC.driver.OracleDriver (oci)`
- `oracle.JDBC.driver.OracleDriver (thin)`
- `com.sybase.jdbc2.jdbc.SybDriver`
- `com.timesten.jdbc.TimesTenDriver`
- `com.ibm.db2.jcc.DB2Driver`
- `com.mysql.jdbc.Driver`

These drivers are officially supported, but they are not bundled with TIBCO ActiveMatrix BusinessWorks. You must download and configure these drivers before using them in the JDBC Connection resource. Also, you must add the driver location to the TIBCO ActiveMatrix BusinessWorks classpath before using them.

Unsupported Drivers

There are other JDBC 2.0-compliant drivers listed in the JDBC Connection resource. These drivers should work correctly, but they are not officially supported. You must download and configure these drivers because they are not included with TIBCO ActiveMatrix BusinessWorks. These drivers are the following:

- `sun.jdbc.odbc.JdbcOdbcDriver`
- `weblogic.jdbc.mssqlserver4.Driver`

You can download, install, and use other JDBC drivers, but TIBCO does not guarantee the drivers will function properly with TIBCO ActiveMatrix BusinessWorks. To use an unsupported driver, perform the following:

1. Download the JDBC driver and copy the required JAR files to a location in the classpath of the TIBCO ActiveMatrix BusinessWorks Engine. For example, you can copy the files to the following location: *TIBCO_HOME*/`tpcl`/*<version>*/`jdbc`.

2. In the JDBC Connection resource, choose Select Driver from the drop-down list in the JDBC Driver field and type in the name of the driver class in the text box within that field. Then, type in the correct URL in the Database URL field and specify the other fields in the resource.

JMS Support

To use the activities in the JMS palette, you must have installed and configured a JMS (Java Messaging Service) server. TIBCO ActiveMatrix BusinessWorks acts as a JMS client when interacting with a JMS server.

TIBCO ActiveMatrix BusinessWorks supports TIBCO Enterprise Message Service. The latest release TIBCO Enterprise Message Service is fully backward-compatible with clients from earlier releases. Therefore, your process definitions that use JMS will run against any version of the TIBCO Enterprise Message Service.

TIBCO ActiveMatrix BusinessWorks also supports the following JMS servers:

- Oracle WebLogic Server Version 7.0 Service Pack 2, Version 8.1 Service Pack 1, Version 9.2, and Version 10.3

- IBM WebSphere 5.0.2, 6.0, and 7.0

- JBoss 3.2.1, 4.0.2, and 5.0

- Sun JMS Server 3.6

Application Servers

For EJB and Java Transaction API (JTA) support, the following application servers can be used:

- IBM WebSphere 5.0.2, 6.0, 7.0

- Oracle WebLogic Version 7.0 Service Pack 2, Version 8.1 Service Pack 1, Version 9.2, and Version 10.3

- JBoss 3.2.1, 4.0.2, 5.0

Closed Issues

The tables in this section list issues that were closed in the named releases. The information is organized on a palette basis, even though many issues refer to the runtime behavior of the activities.

Closed in Release	Change Request ID	Summary
General Fixes		
5.13.1	BW-17507	The **Transform XML** activity resolved the wrong location for relative path resolutions with xsl:include when the Saxon-B XSLT 2.0 transform technique was used.
5.13.1	BW-17332	Security policy was unable to authenticate LDAP users integrated with TIBCO ActiveMatrix BusinessWorks Administrator.
5.13.1	BW-17326	Custom faultstring and faultcode did not populate correctly in the SOAP 1.2 fault message format.
5.13.1	BW-17260	A NullPointerException was generated and the job was not executed when a null value was passed to the **End** activity of the called subprocess.
5.13.1	BW-17247	The SOAP service did not disable the assertion processing for TIBCO ActiveMatrix BusinessWorks.
		A property has been introduced for this.
		Set the property `ws.security.policy.suppress.assertion.processing` to `true`, to disable the assertion processing.
		The default value is `false`.
5.13.1	BW-17207	References of Java objects returned from a Java method inside a group, were returned as NULL outside the group.
		A property has been introduced for this.
		Set the property `LoopGroup.releaseReferences` to `true`, to enable this fix.
		The default value is `false`.
5.13.1	BW-17198	When TIBCO ActiveMatrix BusinessWorks encountered database exceptions, the Critical Section group did not release the lock and generated the timeout error for all subsequent requests.

Closed in Release	Change Request ID	Summary
5.13.1	BW-17150	TIBCO ActiveMatrix BusinessWorks service agent returned the WS Security Error: 4
		`com.tibco.spin.soap.processors.SoapProcessingException: WS Security Error: 4` error for invalid value type security token.
		A property has been introduced for this.
		Set the property `bw.plugin.soap.security.lessRestrictive` to `true`, to enable this fix.
		The default value is `false`.
5.13.1	BW-17126	The process statistics did not report the correct process count on the BusinessWorks Administrator. When no active processes were running the Administrator reported more than one running process.
5.13.1	BW-17073	In TIBCO ActiveMatrix BusinessWorks 5.9.3, an issue was observed when the Partner Link Configuration used the WSDL which uses soap 1.2 namespace. When using the "+" to add a WSDL operation, the cursor changed into the busy/wait icon without moving and generated a NullPointerException when saved.
5.13.1	BW-17005	Inbound policy with UsernameToken authentication failed to process UsernameToken with PasswordDigest type password when TIBCO ActiveMatirx BusinessWorks 5.13 HF12 or above was installed.
5.13.1	BW-17004	Failed to change tracing roles in TIBCO Administrator.
5.13.1	BW-17002	The concurrency level in TIBCO Hawk Microagent (HMA) for instrumentation was increased.
5.13.1	BW-16997	When the TIBCO ActiveMatrix BusinessWorks engine was deployed on two machines in the primary-secondary mode, after every FT switchover, the engine used more threads. It continued using the threads till all the available java threads in the machine were used.
		The engine then failed with the exception
		java.lang.OutOfMemoryError: unable to create new native thread.
5.13.1	BW-16995	The number format exception in the **End** activity caused the engine to be unresponsive. The engine tried the same job multiple times.
5.13.1	BW-16993	Some coercions were lost when a BusinessWorks project was opened in the Designer.

Closed in Release	Change Request ID	Summary
5.13.1	BW-16950	Modified TIBCO ActiveMatrix BusinessWorks to replace Apache Tomcat version 7.0.57 with Apache Tomcat version 7.0.62.
		This is inline with the TIBCO Runtime Agent upgrade in 5.9.1 HF-001.
5.13.1	BW-16620	The TIBCO Runtime Agent hotfix did not get effective in TIBCO Designer after installing TIBCO ActiveMatrix BusinessWorks.
5.13.1	BW-16195	Jobs created by the main process went into a hung state and were executed in an infinite loop when the end activity of the call process reported a NullPointerException.
5.13.0	BW-16680	Information about the Service Container feature was present in the Concepts guide.
		The feature has been deprecated since 5.8. All occurrences of this feature have been removed from the *TIBCO ActiveMatrix BusinessWorks Concepts* guide.
5.13.0	BW-16634	The property `bw.engine.dupKey.pollPeriod.minutes` caused issues for higher value.
5.13.0	BW-16602	BusinessWorks 5x did not support JRE 1.8.0.
5.13.0	BW-16481	Support has been provided to print the location of the log4j configuration file used by log4j.
5.13.0	BW-16428	Some coercions were lost when a BusinessWorks project was opened in Designer.
5.13.0	BW-16405	The concurrency level in TIBCO Hawk Microagent (HMA) for instrumentation was increased.
5.13.0	BW-16331	Customers could not stop applications deployed and started on TIBCO Administrator containing the "Onstartup" and "Wait for..." activities, from Administrator. The applications went into the shut down state but did not stop.
5.13.0	BW-16075	Transmitting large files consumed excess memory as the SOAP Request Reply activity, using MTOM, read the files and then mapped the binary data to the base64 field.

Closed in Release	Change Request ID	Summary
5.13.0	BW-15901	The *TIBCO ActiveMatrix BusinessWorks Administration* guide suggests the use of the Upgrade button in the Administrator GUI while upgrading an application. This however, is not the recommended approach and this information has been updated in the Administration guide. Refer to Chapter 4, "Creating and Deploying Applications" in the *TIBCO ActiveMatrix BusinessWorks Administration* guide.
5.13.0	BW-15390	Tracing roles did not change in TIBCO Administrator.
5.13.0	BW-14330	The schema on a shared variable resource was referenced automatically in the Shared Archive while creating the Enterprise Archive Designer on Windows. It did not reference the shared variable resource automatically while using Linux.
5.13.0	BW-13571	The concrete WSDL generated for SOAP over JMS included an empty `<soap:address location=""/>` element and did not pass the Eclipse-provided validation rules for WS-I. This prevented AMX BPM interaction with BusinessWorks.
5.12.0	BW-16051	When the TIBCO ActiveMatrix BusinessWorks engine was deployed on two machines in the primary-secondary mode, after every FT switchover, the engine used more threads. It continued using the threads till all the available Java threads in the machine were used. The engine then failed with the exception "java.lang.OutOfMemoryError: unable to create new native thread".
5.12.0	BW-15935	The Identity file path was truncated in Windows 2008 R2.
5.12.0	BW-15930	The BusinessWorks engine did not stop when "Stop" was issued in Windows 2008 R2, if default values for Graceful Shutdown were used.
5.12.0	BW-15852	An error was encountered when a service was configured using JMS as transport and GetServiceInfo microagent was invoked from TIBCO Administrator GUI.
5.12.0	BW-15682	Fixed an issue where the common logging and custom logging were not written to the application's log file. The log, however, was written correctly in the TIBCO Designer console.
5.12.0	BW-15669	Running a BusinessWorks engine with multiengine locks and critical section groups with SQL Server database caused DB deadlocks.

Closed in Release	Change Request ID	Summary
5.12.0	BW-15582	When the Global transaction policy was applied separately to the composites of service and reference containing the BusinessWorks Service Engine component, the transaction failed with the error "javax.transaction.InvalidTransactionException: Specified transaction is already associated with another thread". The transaction suspend and resume sequence was affected due to the Engine suspendTransaction() call from the job stepping algorithm which was called at the end of every eval() call for scenarios containing the InvokePartner Activity.
5.12.0	BW-15565	Engine.Log.MaxSize did not work in TIBCO ActiveMatrix BusinessWorks 5.10.0 after adding Hotfix004.
5.12.0	BW-15364	Engine.Log.MaxSize did not work in TIBCO ActiveMatrix BusinessWorks 5.10.0.
5.12.0	BW-13970	The process statistics did not report the correct process count on the BusinessWorks Administrator. When no active processes running, the Administrator reported more than one running process.
5.11.0	BW-15346	The ActiveMatrix BusinessWorks engine threw an exception when TIBCO ActiveMatrix BusinessWorks ActiveAspects Plug-in 1.2.0 was installed, if one of the processes contained a CatchAll activity.
5.11.0	BW-15301	Design-time fixes for the TIBCO ActiveMatrix BusinessWorks Service Engine 5.10.0 release were added in TIBCO ActiveMatrix BusinessWorks.
5.11.0	BW-14835	Engines with RVCM transport activities and Service Agents in one EAR (PAR) deployed in the fault tolerance (FT) mode, did not start and threw an exception.
5.10.0	BW-13525	TIBCO Designer showed two Tester tabs.
5.10.0	BW-6348	Fixed an issue where mapping to `xsd:any` `processContents="skip"` did not give validation error.
5.10.0	BW-13406 BW-13289	Context sensitive help link issue for the Write to Log activity is resolved.
5.10.0	BW-13641	The `reviewLedger()` method on TIBCO ActiveMatrix BusinessWorks engine microagent failed, when TIBCO ActiveMatrix BusinessWorks used `tibrvnative.jar` file.

Closed in Release	Change Request ID	Summary
5.10.0	BW-13998	Context sensitive help now works for TIBCO ActiveMatrix BusinessWorks activities.
5.9.3	BW-10214	The deployment of process and forms to iProcess in TIBCO Business Studio failed if the environment had TIBCO Designer Add-in for TIBCO Business Studio and TIBCO ActiveMatrix BusinessWorks 5.7.2 in the same environment as TIBCO Business Studio (with iProcess).
5.9.3	BW-14060	The `log4j.xml` exists in `tibco\bw\5.9\lib\palettes\plugin.jar`. It varies from the previous TIBCO ActiveMatrix BusinessWorks version. The `log4j.xml` in `plugin.jar` overwrites `bw/5.9/lib/log4j.properties`. However when modified, the change did not reflect.
5.9.3	BW-13473	The TIBCO ActiveMatrix BusinessWorks projects worked well with TIBCO Designer, but threw an exception when run through BusinessWorks engine with command prompt.
5.9.3	BW-14500	`ConfigErrorsHelper.addResourceBundle()` did not work in TIBCO ActiveMatrix BusinessWorks 5.9 and 5.9.2.
5.9.3	BW-14480	Invoke Partner activity was not able to call operations from multiple service elements in WSDL.
5.9.3	BW-14464	Top Down approach for creating references in TIBCO ActiveMatrix BusinessWorks Service Engine component resulted in an invalid TIBCO Designer project.
5.9.3	BW-14439	TIBCO ActiveMatrix BusinessWorks signed and/or encrypted only the first element mentioned in the XPath.
5.9.3	BW-14251	The service implementation process went into an infinite loop instead of sending the SOAP fault, when both branches after catch activity encountered an error.
5.9.3	BW-14162	The `"NoSuchMethodError"` exception was thrown when TIBCO ActiveMatrix BusinessWorks 5.9.2 hotfix02 was used with TIBCO BusinessEvents 3.0.2.
5.9.3	BW-9494	In TIBCO Administrator 5.7.0, details of suspended BusinessWorks processes (BW Process > Active Processes > Details of a suspended process) were shown in html source format and not drawn as a table.

Closed in Release	Change Request ID	Summary
5.9.3	BW-5320	The mapper threw an error on nested coercions at design time.
5.9.3	BW-13624	Fixed an issue where the deployment of process and forms to iProcess in TIBCO Business Studio failed, if the environment had TIBCO Designer Add-in for TIBCO Business Studio and TIBCO ActiveMatrix BusinessWorks 5.8.0 in the same environment as TIBCO Business Studio (with iProcess).
5.9.2	BW-8599	Global Variable values were not available after Generate Error activity and an Error transition, when EnableMemorySavingMode was turned on.
5.9.2	BW-10242 1-AMO3VG	If the mapping involved any children under the substitutionGroup When validating a BW project from the validateproject command, a Mapping error was encountered.
5.9.2	BW-13815	The Wait Activity got stuck randomly without processing further inspite of the Notify event getting processed.
5.9.2	BW-13418	On 64-bit platforms the value `%RV_HOME%/lib/64` would prepend to the following properties in `bwengine.tra`. `tibco.env.LD_LIBRARY_PATH` `tibco.env.SHLIB_PATH` `tibco.env.CUSTOM_EXT_PREPEND_CP`
5.9.0	BW-7032	Under certain conditions, the SOAP RequestReply activity attempting to connect to a server by way of a proxy received a `5xx` error.
5.9.0	1-81E34B BW-7220	NULL element was NOT represented as an empty node in the output data.
5.9.0	1-8CJ0U2 BW-7742	When a WSDL and the service resource were deleted and then recreated, a `NullPointerException` was thrown while adding the Operation Name and Operation Implementation. Here, the Implementation Type of the service was a TIBCO ActiveMatrix BusinessWorks Process Definition.
5.9.0	1-8GFHIR BW-7967	The Input and Output schema of a Call Process activity inside a parent process did not show the schema in the Start activity and End activity of the subprocess when called by the Call Process activity.

Closed in Release	Change Request ID	Summary
5.9.0	1-8KW5KD BW-8116	With JMX properties set for JConsole, the container could not be undeployed with the --undeploy option.
5.9.0	1-9EW5KL BW-9030	When more than one custom faults were defined in the Error Output tab and name of one of the custom faults was 'defaultFaultElement', the values of the 'defaultFaultElement' in the Invoke Partner activity did not show.
5.9.0	1-9EW5LO BW-9031	The Invoke Partner activity threw a No activity error, when the Input message and Output message from the Message Kind of the Message table was selected.
5.9.0	1-9BAMZJ BW-9208	The Invoke Partner activity failed if the cardinality was set to be 'Optional'.
5.9.0	1-9EFAD5 BW-9212	The request through the ActiveMatrix BusinessWorks client failed when a crypto policy using decrypt and encrypt was applied on a service.
5.9.0	BW-9689	Microagent method 'getRvCmConfig' did not show the subscriber side RV CM transport information that is supposed to be returned according to the document.
5.8.0	1-ACWBSD	The View Service Instance screen in the TIBCO Administrator hanged when there were a large number of Recoverable Processes.
5.8.0	1-ADJER2	Confirm Activity did not work in the Service Resource.
5.8.0	1-9CJ6US	The "mapper" in the Mapper Activity functioned correctly but the SOAP Request Reply activity changed certain elements from "Optional" to "Required" when 'Apply' button was clicked.
5.8.0	1-9FB3FV	A `WaitNotifierDB4Impl.Sweep.RemoveExpired` activity threw a max open cursors error.
5.8.0	1-8KPRYR	HTTP, Custom Activity, and OnNotificationTimeout examples were not existing under `bw/examples` folder inspite of their entry existing in the index file.

Closed in Release	Change Request ID	Summary
5.7.2	1-8SH2FP	The custom engine property `bw.plugin.security.strongcipher.minstrength` did not work when the provider TIBCO Enterprise Message Service with SSL was used.
5.7.2	1-9EUHWL	When a user-defined fault was generated using Generate Error activity and Schema was set to 'Default', the Invoke Partner activity output gave 'Error output data invalid' message.
5.7.2	1-9QWIVF	If the 'Catch' activity was called inside the 'ChildProcess', two `<exceptiondata>` tags existed instead of one in the error output schema.
5.7.2	1-9VGQAD	When TIBCO Designer Add-in for TIBCO Business Studio was used with TIBCO ActiveMatrix BusinessWorks, the "Insert Model Group Content" under Statement head did not work on the Mapper input data elements and threw a ClassCastException in the console.
5.7.2	1-9YU2DN	During custom installation of TIBCO ActiveMatrix BusinessWorks, the installer did not proceed further without installing TIBCO Designer.
5.7.1	1-9OL482	The BusinessWorks engine Hawk microagent `getStatus` sometimes returned a negative uptime value on the TIBCO Hawk display. This was observed on the HP-UX platform.
5.7.1	1-96AJBG	When ActiveMatrix BusinessWorks was deployed in a Tomcat container setup on UNIX platforms, such as BusinessWorks Collaborator, a `NoSuchMethodError` was thrown. This was because the function/method being called was available in multiple jar files and the order in which the jar and class files were loaded by Tomcat resulted in the wrong jar file being loaded first.
5.7.0	1-9AAIJR	The ActiveMatrix BusinessWorks server and client with multiple element returned only the first fault in the Activity Error details and did not return the subsequent faults `MessageStr` details.

Closed in Release	Change Request ID	Summary
5.7.0	1-8XV6PJ	The Get Context and Set Context activities did not retrieve and set the value of a Context resource respectively when processing a message from ActiveMatrix BusinessWorks Service Engine. This has been fixed. However, note the following limitations: — The context mapping configured for the most recently created endpoint in the Service resource is applied to the request. — While invoking services through the ActiveMatrix environment, any context mappings with SOAP input headers, other than the ones mapped from the input message's message parts, fail at runtime. This is due to the restriction in ActiveMatrix to configure soap headers. — While invoking services through the ActiveMatrix environment, any context mappings which use security context fail at runtime.
5.7.0	1-99CPAV	Large number of transitions caused the engine to stall during the startup if the `EnableMemorySavingMode` property was set to `True`.
5.7.0	1-97T1B7	When the BusinessWorks engine was started in the command mode, the property `'bw.engine.showInput=true'` did not work as expected. This has been fixed. Note that setting this property to true affects the performance as the input of all activities for every message is traced. It is recommended that you use this property only in test or debug environments.
5.7.0	1-5BMPZ8	When using BEA WebLogic server and multiple activities (either EJB activities or JMS activity followed by EJB activities), the JNDI security context used by the first activity in a process definition became associated with subsequent activities in the TIBCO BusinessWorks process. The subsequent activity would throw a Security exception and caused the operation to fail.
5.7.0	1-8MTLPY	When deploying the service assembly in TIBCO ActiveMatrix BusinessWorks Service Engine, the "Rethrow" activity did not throw the fault properly and threw an error at the node console.
5.7.0	1-6P4F9F	The Saved resource displayed its description as empty when a project was reopened. However, the `<description>` tag in the `resource.xml` file showed the content of saved description correctly.

Closed in Release	Change Request ID	Summary
5.7.0	1-8X7WJR	The "Rethrow" activity removed the original error message and error code from the Process variable "`$_error`". As a result, the parent process did not get access to the original values of these fields.

5.7.0	1-8SZBTG	The *TIBCO ActiveMatrix BusinessWorks Administration* guide, Chapter 5 Setting Deployment Options: Configuring Fault Tolerant Process Engines section incorrectly stated:
		
		`Fault tolerance relies on the administrator server.`
		`Therefore, the administrator server must be up and`
		`running for fault tolerance to work properly.`
		
		This note has been removed from the *TIBCO ActiveMatrix BusinessWorks Administration* guide.

5.7.0	1-9C4639	On Solaris, the Confirm activity did not confirm the messages and suspended.
5.7.0	1-90IHPR	The value of the '`targetNamespace`' attribute of the implementation process if not present, did not get generated automatically and gave a binding registration error during validation.
5.6.3	1-7HGTSG	When a sub-process containing a loop was called, each iteration through the loop was added to the "Completed Processes" count. As a result of this, the number of Completed Processes for an ActiveMatrix BusinessWorks process was more than the number of Created Processes.
5.6.3	1-8XLXCZ, 1-8WXELX	As a result of the fix for 1-8EGZZ0 in TIBCO BusinessWorks 5.4.2, the "dataEncipherment" KeyUsage flag was not required and user certificates had to have only "digitalSignature" and "keyEncipherment" KeyUsage attributes. This caused the third party applications to fail with a "PKA Decrypt failure" error when confidentiality policy was used. This has been fixed. TIBCO BusinessWorks now requires the user certificate to have "dataEncipherment" KeyUsage flag in addition to "digitalSignature" and "keyEncipherment" KeyUsage attributes.
5.6.3	1-967TSK	A NullPointerException was thrown when a fault response generated by a proxy client was received by ActiveMatrix BusinessWorks.
5.6.2	1-8Z7SFA, 1-8V5PHK	A JMSException was never caught by the catch activity.

Closed in Release	Change Request ID	Summary
5.6.2	1-87DKYP	The global variables values could not be caught by the Catch activity when the property `EnableMemorySavingMode` was set to true.
5.6.2	1-8SF2AX	When the BusinessWorks engine was started in the command mode, the property `bw.engine.showInput=true` did not work as expected. This has been fixed. Note that setting this property to true affects the performance as the input of all activities for every message is traced. It is recommended that you use this property only in test or debug environments.
5.6.1	1-8Q928P, 1-8PGPDJ, 1-8Q929B	A Null Pointer Exception was thrown in `com.tibco.pe.core.JobPager`. This issue shows up in stressed environments and is associated with frequent job paging in combination with Activation Limit property set to false.
5.6.1	1-8NNZRA, 1-7Z2M2U	While handling exceptions, TIBCO BusinessWorks did not provide a detailed description of the exceptions when using `Weblogic.jar`.
5.6.1	1-8JGV48, 1-8DO1O0	The 'Attribute of Type' option in the Input or Output Editor tab of activities was not available from BusinessWorks version 5.3 and above.
5.6.1	1-8D9VEJ	Audit logs for basic authentication using HTTP, HTTP/s, SOAP, WSSE Username Profile, and so on were not available in TIBCO BusinessWorks.
5.6.1	1-8F2BXK, 1-8G0MIE	When two or more processes published RVCM messages, only one process showed the RV advisory messages in the application log. All other advisory messages were logged in the `tsm.log` file located at *TIBCO_HOME*/`tra/domain/`*domain_name*/`logs`. This has been fixed.
5.4.2	1-8B6GPG	When a user specified the global variable 'BW_GLOBAL_TRUSTED_CA_STORE' and tested the connection in Design time, BusinessWorks loaded the trusted certificates specified at the global variable location. However, if the value of the global variable was modified by the user, TIBCO Designer did not refresh the already loaded trusted certificates. This has been fixed. In case the certificates at the specified location are modified, the user still needs to restart TIBCO Designer to refresh the already loaded certificates.

Closed in Release	Change Request ID	Summary
5.4.2	1-8EGZZ0	TIBCO BusinessWorks required the user certificate to have "dataEncipherment" KeyUsage flag in addition to "digitalSignature" and "keyEncipherment", even though the later two KeyUsage attributes were sufficient to encrypt and sign the SOAP message.
5.4.2	1-8D25Y1	TIBCO Designer validated projects containing a Get JMS Queue Message activity without any errors. However, validating the same projects from the command line using the **validateProject** utility threw a Null Pointer Exception.
5.4.2	1-81BKIY	After you create process variables and save the project, the process variables are stored in a particular order. However, the order of process variables did not remain the same when the same project was reopened on a different machine.
5.4.2	1-81GFR5	When the Namespace Prefix in the Namespace Registry of the Process Definition Configuration tab was modified multiple times, the modifications were not saved properly and consistently.
5.4.2	1-8D9OSW	TIBCO Designer hangs and was unable to complete creating a project EAR file when the project contained a secure JMS Connection shared resource.
5.4.2	1-8CRQZY	When the JMS Application properties were set for the SOAP RequestReply activity in a project and a project EAR file was created, the JMS Application properties were not included in the enterprise archive file. Therefore, the deployed application failed to run.
5.4.2	1-8C3EI1	Audit logs for basic authentication using HTTP, HTTP/s, SOAP, WSSE Username Profile, etc were not available in TIBCO BusinessWorks. This has been fixed. TIBCO BusinessWorks log messages in the following format - "`Authentication attempt [user=%1, deployment=%2, authentication_succeeded=%3]`".
5.4.1	1-87FWJZ	Test Connection for JMS Connection shared resource failed when any changes were made to the SSL configuration; or when a global variable was defined to provide the location of external certificates. Test Connection was successful after restarting TIBCO Designer.
5.4.1	1-89C6AE, 1-85UQRZ	The stack trace in TIBCO BusinessWorks 5.4 did not contain the line about the process_name and activity_name. The stack trace in TIBCO BusinessWorks 5.2 contained these values, which could lead to compatibility issues.

Closed in Release	Change Request ID	Summary
5.4.0	1-83EUIB, 1-85IACP	If a custom activity's process name was same as the process definition's name where you included the custom activity, the input and output for the custom activity did not appear correctly. After making the names unique, the process and the design form were unusable when the project was reopened.
5.4.0	1-82CGLN	If a global variable was used by a process activity which was part of a custom activity and if you changed its value to a non-default value, referencing the same custom activity in some other process activity reset the global variable value. So each time the custom activity was used, it used to reset the global variable value to its default value.
5.4.0	1-7BHBH3, 1-7GZ08Z, 1-7GUFGH, 1-7C7FS7, 1-7QZHQY	Internal defect corrections.
5.4.0	1-7B4601	Checkpoints that store process data in a database now use column names in the insert statement.
5.4.0	1-6T5PD3, 1-6XVGZI	In certain situations, the error "Domain has already been destroyed: <*domainName*>" was returned when you clicked the UDDI Servers Module in TIBCO Administrator in the left-hand frame.
5.4.0	1-7A3O89	Some TIBCO Hawk microagent methods were not available when using dynamically called subprocesses.
5.4.0	1-7AVI4S	An incorrect number of tabs was displayed in the TIBCO BusinessWorks plug-in to TIBCO Administrator if TIBCO BusinessWorks was installed while the administration server was running.
Migration		
5.6.2	1-8XCE8V	When TIBCO BusinessWorks version 5.3 was migrated to version 5.6, the `CLASSPATH` was not updated and continued to refer to Tomcat instead of Tomcat 5. This has been fixed. The `bwengine.tra` file has been updated with the compatible lib path as: `tibco.env.STD_EXT_CP=%TPCL_HOME%/tomcat/5.5/compatible/lib%PSP%`

Closed in Release	Change Request ID	Summary
5.4.2	1-86A7LD, 1-8CKGHX	When a TIBCO BusinessWorks project was migrated from version 5.2 to version 5.4 and opened in TIBCO Designer 5.5, the *<SOAP: address>* element displayed in the WSDL Source tab for the SOAPEventSource activity was incorrect. The URL in the *<SOAP: address>* element was modified such that, after migration, every occurrence of two consecutive underscore characters was replaced by a single underscore. This has been fixed by providing a custom property, `bw.plugin.soap.uriEncoding.52compatible`, that can be set in *<TIBCO_HOME>*`\designer\5.5\bin\designer.tra`. Set the property `bw.plugin.soap.uriEncoding.52compatible` to true to ensure the value of *<SOAP: address>* remains unchanged after migration.
5.4.0	1-83OL8E, 1-85IAC5	During migration of TIBCO BusinessWorks project from version 5.2 to version 5.4, the HTTP Receiver activity received partial data through HTTP POST.
Mapping		
5.12.0	BW-15953	When the number of coercions went beyond seven, the Java Heap Space error was thrown.
5.10.0	BW-14936	Mapper defaulted on repeating groups to name[<<Filter>>] - productivity issue. The following property is added: `com.tibco.ui.data.bind.wizard.BindingMarkerCommentSetFor mulaFinisher.FILTER_STRING` 1. With the java property *not defined*, the generated xpath index will be [<< filter >>] (or whatever the localization of "filter" may be). 2. With the java property defined as an *integer*, for example 2, the xpath index will be [2]. 3. With the java property defined as a *non-integer*, for example"foo", the xpath index will be [<< foo >>].
5.7.1	1-9MLLC1	When the XSLT statement "Surround with choice" was selected for a root element, an exception was thrown in the Designer console and the dialog box was not launched. This behavior was observed when using the TIBCO Designer Add-in for TIBCO Business Studio designtime.

Closed in Release	Change Request ID	Summary
5.7.1	1-9HUGQL	The XPath functions to fetch process related information disappeared from the **XPath Formula Builder** and a mapping error was observed when any operation such as add, modify, or delete, involving the Java Custom Function resource was performed in the process.
5.7.0	1-9BUN7M	When Input Mapping was clicked, the TIBCO Designer took a long time to display the substitution groups from the complex schema relationships.
5.7.0	1-92QONF	When values of mapped elements were changed and the changes were applied, all mapped elements except the last one disappeared.
5.7.0	1-92P2QD	When an optional element is mapped to another element by using the Copy and Paste options to copy the formula, the cardinality of the optional element changed from 'Optional' to 'Required'.
5.6.3	1-92P2RK	When the values of mapped elements were changed and the changes were applied, all mapped elements except the last one disappeared.
5.6.3	1-92P2PU	When an optional element is mapped to another element by using the Copy and Paste options to copy the formula, the cardinality of the optional element changed from 'Optional' to 'Required'.
5.4.0	1-777VIX	The "Mapping wizard" was creating empty tags for each optional element even if the optional elements did not appear in the input data. To avoid the empty tags in the output when the input did not contain the optional element, the user had to manually create "xsl:if" statement.
		A new system property "automatic_mapper_if_surround" is added to fix this problem. Set this property to 'True' to surround all new optional-to-optional mappings (including child elements) by an `xsl:if` statement. If the system property is false or not present, child elements will not be surrounded with the `xsl:if` statement.
ActiveEnterprise Adapter Palette		
5.12.0	BW-15761	Messages were not redelivered to the **Adapter Subscriber** activity, when the consumer was closed.
5.12.0	BW-15608	Refresh Adapter Service did not work, when the corresponding AE Schema was changed from class to sequence and conversely.

Closed in Release	Change Request ID	Summary
5.9.3	BW-14354	Fixed an issue where the **Publish to Adapter** activity did not reconnect to the Enterprise Message Service server after TIBCO Enterprise Message Service was restarted.
5.9.2	BW-8970	Adapter Subscriber behavior was different than the JMS Receiver when Auto confirm was not selected. is has been fixed in Adapter Subscriber.
		Now, if the checkbox is not selected then the message will be acknowledged at a later point by using the **Confirm** activity. If the message is not confirmed before the process instance ends, the message is redelivered and a new process instance is created to handle the new incoming message. Ensure that your process definition confirms the message.
5.7.2	1-9V3APV	Enabling server property `ssl_require_client_cert` in EMS server requires all clients to present the certificate while connecting to the server over SSL. However, enabling this property in EMS server caused the Adapter activities using JMS Queue/Topic over SSL to fail.
5.7.2	1-9U9NV8	The ActiveEnterprise Adapter Palettes now use SSL configuration from the Adapter Configuration resource.
5.7.2	1-9GSNKF	The **Invoke Partner** activity failed to list the Adapter WSDL operations for the selected partners.
5.7.2	1-9SRU2P	The AE Subscriber plug-in removed the millisecond part on the datetime fields while it was visible in the string value.
5.7.2	1-8JOTJN	Occasionally, the change in the behavior of `BigDecimal.toString` in JRE 1.5 caused a behavioral change in Invoke an Adapter Request-Response Service activity when sending a fixed data.
5.7.1	1-9OL4AR	When an AE/JMS response message had an error associated with it, the AE Request-Response activity failed with an exception and took the error path as expected. However, a memory growth in the engine was noticed.
5.7.1	1-9O23NM	The Invoke an Adapter Request-Response Service reported a 'Timeout waiting for reply' error even when the server responded within the specified time limit.

Closed in Release	Change Request ID	Summary
5.7.1	1-9LUR9O	Type coercion for AE subscriber plugins failed if the child schema had a sequence or union. This has been fixed. This fix requires TIBCO Runtime Agent 5.6.1 to be installed in your environment.
5.7.1	1-9J495Q	The **Publish to Adapter** activity with a Request/Reply failed to receive the response if the response had a child class and the Publish to Adapter reply schema pointed to the parent class. This has been fixed. Consequently, the **Publish to Adapter** activity will not validate the output data. This fix requires TIBCO Runtime Agent 5.6.1 to be installed in your environment.
5.6.3	1-92KYDN	When an ActiveEnterprise Invoke an Adapter Request Response Service activity times out, the objects in memory were not released and eventually the BusinessWorks engine threw an OutOfMemoryError.
5.6.1	1-8NNZSR, 1-8HUPYU	Adapter Subscriber activity failed to process a message if the classname contained an underscore (_).
5.6.1	1-8NNZJI, 1-6VWZ25	The AE publisher did not publish boolean values correctly even though the values for datatype boolean were set in the mapper activity.
5.6.1	1-85U62V	When the year specified in the dateTime field of an AE message was less than 1000, the AE Subscriber threw an exception.
5.6.1	1-84ZWIJ	The Adapter Request Response Server activity stopped processing and threw a Null Pointer Exception ONLY when it received a non-AE message. After the exception, it was not able to process any more messages.
5.4.2	1-8EL3TV	The ActiveEnterprise adapter subscriber plug-ins supported only top level coercions and did not support nested level coercions for AE messages.
5.4.2	1-8E6V7A	Optional sequences caused TIBCO Designer to throw Null Pointer Exceptions and sometimes hang while applying coercions.
5.4.1	1-5WQUGY, 1-870W0V	The ActiveEnterprise adapter subscriber filtered the additional fields of an AE message when the subscribing schema fields were a subset of the publishing schema fields. This has been fixed. ActiveEnterprise adapter subscriber plug-ins now provide type coercions for AE messages.

Closed in Release	Change Request ID	Summary
5.4.0	1-82E4NP, 1-8SN7CA	The number of JMS sessions used by the Adapter Subscriber activity kept on growing as messages were subscribed. This resulted in a large number of open sessions over a period of time.
5.4.0	1-79B2E5, 1-83YTU9	When two Adapter Request Response servers subscribed to the same subject, the first server deleted the message as soon as the message was received whereas the second server got a Null Pointer Exception when referring to the same message.
File Palette		
5.13.1	BW-17120	When using the **Write File** activity, end line characters changed from CRLF to LF.
5.13.0	BW-9256	The **Write File** activity did not report errors against writing files to a drive that did not have sufficient disk space.
5.13.0	BW-7179	The **Copy File** activity was obstructed when the file to be copied had a parenthesis () or braces {} in it. The errors `java.util.regex.PatternSyntaxException` and `Illegal repetition near index` were reported.
5.12.0	BW-15914	The **Copy File** activity took a long time to finish execution, when the source directory was on an NFS and contained more than a thousand files.
5.7.1	1-964MD1	The **File Poller** activity now supports `GB18030` encoding and allows the user to select this encoding from the drop-down list in the activity's Configuration tab.
5.6.2	1-8W20TI	The **File Poller** activity was unable to handle wildcard characters on UNIX platforms.
5.4.1	1-83LK3S	The **File Rename** activity threw an IO Exception when the file being renamed was locked for use by another application. The error occurred as the activity was unable to delete the original file after the new file was created and the contents copied to it.
5.4.0	1-7MSKMO	Under certain conditions, the **File Poller** was throwing an `ArrayIndexOutOfBoundsException`.
FTP Palette		

Closed in Release	Change Request ID	Summary
5.13.0	BW-6331	While transferring text files (in ASCII mode) with FTP Get from a Windows server to a UNIX server, control characters were observed along with the line feed characters.
5.4.1	1-85CJL6	TIBCO BusinessWorks was not able to access a FTP Server and gave a `StringIndexOutOfBoundsException` when the FTP Server returned an empty first line after connection.
General Activities Palette		
5.13.1	BW-17089	The Get Activity method in the EngineHawkMicroagent displayed an incorrect value for the Activity Class.
5.13.1	BW-16507	The Get Activity method in the EngineHawkMicroagent displayed an incorrect value for an Activity Class.
5.13.1	BW-8476	Projects containing the **Timer** activity process starter configured to run once ran repeatedly with a new ProcessID.
5.13.0	BW-16368	Customers could not stop applications deployed and started on TIBCO Administrator containing the **Onstartup** and **Wait for...** activities, from Administrator. The applications were in the shutdown state but did not stop.
5.12.0	BW-14501	The TIBCO Hawk Get Activities method returned an invalid value for "MostRecentElapsedTime".
5.12.0	BW-14299	The process did not respond when the checkpoint was restarted in the **Generate Error** activity.
5.12.0	BW-8398	The **Timer** activity got stuck in an infinite loop when the system time changed to Daylight Saving Time.
5.7.1	1-9LURA9	The **Timer** activity did not adjust the Daylight Saving Time when the timer interval was specified in any unit other than 'days' and the interval was equal to or more than one day.

Closed in Release	Change Request ID	Summary
5.7.0	1-977PPS	The external command activity did not work on UNIX platforms if one of the parameters contained space(s) and was enclosed in double quotes. This has been fixed by introducing a new checkbox **Remove Parameter Quotes** in the **External Command** activity's **Configuration** tab. By default, the checkbox is not selected. Select the checkbox to provide the parameter without the enclosing quotes.
5.7.0	1-8JGVGV	When an **Engine Command** activity was used to invoke the GetProcessInfo command to retrieve the process name in the process engine, it failed and threw an exception.
5.6.3	1-981JNS	The external command activity did not work on UNIX platforms if one if the parameters contained space(s) and was enclosed in double quotes. This has been fixed by introducing a new checkbox **Remove Parameter Quotes** in the **External Command** activity's **Configuration** tab. By default, the checkbox is not selected. Select the checkbox to provide the parameter without the enclosing quotes.
5.6.2	1-8KO0T2	When a choice element was mapped such that the same element was repeating in the choice, an "Expected output element" error was thrown in the Input tab of the activity.
5.6.1	1-8NNZP4, 1-8H96WT	An empty checkpoint data file was created if the system crashed or shutdown abruptly while checkpoint data was being written to the file. It could result in messages being lost. This is fixed by introducing a new engine property, bw.engine.checkpoint.file.besteffortsync. By default, the property is set to false. Setting this property to true addresses the problem, but introduces a performance delay.
5.6.1	1-8NNZQ7, 1-78851R	When a **Timer** activity was configured to start every month on a given day, it started every 30 days, irrespective of the number of days in a month.
5.6.1	1-8MTLPY	The **Rethrow** activity did not propagate faults properly when an exception, with the same schema as that of the fault, was thrown.
5.4.1	1-88KWYN	The Custom Activity resource changed a predefined global variable of type 'password' to 'string' and displayed the password in clear text on the GUI when the Custom Activity was used in a different project.

Closed in Release	Change Request ID	Summary
5.4.0	1-75H3DV	Icons specified for custom activities sometimes disappeared when the project was subsequently opened.
5.4.0	1-77LYAH	The **External Command** activity dropped double quote (") characters from the input command.
HTTP Palette		
5.13.1	BW-17475	The **Send HTTP Request** activity with SSL proxy connection was not using Identity Key-store and Trusted Certificates configured in the project.
5.13.1	BW-17276	When the incoming requests on the Tomcat server had more than 100 headers defined, TIBCO ActiveMatrix BusinessWorks did not create jobs for the **HTTP Receiver** activity, and displayed the 400 bad request error. A property has been introduced for this. Set the property `bw.plugin.http.maxHeaderCount` to the integer value. The default value for maxheadercount for Apache Tomcat is 100.
5.13.1	BW-17187	**HTTP Request Reply** activity sends the HTTP request with the default value of accept-encoding: gzip. However, the reply sent by the server with gzip content did not decompress the content correctly according to the header.
5.13.1	BW-17143	TIBCO ActiveMatrix BusinessWorks returned the default error response which included the server information, when an invalid or bad request was received. A property has been introduced for this. Set the property `bw.plugin.http.suppressHttpResponseHeader` to `true`, to enable this fix.
5.13.1	BW-17127	Server information and the server version was exposed in the HTTP Response headers, when an invalid request was passed. Information on the supported methods were also exposed when an invalid method was passed in a request.

Closed in Release	Change Request ID	Summary
5.13.1	BW-17113	Server details were displayed in the SOAP response HTTP header when the web services were exposed using the SOAP or Service palette. A property has been introduced for this. Set the property `bw.plugin.http.suppressHttpResponseHeader` to `true` to supress the HTTP headers, Server and Allow. The default value is `false`.
5.13.1	BW-17076	After installing the TIBCO Runtime Agent 5.7.4 HF03, TIBCO ActiveMatrix BusinessWorks 5.10 reported exceptions when the server type httpComponent was used.
5.13.1	BW-17044	The HTTP server generated a NullPointerException intermittently when the servlet output stream was closed.
5.13.1	BW-16963	When passing the message body using post, the content-value was wrong if the MIME part was not specified.
5.13.1	BW-16837	The HTTP Server did not recognize requests that contained multiple Accept or Content-Type elements in the Header.
5.13.1	BW-16652	HTTP requests containing repeating headers, dynamic headers and MIME parts failed with the error `java.lang.ClassCastException`.
5.13.0	BW-16865	Support provided for newer versions of Tomcat to avoid shipping a vulnerable version.
5.13.0	BW-16519	The HTTP clients did not send the server name, that is a part of the Server Name Indication (SNI) extension. Support has now been provided for Server Name Indication.
5.13.0	BW-16472	BusinessWorks 5.10 threw the fatal alert error when persistent connection was enabled.
5.13.0	BW-13928	BusinessWorks did not downgrade to SSL 3.0 even though the HTTP server supported only this protocol version. It failed with the exception `iaik.security.ssl.SSLException: Peer sent alert: Alert Fatal: bad record mac`,exception.
5.13.0	BW-10171	The **Send HTTP Request** sent to the HTTP Receiver did not work when the ResponseActivityInput was not provided.

Closed in Release	Change Request ID	Summary
5.13.0	BW-9295	There was no provision to pass dynamic HTTP attributes and basic authentication attributes in the SOAP Request Reply activity.
5.12.0	BW-16179	The **Send HTTP Request** activity timed out while sending requests from TIBCO ActiveMatrix BusinessWorks.
5.12.0	BW-16027	The HTTP Receiver did not create a job when a request was sent using the Options method. A property was introduced for this. Set the `bw.plugin.http.enableDoOptions` property to `true`, to create the job.
5.12.0	BW-15954	A behavior change of the HTTP Receiver using Tomcat was observed in TIBCO ActiveMatrix BusinessWorks 5.11.0. It did not work in TIBCO ActiveMatrix BusinessWorks 5.11.0. when the Flow Limit value was set to one or the `bw.plugin.http.server.maxProcessor`'s value was set to zero for the HTTP Receiver,
5.12.0	BW-15913	The **Send HTTP Request** activity was not able to manage chinese characters in the `"filename"` attribute of the content-disposition-header in the mimeParts.
5.12.0	BW-15883	The value of "content-length" generated in the HTTP POST request was not correct, when fileName was used in the mimePart.
5.12.0	BW-15800	Migrating a TIBCO ActiveMatrix BusinessWorks 5.9.0 or an earlier project containing an HTTP Client with BASIC Authentication to TIBCO ActiveMatrix BusinessWorks 5.10.0, failed the authentication.
5.12.0	BW-15794	HTTP Connector in TIBCO ActiveMatrix BusinessWorks 5.11.0 was unable to bind to a specific IP address.
5.12.0	BW-15775	TIBCO ActiveMatrix BusinessWorks 5.10.0 onwards, an extra CRLF was added under the HTTP headers.
5.12.0	BW-15765	The **HTTP Request Reply** activity sent the HTTP request with the default value of accept-encoding: gzip. However, the reply sent by the server with gzip content did not decompress the content correctly according to the header.
5.12.0	BW-15729	The value of "content-length" generated in the HTTP POST request was not correct.

Closed in Release	Change Request ID	Summary
5.12.0	BW-15658	From TIBCO ActiveMatrix BusinessWorks 5.10.0 onwards, the Send HTTP Request activity sent an empty mimePart with content-type set to unknown/unknown, when postData field was not mapped while sending the multipart/form-data.
5.12.0	BW-15556	HTTP receiver using BWHttpComponent server closed the connection and suspended after receiving an unexpected HTTP header message. Also, it did not process the new valid incoming requests.
5.12.0	BW-13809	The HTTP Server did not recognize the requests that contained multiple "Accept" or "Content-Type" elements in the Header.
5.11.0	BW-15376	Generating all incoming HTTP headers as part of the output message of the HTTP receivers is now supported.
5.11.0	BW-15381	When sending an HTTP request with "&" in the parameter value and `Parse Post Method Data` selected in the HTTP Receiver activity, TIBCO ActiveMatrix Businessworks failed with an `HTTP Request Response 5XX status code error`.
5.11.0	BW-15289	HTTP Connection Resource encountered an error as Timeout was not configured.
5.10.0	BW-8238	Write To File did not work in Send HTTP Request activity, if the response had either binary or ASCII content in the HTTP body and root content-type was anything other than "multipart/*".
5.9.3	BW-13630	When invoking web service from SOAP Request Reply activity, "`HTTP 401 Access Denied`" error was encountered. This has been fixed. Add the following Engine property: `bw.plugin.http.client.authentication.preemptive=false` if, preemptive is not to be used. By default, it is "`true`".
5.9.3	BW-14421	An application using SSL connection to send messages to a remote mail server was unable to recover from the "`ActivityTimedOutException`" HTTP exception.
5.9.3	BW-13781	HTTP Receiver failed to decode the special characters properly.

Closed in Release	Change Request ID	Summary
5.9.3	BW-14213	Fixed an issue where TIBCO ActiveMatrix BusinessWorks did not abort the HTTP Request thread after encountering the timeout error when connecting to HTTPS URL, if timeout was caused by the SSL layer.
5.9.2	BW-13465	There was no property to set the idle Timeout configuration in the pool, when HTTP persistent connection was used.
5.9.2	BW-13441	An invalid HTTP request containing special characters when server type was "HTTPComponent", resulted in the BW service on that port stop processing any subsequent requests and made the service unaccessible.
5.9.0	BW-6182 1-6THUE7	When Global Variable was used for username/password in the Identity field and 'SendHTTPRequest' activity was used, the Project validation threw a `"BW-HTTP-100107 A repository exception was thrown while trying to load the identity"` error.
5.9.0	BW-9707 1-A7SS35	The HTTPReceiver process starter spawned 4 times when server type was 'HttpComponent' in the implementation.
5.8.0	1-9QZR4R	The server type HTTP Components could not be used with TIBCO ActiveMatrix BusinessWorks 5.2.x projects which used the option 'Maintain Compatibility 2.0' for Header String support in the input Schema of the Send Http Response Activity. **Note**: This issue is 'Not a Bug' as "Maintain Compatibility 2.0" and "HTTP Components" option is not a supported combination.
5.8.0	1-AGEEVL 1-ACNK2R	HTTP Client sent MIME Attachment header `"Content-transfer-encoding"` with value 'binary' even when there was no value specified. Now, `"Content-transfer-encoding"` header will not be sent by HTTP Client, if the value is not specified.
5.7.1	1-9H9X94	For ActiveMatrix BusinessWorks projects designed in 5.6 or earlier versions, the **HTTP Connection** Shared resource did not show the default value of the Server Type in the drop-down box. This has been fixed to show the default value 'Tomcat'.
5.7.0	1-8WRQ0G	When the **HTTP Receiver** activity was enabled for HTTP authentication and was run for the second time in TIBCO Designer tester engine, it threw a NullPointerException error.

Closed in Release	Change Request ID	Summary
5.7.0	1-9EWJQU	SoapEventSource service and HTTP Receiver activity threw an exception when Tomcat was initialized in the service container.
5.6.3	1-8JRNG7	When a SendHTTPRequest activity was used to send a message with Content-type "multipart/form-data" and the content was not mapped to the postData field, the activity sent an empty MIME part with Content-type 'unknown/unknown'.
5.6.2	1-894IU6	While posting HTTP form-data, the MIME boundary should be separated from the HTTP headers by a CRLF and another CRLF in a new empty line. However, BusinessWorks put an additional CRLF in a second empty line. Consequently, servers with strict validation rules were unable to parse such requests.
5.6.1	1-8I58H3, 1-8HF865	When the **Parse Post Method Data** checkbox in the **HTTP Receiver** activity is selected, the parameters specified in the Parameters field are used to validate the incoming request and parse it into the output schema. However, when the Content-Type of an incoming request was 'application/x-www-form-urlencoded', and the **Parse Post Method Data** checkbox was selected, '&' was appended to the PostData value in the HTTP Receiver activity output.
5.6.1	1-8I58I9, 1-8HCHRF	The PostData field in the output of the **HTTP Receiver** activity was empty when the Content-Type of the incoming request was set to `'application/x-www-form-urlencoded'`.
5.4.2	1-8F2135	When the size of the incoming data (POST) was greater than 2M, the HTTP Receiver threw the exception `java.lang.IllegalStateException: Post too large`. The exception was because Apache Tomcat 5, by default, sets the maximum size of the acceptable HTTP POST request to 2M. This has been fixed by enforcing the value of `maxPostSize` to zero (0) which disables the limit for `maxPostSize`.
5.4.0	1-7ZCWEB, 1-85IAD9	The **HTTP Receiver** activity did not parse the post data content according to the Content-Type of the HTTP request header.
5.4.0	1-7BBPSJ	SOAP Event Source and HTTP Receiver return "`process initialization failed for...`" error when using JRE 1.5.0 and TRA 5.4.0 on AIX 5.3.
Java Palette		

Closed in Release	Change Request ID	Summary
5.13.1	BW-17068	TIBCO ActiveMatrix BusinessWorks not releasing references to Java objects returned by the Java Method activity in a transaction group caused memory leak.
5.13.1	BW-16834	Memory leak was observed in the **XML to Java** activity.
		A property has been introduced for this.
		Set the property `LoopGroup.releaseReferences` to true to release the references of Java objects stored by the activities inside the loop.
		The default value is false.
		Note: If the Accumulate Output option is selected for a loop, then TIBCO ActiveMatrix BusinessWorks ignores this property.
5.13.1	BW-15085	Validating a project containing Java Schemas generated validation errors.
		A property has been introduced for this.
		Set the property `bw.plugin.javaschema.loadJavaSchema` to true in the designer.tra file.
		The default value is false.

Closed in Release	Change Request ID	Summary
5.13.0	BW-16829	TIBCO ActiveMatrix BusinessWorks 5.12.0 HF-003 onwards, any object reference returned by a sub-process was not accessible in the calling process.
		A property has been introduced for this.
		Set the property `ProcessGroup.releaseReferences` to `true` to release references of Java objects stored by the activities inside the process group.
		The default value is `false`.
		Note: To avoid memory leaks as described in BW-16622, set the following:
		1.To release references of Java objects stored by activities inside the
		loop - Set the property `LoopGroup.releaseReferences` to `true`.
		2.To release references of Java objects stored by activities inside the
		process group - Set the property `ProcessGroup.releaseReferences` to `true`.
5.13.0	BW-16622	TIBCO ActiveMatrix BusinessWorks did not release references to the Java objects returned by the Java Method activity inside a group, and this caused memory leak.
5.13.0	BW-16430	Relative path references failed to validate after upgrading to TIBCO ActiveMatrix BusinessWorks 5.12.0.
5.13.0	BW-15970	Sequenced Elements and Enumeration is now supported in the **Java to XML** and **XML to Java** activities.
5.12.0	BW-15704	When TIBCO ActiveMatrix BusinessWorks did not release references to the Java objects returned by the Java Method activity in a transaction group, it caused a memory leak.
5.12.0	BW-6993	The XML to Java conversion did not work for datatypes that extend java.util.Collection such as List, ArrayList, and Vectors.

Closed in Release	Change Request ID	Summary
5.10.0	BW-14097	New methods have been added in TIBCO ActiveMatrix BusinessWorks for user written Java code to access component logging in TIBCO ActiveMatrix BusinessWorks Service Engine. Till now, the log4j and slf4j loggers created by users in their custom java code would write to the ActiveMatrix Node logs when the TIBCO ActiveMatrix BusinessWorks component was running inside ActiveMatrix. However, to enable users to write to the application component logs instead, the following APIs are added in `com.tibco.share.util.BWLoggerFactory` class:

1. **org.apache.log4j.Logger getLoggerLog4j(String loggerName)**

   This method takes a logger name and returns a log4j logger that has been configured to write to the application component logs.

2. **org.slf4j.Logger BWLoggerFactory.getLoggerSlf4j(String loggerName)**

   This method takes a logger name and returns an slf4j logger that has been configured to write to the application component logs. The slf4j logger is the recommended logger to use.

Additionally, for newly created Java Code activities, these methods can be invoked directly using the following method calls in the user code:

- `org.apache.log4j.Logger getLoggerLog4j(String loggerName)`

- `org.slf4j.Logger getLoggerSlf4j(String loggerName)`

These methods have been added to the auto-generated code for Java Code activities. They are created only for newly created Java Code activities. Existing Java Code activities should directly use the `BWLoggerFactory` class.

Closed in Release	Change Request ID	Summary
5.9.0	BW-13318	On Red Hat Linux, when an executable program was executed through a Java Method which was built on C++ and linked dynamically, a load error for the C++ standard shared library (libstdc++.so) was thrown.
5.8.0	1-9GRIJI	When running the ActiveMatrix BusinessWorks examples project "`JavaEventSource`" in TIBCO Designer, it went into an infinite loop.

Closed in Release	Change Request ID	Summary
5.8.0	1-AGEEUH 1-AEYI4V	If the Java method activity's output was an Array of objects, TIBCO ActiveMatrix BusinessWorks was returning an array of object which was last output value of Java Method Activity.
5.7.1	1-8VBBJC	The references to Java objects returned when a Java Method activity was called, were not released until the job was complete. When such activity was called in a loop several times with the **Accumulate Output** option unchecked, the references were not released over a period of time and caused the ActiveMatrix BusinessWorks engine to exit with an `OutofMemory` error.
5.7.1	1-937KQQ	When one class was declared as a class member of the other and both classes had the same getter/setter methods, the Java to XML activity failed to distinguish the getter and setter methods between the two classes. This has been fixed by adding a design-time property 'com.tibco.bw.plugin.java.java2xml.multischema'. Set this property to true in `designer.tra` to support namespace multischema mode. By default, the single namespace schema mode is supported. This fix requires TIBCO Runtime Agent 5.6.1 to be installed in your environment. Note that a "`Multi Schema Not Supported`" exception is thrown while generating the schema if the property is set to true and TIBCO Runtime Agent 5.6.1 is not installed.
5.6.1	1-7BYEGV	The **Java Method** activity considered the second parameter as the first one, if the first parameter is 'String[]' and the second parameter is 'int'.
5.4.0	1-3PHX72	The **Java Global Instance** resource was not added to the process archive automatically. This has been fixed.
5.4.0	1-7BBPVG	The **Java Process Starter** now creates unique jobs for each incoming event.
JDBC Palette		
5.13.1	BW-17302	TIBCO ActiveMatrix BusinessWorks left connections open when it used transactions with DB2 on IBM Z/OS. When stored procedures were run, it returned an ABEND code. Instead of rolling back, TIBCO ActiveMatrix BusinessWorks tried to execute a test statement and tried to close the connection.

Closed in Release	Change Request ID	Summary
5.13.1	BW-17225	The Wait Notify feature was not supported with MySQL.
		To create the database tables manually, run the script dbs_mysql.sql.
5.13.1	BW-17220	The **Checkpoint** and **Wait Notify** activities were not supported with Postgres.
		To create the database tables manually, run the script dbs_postgres.sql.
5.13.1	BW-16929	Running a bwengine with multi engine locks and critical section groups with SQL Server database caused DB deadlocks.
5.13.1	BW-16825	When running a BusinessWorks process with JBoss Transaction Manager 4.7, JDBC XA resources failed in the prepare phase of a 2-Phase commit and generated an error.
5.13.1	BW-16653	The **JDBC Call Procedure** activity failed to execute a cursor with the PL/SQL function, and generated an exception.
5.13.1	BW-16461	When the schema names were mapped to global variables in the **JDBC Call Procedure** activity, the activity did not refer to the updated schema name when the global variable values were updated at runtime.
5.13.0	BW-16842	The **JDBC Call Procedure** failed after upgrading to Oracle 12C.
5.13.0	BW-16452	TIBCO ActiveMatrix BusinessWorks did not cache the objects `oracle.sql.StructDescriptor` and `oracle.sql.ArrayDescriptor` in the `getOracleStructDescriptor()` and `getOracleArrayDescriptor()` methods, respectively.
5.13.0	BW-16307	A **JDBC Query** processed in subsets caused the `fetch out of sequence` error when called multiple times in a loop under XA transaction group.

Closed in Release	Change Request ID	Summary
5.13.0	BW-16181	TIBCO ActiveMatrix BusinessWorks left connections open when it used transactions with DB2 on IBM Z/OS. When stored procedures were run, it returned an ABEND code. Instead of rolling back, BusinessWorks tried to execute a test statement and tried to close the connection.
		To clear the bad connections for JDBC and JTA transactions, set property `bw.plugin.jdbc.clearBadConnectionForTransactions` to `true`. Default value is `false`.
		To stop the JDBC activity in a transaction from retrying to execute the query in case of failure, set property `propert` `bw.plugin.jdbc.disableRetryInTransaction` to `true`. Default value is `false`.
5.13.0	BW-15969	The JDBC activity did not observe the timeout value.
5.12.0	BW-16218	Under certain conditions, the JDBC call procedures failed with the error "Missing IN or OUT parameter at index 1", when native drivers of version 11.2.0.2 or higher were used. A property has been introduced for this. Set property `bw.plugin.jdbc.useOracleArray` to "`true`" to use the property. The default value is "`false`".
5.12.0	BW-15821	Schema name was hard coded in the generated process file, even if the global variable was used with TABLE type data-type (or other user-defined data type) as input or output of a stored procedure.
5.12.0	BW-15801	NULL elements in Oracle TABLE type caused NullPointerException in the JDBC Call procedure activity.
5.12.0	BW-15651	The releaseConnection method in Java Connection Accessor did not close invalid connections.
5.12.0	BW-15255	The JDBC connections now give a warning message instead of a debug message, when there are no available connections or the connections are retired.
5.12.0	BW-15125	The **JDBC Call Procedure** activity failed, if the nested Oracle object or table type had more than two levels.
5.12.0	BW-15060	Fixed an issue where **JDBC Call Procedure** activity with nested Oracle object or object type did not allow child objects to be NULL.

Closed in Release	Change Request ID	Summary
5.12.0	BW-13269	Support for the following new SQL datatypes are added: • NCHAR • NVARCHAR • NCLOB • SQLXML
5.11.0	BW-15356	JDBC activity applied DST changes to Coordinated Universal Time, even if the `serverTimeZone` property on the JDBC activity is set to UTC. Set the `bw.plugin.jdbc.handleTimezoneOffset` property to `False`, to get the required new behavior.
5.11.0	BW-15060	**JDBC Call Procedure** activity with nested Oracle object or object type, did not allow child objects to be NULL.
5.11.0	BW-15103	**JDBC Call Procedure** activity showed a validation exception, if an Object attribute was NULL.
5.11.0	BW-15125	The **JDBC Call Procedure** activity failed, if the nested Oracle object or table type had more than two levels.
5.10.0	BW-14777	Support for `ntext` datatype of SQL Server DB added.
5.10.0	BW-15084	On the JDBC activities, JDBC exceptions were encountered on the application logs.
5.10.0	BW-15021	JDBC Query with subsets failed with Object Closed exception.
5.9.3	BW-14676	JDBC connection uses `DriverManager.getConnection()` which is a synchronized call in JAVA, hence once the first connection got stuck, no other thread could invoke the call.
5.9.3	BW-14272	JDBC activities failed with Null Pointer Exception, if `MaxJobs` was greater than `MaxConnections`.
5.9.3	BW-13933	A JDBC Query in subset mode increased open cursors.
5.9.3	BW-14320	Support was required for TIBCO ActiveMatrix BusinessWorks to use same DB connection for multiple threads under load.

Closed in Release	Change Request ID	Summary
5.9.3	BW-14148	JDBC activities did not free the temporary tablespace when working with Oracle LOB data.
5.9.2	BW-13627	iProcess Plug-in did not work when upgrading to TIBCO ActiveMatrix BusinessWorks 5.9.0 and TIBCO Runtime Agent 5.7.0.
5.8.0	1-A7NBPZ	The **JDBC Call Procedure** failed when the Output Parameter was of Object type and contained a Null element.
5.8.0	1-A3B0GW	When using the JDBC activities with XA Transaction, the connection resources did not close after the specified idle timeout value. However, when the JDBC activities were used without XA Transaction, the connections closed after the specified idle timeout value.
5.7.2	1-9VRIWJ	The **JDBC Call Procedure** failed when the Input Parameter was of Object type and the value was set to explicit Nill.
5.7.2	1-9LCQBR 1-9PWFTV	The **JDBC Call Procedure** activity failed to fetch the correct schema in its Input tab if the input parameters contained multiple types of Oracle Table Type objects.
5.7.2	1-9K0TCL	The **JDBC Call Procedure** activity failed and threw an error when a stored procedure that inserts BLOB/CLOB data into an Oracle 10g database, using the Oracle 10g THIN driver, was called.
5.7.1	1-9OL45F	When the RAC node switch happened, the SQL warning messages sent by the driver to the connection object were not getting logged.
5.7.1	1-9OT31F	The BusinessWorks Transaction Manager failed when multiple jobs updated DB2 in an XA transaction.
5.7.1	1-9CA8JX	When a procedure with the same name was created in multiple schemas and the schema name and procedure/function name field were selected in the JDBC Call Procedure activity's Configuration tab, ActiveMatrix BusinessWorks selected the wrong procedure at design-time.
5.7.1	1-9JZG7P	The **JDBC Update** activity failed to insert BLOB/CLOB data and threw a `ClassCastException` when using Oracle THIN driver to connect to Oracle 10g.

Closed in Release	Change Request ID	Summary
5.7.1	1-9EJ397	When the parameters of a complex Table Type were duplicated to add multiple entries in the Oracle table, the JDBC Call Procedure threw the following error: `"JDBC error reported: (SQLState = null) - java.sql.SQLException: Missing IN or OUT parameter at index:: 2 "`.
5.7.1	1-9LURBZ	The **JDBC Call Procedure** activity did not run if one of the input parameters was a nested table type.
5.7.1	1-9LURBF	The **JDBC Call Procedure** activity threw an exception when a stored procedure containing multiple collection objects was called.
5.7.1	1-9JS5K6	TIBCO ActiveMatrix BusinessWorks could not insert BLOB\CLOB data into Oracle 10.x using the Oracle OCI 10.x driver and threw an exception. This has been fixed.
5.7.1	1-9JS5LG	A **JDBC Call Procedure** activity with TABLE type input parameter failed if the procedure was in a different schema than the one being used in the connection. This has been fixed.
5.7.0	1-8W20WA	For a JDBC XA Connection to Oracle RAC using the TIBCO driver, the Database URL did not accept the attributes, ServiceName, and AlternateServers. This has been fixed. These attributes can be specified in the Database URL using the following syntax: `-jdbc:tibcosoftwareinc:oracle://<host1>:<port1>;ServiceName=<db_instancename>;AlternateServers=(<host2>:<port2>, <host3>:<port3>,...,<hostN>:<portN>)`
5.7.0	1-6EXVRG	TIBCO ActiveMatrix BusinessWorks JDBC Call procedure did not return any resultset. However, if the same was run outside TIBCO ActiveMatrix BusinessWorks, then it showed the resultset.
5.7.0	1-9BAWJY	If input parameter of an Oracle stored procedure was an object with Table type as one of it's fields, the Table type field displayed could not be expanded. This has been fixed.
5.7.0	1-94ZXVZ	An error occurred when using the JDBC activities to invoke a DB2 stored procedure on OS/390. This has been fixed by introducing a property, `'java.property.Config.JDBC.DB2.CallProcedure.Mainframe'`. By default, this property is set to false. Set this property to true to use the JDBC Call Procedure activity to invoke a DB2 stored procedure on OS/390. This has been fixed.

Closed in Release	Change Request ID	Summary
5.7.0	1-7XJQQJ	The JDBC XA Connection did not work when the URL was configured to point to the `tnsnames.ora`. This has been fixed.
5.7.0	1-8HOZYY	To view the JDBC connection pool runtime metric in ActiveMatrix BusinessWorks, a functionality was required. This has been fixed. A new microagent to view the JDBC Connection pool runtime metric has been introduced. The metric can be viewed in the TIBCO Hawk console or using JConsole by invoking the microagent method `ListDbConnections`.
5.7.0	1-86UA5I	The Elapsed Time attribute was not listed in the Output tab to calculate the elapsed run time for all the JDBC activities under the JDBC Palette. This has been fixed by introducing a property per activity in the JDBC Palette to have the 'Elapsed Time' parameter configured.
5.7.0	1-9BAWLS	A NullPointerException was thrown by the JDBC call Procedure activity, if the output parameter of the stored procedure was of type OBJECT and was null.
5.6.3	1-8YBWZ6, 1-8VT2JO	On Linux, when a process having a series of JDBC Query activities to Sybase was run with multiple parallel jobs, some jobs got stuck and completed only when all the other jobs completed.
5.6.3	1-94ZXVF	An error occurred when the JDBC activities were used to invoke a DB2 stored procedure on OS/390. This has been fixed by introducing a property, `'java.property.Config.JDBC.DB2.CallProcedure.Mainframe'`. By default, this property is set to `false`. Set this property to `true` to use the JDBC Call Procedure activity to invoke a DB2 stored procedure on OS/390.
5.6.2	1-8W6QTW	The JDBC XA Connection was unable to retrieve the schema and gave an error when the Fetch button was pressed.
5.6.2	1-8W20VQ	For a JDBC XA Connection to Oracle RAC using the TIBCO driver, the Database URL did not accept the attributes, ServiceName, and AlternateServers. This has been fixed. These attributes can be specified in the Database URL using the following syntax - `jdbc:tibcosoftwareinc:oracle://host1:port1;ServiceName=`*db_instancename*`;AlternateServers=(host2:port2,host3:port3,...,hostN:portN)`.

Closed in Release	Change Request ID	Summary
5.6.2	1-8G10WI	When retrieving a dateTime value from a database server using the JDBC Query activity, the retrieved value was adjusted by an hour even though the ServerTimeZone in the activity's input was set to UTC or GMT.
5.6.1	1-8LY5GX, 1-8IJGKF	If one of the calls to DriverManager to fetch a connection was delayed, the rest of the calls to fetch other connections to any database got blocked. This has been fixed by providing an option to create connections using DataSource instead of DriverManager. Two new properties have been added to address the issue.
		For databases supported by the product, set the `bw.plugin.jdbc.connection.useDatasource` property to `true` to create connections using the DataSource. This property is false by default. For custom database drivers, in addition to the above property, set the `bw.plugin.jdbc.customDSClass.`*DriverName* `=` *DataSourceName* property, where *DriverName* is the custom database driver name and *DataSourceName* is the custom database driver class name.
5.6.1	1-8QY0ES, 1-8PD8O4	The JDBC connections used in a JDBC transaction were not released when an exception occurred during a rollback. This has been fixed to release the JDBC connections and then propagate the exception.
5.6.1	1-8QRAWP, 1-8QRHHL	When detailed tracing was turned ON and one of the JDBC activities blocked, all the other JDBC activities were also blocked.
5.6.1	1-8H5NUT, 1-8GHN5X	When parameters were specified with a higher precision, the **JBDC Call Procedure** activity threw a ClassCastException.
5.6.1	1-8GAXS8, 1-8ETT3S	TIBCO BusinessWorks always set `'selectMethod=Cursor'` in the Database URL while creating a JDBC Connection for MS SQL. Hence, the user was never able to use `'selectMethod=Direct'` in the Database URL. This has been fixed by introducing a plugin property, `bw.plugin.jdbc.mssqlEnforceSelectmethodToCursor`. The default value for the property is true. If this property is set to false, BusinessWorks does not enforce `'selectMethod=Cursor'` and uses the selectMethod set in the Database URL. If the selectMethod is not set, the Data direct driver default, `selectMethod=Direct`, is used.
5.4.1	1-88YBQC, 1-8A7O6L	The SQL query specified in the JDBC Query activity gave an error when the query consisted of case statements.

Closed in Release	Change Request ID	Summary
5.4.0	1-7Y9SOO	If the stored procedure used a 'dateTime' input parameter with the 'Resultsets Use Schema' option selected in the 'Advanced' tab, the output schema containing "Resultsets" element could not be fetched.
5.4.0	1-7BBPZJ	Some global variables were not properly included when using LibraryBuilder and releases of TRA earlier than 5.4.0.
JMS Palette		
5.13.1	BW-17560	Allow customization of the security vendor used by the BW EMS palette SSL connection. This is property based solution. Set property `TIBCO_EMS_SSL_SECURITY_VENDOR` for ems security vendor for SSL.
5.13.1	BW-17344	Attempts to close the session failed, and the commit failed error was generated when running processes with the JMS transaction group.
5.13.1	BW-17317	The TIBCO ActiveMatrix BusinessWorks engine on standby mode did not close the EMS connection when a project was deployed in the Fault Tolerance mode with the primary and secondary configuration.
5.13.1	BW-17309	The queue sender failed as expected when the maximum message limit was reached on the destination queue but the JMS local transactions did not roll back.
5.13.1	BW-17137	The JMS Receiver and the JMS Sender activities that used the same connection resource got into a dead lock situation while reconnecting to the EMS Server.
5.13.1	BW-16992	Topic only subscribers failed when using bw.plugin.jms.enableBridge and generated the error `java.lang.ClassCastException: com.tibco.tibjms.naming.TibjmsContext cannot be cast to javax.jms.QueueConnectionFactory`.
5.13.1	BW-16985	When using the activities **JMS Topic Publisher** and **JMS Queue Sender** a number of jobs became unresponsive when the connection to the EMS server was terminated. The jobs became unresponsive as the activities tried reconnecting to the EMS Server after the connection from the EMS Server was terminated.

Closed in Release	Change Request ID	Summary
5.13.0	BW-16682	Message payload was lost when the acknowledgment mode in **JMS Queue Receiver** was configured to TIBCO EMS Explicit and the sequence key with flowlimit and maxjobs was set to a value other than 1, when TIBCO ActiveMatrix BusinessWorks™ ActiveAspects Plug-in was installed.
5.13.0	BW-16573	There were no options to filter messages (for example a criteria such as JMSCorrelationID) from the reply queue in the JMS Queue Requestor and SOAP Request Reply activities.
5.13.0	BW-16528	**JMS Queue Receiver** threw the Null Pointer Exception when it tried to receive a message, which had a String application property and the value was set to Null.
5.13.0	BW-16433	A session leak was reported when the Get JMS activity was used within an XA transaction. The leak was also observed when the following error was thrown: `java.lang.ClassCastException:` `com.tibco.pe.plugin.ActivityTimedOutException` cannot be cast to `com.tibco.plugin.share.jms.impl.JMSEventContext`.
5.13.0	BW-16413	The JMS Receiver and JMS Sender that used the same connection resource got into a dead lock while reconnecting to the EMS Server.
5.13.0	BW-16283	JMS Queue Receiver threw a NullPointerException, when paging was on and the sequencing key was used.
5.13.0	BW-15271	Under certain circumstances, TIBCO ActiveMatrix BusinessWorks received the exception `weblogic.jms.common.LostServerException` when the JMS Sender activity was used with the Weblogic server and the server went down. When the Weblogic server came up, BusinessWorks could not reconnect with the server.
5.12.0	BW-16070	The Get JMS Queue Message activity timed out inside a JMS Local transaction group, and threw a `JMSPluginException` instead of `ActivityTimedoutException`.

Closed in Release	Change Request ID	Summary
5.12.0	BW-15958	A performance issue was observed after applying TIBCO ActiveMatrix BusinessWorks Hotfix 004. The JMS message receiver showed delay when message rate was low, for example 1 message per minute. To resolve this issue, use the property "bw.plugin.jms.sleepDurationOnNullMsg" to specify the amount of time a session controller thread (JMS Receiver) should sleep on receiving a null message. The default value is 300ms.Setting the value as 0 or less will be considered as 300ms (default value) This property will be effective only if the "bw.plugin.jms.sleepOnNullMsg" property is set to "true.
5.12.0	BW-15809	JMS Queue Receiver threw Null Pointer Exception when it tried to receive a message, which had a String application property and its value was set to Null.
5.12.0	BW-15798	JMS Queue Sender in an XA transaction group, triggered by a timer starter running in every one second, did not reconnect to MQ server after a Queue Manager restart. This fix introduces the following property: "bw.plugin.jms.transaction.reConnectOnError" - Default is "false" - If this property is set to "false" - the JMS Sender, in case of error, does not reconnect with the JMS provider, if it is in transaction. - If this property is set to "true" - the JMS Sender, in case of error, reconnects with the JMS provider, if it is in transaction.
5.12.0	BW-15709	Memory leak was noticed in the JMS Queue Sender, JMS Topic Publisher, and Get JMS Queue Message activites when the queue sender, topic publisher, and get JMS Queue Message failed.
5.12.0	BW-15708	When a JMS Receiver was a part of the XA transaction and the engine was stopped before entering the transaction group, TIBCO ActiveMatrix BusinessWorks threw the exception "TransactionInProgressException" for both EMS and MQ.
5.12.0	BW-15677	Get JMS Queue Message, JMS Queue Requestor, and JMS Topic Requestor activities failed with validation error, when configured to receive object type message at runtime.

Closed in Release	Change Request ID	Summary
5.12.0	BW-15659	Unconfirmed messages were not redelivered to a JMS Receiver starter, when Explicit Client Ack mode was used and the flowlimit was set as one.
5.12.0	BW-15615	When using the JMS topic queue bridge, SOAP Over JMS did not reply correctly to the reply topic or reply queue. Although this issue was fixed in hotfix01, intermittent timeout issues were encountered.
5.12.0	BW-15596	The newly introduced Dynamic Properties in TIBCO ActiveMatrix BusinessWorks 5.10 in BusinessWorks Receiver did not work and failed with validation errors when a sender sent object messages with dynamic properties.
5.12.0	BW-15499	The OnError activity did not return JMS headers.
5.12.0	BW-15434	TIBCO ActiveMatrix BusinessWorks 5.7.2 onwards, all Non-XA JBOSS Queue, Topic Connection factory, and the XA-enabled JBOSS Topic Connection Factory failed with ClassCast Exception, when trying to create a new connection.
5.12.0	BW-15432	An error was encountered, if a service was configured using JMS as transport and GetServiceInfo microagent was invoked from TIBCO Administrator GUI.
5.12.0	BW-14450	Multiple receivers were found with pending messages that were not consumed when the flow limit value was more than zero. This was seen after upgrading to TIBCO ActiveMatrix BusinessWorks 5.9.0
5.11.0	BW-15347	All the incoming JMS or HTTP headers and properties to be generated as part of the output message of the receivers (for example, JMS receivers and HTTP receivers) is now supported.
5.10.0	BW-14874	Fixed an issue where random consumer/session leak was encountered in the GetJMS activity in client Acknowledgment mode with Timeout set.
5.10.0	BW-14884	For "Get JMS Queue Message" activity, JNDI connection to the Microsoft AD LDAP server did not reconnect when LDAP and MQ server was restarted.
5.10.0	BW-14263	JMS Receiver slowed down when receiving new messages after the timeout value was set in TIBCO ActiveMatrix BusinessWorks 5.9.x.

Closed in Release	Change Request ID	Summary
5.9.3	BW-8166	JMS Queue Receiver redelivered a transient (under process) message when EMS Explicit Acknowledgement mode was used.
5.9.3	BW-10025	The "Get JMS Queue Message "activity did not close the session when activity timeout exception was thrown and the acknowledge mode was Transactional.
5.9.3	BW-14157	In TIBCO ActiveMatrix BusinessWorks, the JMS receiver was slow when receiving new messages after a timeout delay.
5.9.3	BW-14013	JMS Queue Sender did not reconnect after restarting IBM Websphere Application Server 7.0.
5.9.3	BW-13956	When precreate transactions was enabled for JMS receiver and no message was received for a long time, it slowed down.
5.9.2	BW-13625	When using XA Queue Connection Factory with MQ Series and ClientID for the connection is set, it threw "JMSCC3031: A client ID cannot be set after connection has been used." exception when using the connection.
5.9.2	BW-13281	Failure to publish JMS messages in a JMS Queue Requestor activity resulted in orphaned Temporary Queue Receivers.
5.9.2	BW-13755	JMS Sender did not recover from the connection failure when the retry count was set to 0 and resulted in all jobs started after the restart of server to fail.
5.9.2	BW-13759	BW Engine did not reconnect to EMS server after EMS server was restarted.
5.9.2	BW-13753	Calling sub-process with JMS sender outside a transaction and then the same sub-process inside a transaction group, caused error randomly.
5.9.0	BW-13284	Performance issue in the JMS Topic Subscriber with durable fixed.
5.9.0	BW-10208	JMS Sender failed when an empty value was specified for the JNDI Context Factory class name.
5.9.0	1-AP5ECV BW-10140	The JMS Sender activity failed with an exception when used with Apache Qpid messaging server.

Closed in Release	Change Request ID	Summary
5.9.0	BW-9089	When using the JMS RequestReply activity, a low CPU utilization (about 55%) caused by a large number of thread blocks was observed.
5.9.0	1-7XLXCH BW-7112	The JMS Queue Receiver activity continued to test the connection using JNDI user in the JMS Connection, even when the "Use JNDI for Connection Factory" was unchecked.
5.8.0	1-A4VSKK	JNDI connection to Sun LDAP server failed to reconnect when LDAP server was restarted.
5.8.0	1-AAE0MT	TIBCO ActiveMatrix BusinessWorks did not reconnect to Sun One MQ JMS server due to the methods that are responsible to reconnect to the JMS server. These methods were not getting invoked in a specific order as multiple thread access these methods, because one flag was getting set to 'true' before the successful reconnection.
5.8.0	1-A9RALY	The JMS Sender participating in a local transaction was unable to reconnect when the EMS server was restarted twice.
5.8.0	1-A6U6S8	When using EMS Explicit acknowledgement mode, the Get JMS Message activity threw an IllegalStateException error.
5.8.0	1-90HPNV	Dynamic queue created as a response on the **Input** tab which was unique per message did not work.
5.8.0	1-9WTOTX	When using the "JMS Queue Receiver" activity with the acknowledge mode "TIBCO EMS Explicit" in TIBCO ActiveMatrix BusinessWorks 5.7.0 to receive queue messages, the messages did not get re-delivered though they were not explicitly confirmed.
5.8.0	1-9N5W3R	When the "Auto-generate Client ID" was disabled in the JMS Connection palette with the Client ID already existing in the EMS server, the TIBCO ActiveMatrix BusinessWorks application threw an exception and continued to establish a connection to the server without a Client ID for each attempt.
5.7.2	1-9PRVCR	The Get JMS Queue Message activity used JNDI configuration values, even though the "Use JNDI for Connection Factory" field was unchecked.

Closed in Release	Change Request ID	Summary
5.7.2	1-9PYUCL	When the acknowledgement mode was Client or Transactional, a JNDI lookup call for destination was made for each job inspite of destination being static. This has been fixed as now the JNDI lookup call is done for each job when: • Queue name is mentioned in the **Input** tab for all the acknowledgement modes. • Dynamic queue is mentioned in the **Configuration** tab for the Client or Transactional modes.
5.7.1	1-9QZRMN	The JMS Sender within an ActiveMatrix BusinessWorks project running in the ActiveMatrix environment was unable to send messages to the secondary EMS Server configured in a failover mode when the primary EMS server failed or shutdown abruptly.
5.7.1	1-9GOCLH	When messages were being sent by both JMS Queue Sender and by MQ Sender and an exception was thrown in the MQ sender, a session leak was observed on the EMS server.
5.7.1	1-9JQ051	A session leak was observed when Get JMS Activity was run inside an XA transaction and a Repeat Until group.
5.7.1	1-9KHV8Z	A consumer leak was observed when a Get JMS Activity inside an XA transaction and a Repeat Until group failed or an exception was thrown.
5.7.1	1-8SYY71	For every message received using dynamic message selector and static destination, the Get JMS Queue Message activity created an extra connection to the EMS server to check if the destination existed.
5.7.1	1-9OL46J	If an Oracle RAC node switch occurred when under load, a message duplication was observed. This has been fixed by introducing an engine property `bw.engine.transaction.RACXACompatibleMode`. By default, the property is set to false. Set this property to true to enable the fix and avoid message duplication. Note that setting the property to true affects the throughput.
5.7.1	1-9JS5NK	When there was no message in the queue for Get JMS Queue Message activity inside a XA Transaction group and the specified timeout expired, the `ActivityTimedOutException` was not thrown.

Closed in Release	Change Request ID	Summary
5.7.1	1-9IZGJB	An exception was thrown by JMS Sender/Publisher when it was part of a JMS Local Transaction along with other activities. Also, when a JMS Receiver Activity and Get JMS Queue Message activity were part of a JMS Local Transaction, the following exception was thrown on or after the second job: `javax.jms.IllegalStateException: Session is closed`.
5.7.1	1-9HUGUF	The performance of Get JMS Queue Message activity has been improved.
5.7.0	1-9AAJ0Y	When the ActiveMatrix BusinessWorks engine is flow controlled, with a FlowLimit value greater than zero, the JMS Receiver activity threw an IllegalStateException after running for a while. This was observed irrespective of the value set for MaxJobs.
5.7.0	1-9AAJ0F	The Basic rollback only state, `setRollbackOnly` when coupled with the Generate Error activity, did not work on the JMS Local Transaction mode.
5.7.0	1-9AAIZW	When a JMS Queue Sender activity was coupled with Wait for JMS Queue Message activity within a no-action group, it threw a Null Pointer exception.
5.7.0	1-977PP3	The JMS Queue Receiver activity stopped receiving messages and threw a NullPointerException when the specified Flow Limit was reached and the acknowledgment mode was set to TIBCO EMS Explicit.
5.7.0	1-94RP0Z	Running a JMS activity within a transaction group created new sessions for each JMS activity within that transaction group. These sessions were never closed and resulted in large memory growth over a period of time, running the JVM heap memory out of space.
5.7.0	1-9AAIK9	The resources Get JMS Queue Message, JMS Queue Requestor, JMS Queue Sender, JMS Topic Publisher, JMS Topic Requestor and Reply to JMS Message when dragged and dropped from JMS palette, threw Null pointer exception error.
5.7.0	1-8K496D	When an ActiveMatrix BusinessWorks engine with recoverable jobs was started using Sequencing Key and more than one job was selected to restart, it threw a Lock exception on the Sequencing Key.

Closed in Release	Change Request ID	Summary
5.7.0	1-97T1BZ	When a BusinessWorks process with two EMS Server connections is running and one of the EMS server connections is lost, the number of sessions opened on the connected EMS Server increased.
5.7.0	1-9C4629	Each activity inside the JMS Local transaction group created it's own transacted session and at the end of the transaction group, the engine committed or rolled back just the last JMS activity.
5.6.3	1-942XKQ	When a JMS Queue Receiver activity tried to confirm a large number of messages and the Flow Limit was applied, a NullPointerException was thrown and the activity halted frequently. This was observed when the activity was configured in the Client acknowledgment mode.
5.6.3	1-8UNWVR	The Get JMS Queue Message activity threw a NullPointerException if the EMS Server was not running during the BusinessWorks engine startup.
5.6.3	1-8WS5YH	When a queue was deleted before the JMS Queue Sender activity completed, a `TransactionRolledBackException` was thrown, the transaction was rolled back, and the process was re-executed successfully. However, the JMS Queue Sender activity within a JMS Local Transaction group did not catch this exception.
5.6.3	1-94WGQ7	Running a JMS activity within a transaction group created new sessions for each JMS activity within that transaction group. These sessions were never closed and resulted in large memory growth over a period of time, running the JVM heap memory out of space.
5.6.3	1-94WGQU, 1-94RIGH	Producers opened by an AE Response activity were not closed even after the job was complete.
5.6.2	1-8YY7YF	A JMS Connection (IBM MQ) did not close from BusinessWorks after an exception or error.
5.6.2	1-8YXS9B	Specifying a wrong queue name in "Get JMS Queue Message" did not close the connection.
5.6.2	1-6ZS309	The Message Selector string specified in the Advanced tab of the Get JMS Queue Message activity was ignored if the activity was configured in the Auto Acknowledge mode.

Closed in Release	Change Request ID	Summary
5.6.2	1-8YBX6K	When a JMS activity inside a Repeat Until group timed out and quit the loop, the associated JMS session was not released. This resulted in a large number of open sessions over a period of time. This problem was observed with the JMS activities such as Get JMS Queue Message, JMS Queue Sender, and so on.
5.6.2	1-8SGXGC	When the Get JMS Queue Message activity with a dynamic destination was used in a loop and the number of messages received exceeded the queue prefetch value, the activity stopped without an error message. Also, the messages remaining in the queue were not confirmed.
5.6.2	1-8SF28C	When a BusinessWorks process with two EMS Server connections is running and one of the EMS server connections is lost, the number of sessions opened on the connected EMS Server increased.
5.6.1	1-83ZU79	When the 'Use JNDI for Connection Factory' checkbox in the JMS Connection resource was selected, the JNDI configuration values were used. However, if you then unchecked the '**Use JNDI for Connection Factory**' checkbox and provided the connection information, the JNDI configuration values were still being picked up.
5.6.1	1-8NNZRY, 1-8KOSEU	When a bridge between a topic and multiple queues was defined and one of the queues had the queue size defined, if the queue size reached that limit, the other queues got multiple copies of messages. This has been fixed by introducing a new property, `com.tibco.plugin.jmsSender.retryCount`. Setting this property to zero ensures that the messages are sent only once.
5.6.1	1-8NNZL0, 1-8N9HXG	When a process starter was disabled, although no new jobs were created, the JMS Receiver continued to receive messages until the prefetch value was reached. As a result, the active engines were unable to receive all the messages from the queue.
5.6.0	1-7U8PK6	The JMS Sender Activity threw a generic exception when configured to use a non-existent destination queue. This has been fixed to provide the underlying JMS exception instead.
5.6.0	1-7T2BCF	When the connection to the JMS Server was lost, BusinessWorks engine threw an error. However, it could reconnect to the JMS Server and recover from it. This has been fixed. The BusinessWorks engine gives a warning instead of an error when the connection is lost.

Closed in Release	Change Request ID	Summary
5.4.2	1-8E6UIP	TIBCO BusinessWorks engine was processing the JMS messages in a non-sequential manner even though the Sequencing Key on the JMS Queue Receiver activity in the process was set to a constant value.
5.4.2	1-88ETUL	The Get JMS Queue Message activity using client acknowledgment mode failed while confirming after receiving a random number of messages.
5.4.1	1-89MSYU	The JMS Topic Publisher was unable to reconnect to the EMS server and gave an unexpected error message when the EMS server was restarted for two or more number of times.
5.4.0	1-70517M	The JMS Topic Subscriber was throwing an error under certain situations when configured to receive Any Element and a MapMessage is received.
5.4.0	1-7BI9G7	Exceptions resulting from errors returned by the JMS server were not always reported.
5.4.0	1-79SAS9, 1-7YADED, 1-7DDEOU, 1-7TSPE3, 1-80852B	The custom engine property bw.plugin.jms.recoverOnStartupError was not working properly in Release 5.3.2.
5.4.0	1-744RC5, 1-7DDCD9	In some situations, an exception is thrown when sending JMS queue messages of type byte.
Mail Palette		
5.13.1	BW-17517	The **Receive Mail** activity was not able to parse in-line messages with multi-part body content.
5.13.1	BW-17306	The **Send Mail** activity ignored the system property, `mail.smtp.timeout`.
5.13.1	BW-17303	The **Receive Mail** activity generated an exception when the content-disposition field for MIME headers defined the filename for the attachments.
5.13.1	BW-17266	The **Receive Mail** activity did not receive emails when the email contained an empty string in the CC value.

Closed in Release	Change Request ID	Summary
5.13.1	BW-17082	The **Receive Mail** activity failed to receive emails where the subject line was blank.
5.13.1	BW-16854	The Mail client was unable to create a new session and returned the previously created session. A property has been introduced for this. Set the property `bw.plugin.mail.reuseSession` to `false` to stop getting the earlier created session.
5.13.1	BW-13688	The **Send Mail** activity failed even when one of the email addresses provided in the addresses list was not valid. A property has been introduced for this. Set the property `mail.smtp.sendpartial` to `true`. The default value is `false`.
5.13.0	BW-16592	The **Receive Mail** activity did not extract the body text if the message contained an attachment. To use this fix, set the property to `bw.plugin.mail.receiverFlattenNestedAttachments` to `true`. The default value is `false`.
5.13.0	BW-16321	The **Receive Mail** activity did not wait for complete termination of the octet CRLF.CRLF before executing the command UDIL with the POP3 server. The error `javax.mail.MessagingException: error getting UIDL` was thrown.
5.12.0	BW-15716	In projects where multiple receive mail processes were configured with the same host but different accounts, multiple jobs were created for the process starter when a mail was received from one account.
5.12.0	BW-15354	Sendmail activity sent a corrupt PDF file, when sent as BinaryContent.
5.12.0	BW-15344	If 'filename' contained a non-ASCII character in the Receive Mail activity output '$Receive-Mail/.../content-disposition', the character was encoded and 'filename' could not be used directly.
5.12.0	BW-8564	The Receive Mail activity could not process an attachment if it contained a special character in the file name.
5.4.0	1-7AH2B5, 1-7CMKO4	The Send Mail activity now uses fully qualified domain names in the Received From mail header field.

Closed in Release	Change Request ID	Summary
5.4.0	1-7U5YS2, 1-7T69CD	In previous releases, the Receive Mail activity did not handle incoming mime messages with mime types application/*, audio/*, video/*, or image/*. While fetching these types of emails, TIBCO BusinessWorks threw exceptions. You can fix this by setting the `bw.plugin.mail.receiverHandleDiscreteTypes` property to `true`. See *TIBCO ActiveMatrix BusinessWorks Administration* for more information.
5.4.0	1-7U2HJ2, 1-7TV7Q1	In previous releases, the Receive Mail activity was throwing exceptions when receiving email if the email was in rich text format and the first mime part contained nested mime sub parts. You can fix this by setting the `bw.plugin.mail.receiverFlattenNestedAttachments` property to `true` which flattens out the message structure so that all parts are siblings. See *TIBCO ActiveMatrix BusinessWorks Administration* for more information.
Manual Work Palette		
5.9.0	BW-13506	Manual Work Plug Palette references have been removed from the product.
Policy Palette		
5.13.1	BW-17636	Inbound policy with UsernameToken authentication failed to process UsernameToken with PasswordDigest type password when TIBCO ActiveMatrix BusinessWorks 5.13 HF12 or above was installed.
5.13.1	BW-17537	The exception message with wrong certificate path was displayed when the correct path was not defined for the Global Trust CA Store property.

Closed in Release	Change Request ID	Summary
5.13.1	BW-17242	When TIBCO ActiveMatrix BusinessWorks was used to apply the integrity policy to incoming SOAP messages, it expected the same signature and digest algorithm.
		It rejected the message as the XML digital signature API used two different algorithms for SHA1 and SHA256 in the elements, SignatureMethod and DigestMethod.
		A property has been introduced for this.
		Set the property `ws.security.policy.turnoff.inbound.validation` to `true` to turn off the validation that validates the signature and digest algorithm for the secure SOAP message.
		The default value is `false`.
5.13.1	BW-17084	Basic authentication failed when TIBCO Runtime Agent 5.9.0 was used with TIBCO ActiveMatrix BusinessWorks 5.12.0.
5.13.1	BW-17045	When Message Element For Signature was left blank in the Policy Association activity on the inbound side, it did not default to anything, and the request succeeded without the signature.
5.13.1	BW-17040	Basic authentication failed when TIBCO ActiveMatrix BusinessWorks 5.11 was used with TIBCO Runtime Agent 5.8_HF-006 or above.
5.13.1	BW-16698	Security policy was unable to authenticate LDAP users integrated with BusinessWorks Administrator.
5.13.0	BW-16633	TIBCO ActiveMatrix BusinessWorks 5.12 was unable to validate a signed SOAP message when the issuer DN of the certificate contained an email address.
5.13.0	BW-16571	Support provided for LaxTimeStampFirst with Confidentiality and Integrity in the Policy activity.
5.13.0	BW-16525	The manual activity of adding SOAP-ENV Namespace to SOAP Policy Association file while signing the SOAP Body and a SOAP element has now been removed.

Closed in Release	Change Request ID	Summary
5.13.0	BW-16364	When the Policy Palette was used for authentication and timeout, timestamp and the user name/password tokens were present in the outbound SOAP Security header. The username token appeared before the timestamp. A property has been introduced for this. Set the property `java.property.ws.security.policy.prepend.timestamp` `=true`, to prepend the timestamp element. The default value is `false`.
5.13.0	BW-16182	While using SecurityPolicyAssociation to sign the Soap Header element, TIBCO ActiveMatrix BusinessWorks was unable to sign the element.
5.13.0	BW-13788	BusinessWorks did not support TLS1.2.
5.12.0	BW-16281	When the WSS policy association was applied on unqualified optional elements, the values for which were not provided by the client, it could not encrypt the element and threw the error "WSEncryptBody/WSSignEnvelope: Element to encrypt/sign not found".
5.12.0	BW-16234	When the body element to be encrypted was selected in "Message Elements for Encryption" in the Security Policy Association activity, the element was not encrypted. This occurred when using SOAP with RPC or the encoded style.
5.12.0	BW-16182	The reference ID was missing when a request was sent using TIBCO ActiveMatrix BusinessWorks 5.9.3. This issue was related to the application of the WS Security on the element inside the SOAP header of a message. However, the ID was displayed when versions prior to ActiveMatrix BusinessWorks 5.9.3 were used.
5.12.0	BW-15757	The attribute "Encoding Type" was missing from the nonce element when a request was sent through SOAP Request Reply using the security type Username Token.
5.12.0	BW-15752	Processing the SOAP Security Headers resulted in corrupting the Security Token.
5.12.0	BW-15683	TIBCO BusinessConnect embeds TIBCO ActiveMatrix BusinessWorks 5.9.2. Hence when a SOAP request was sent with the SOAP Body encrypted with a X.509 certificate and the certificate keyUsage field did not have the "data encipherment" set, the encryption failed.

Closed in Release	Change Request ID	Summary
5.12.0	BW-15492	TIBCO ActiveMatrix BusinessWorks could not handle the element ReferenceList when it was placed outside the EncryptedKey element.
5.12.0	BW-14879	An expired certificate in the trusted store affected the other valid certificates in the trusted store and threw "WS Security Error : 121901".
5.12.0	BW-9081	The XML prefix string was missing in the SOAP Request message, when WSS was used. To include XML declaration when using WSS, set the property "java.property.ws.security.policy.include.xml.declaration" property to "True" and set it to "False" (default) to exclude the SOAP declaration.
5.12.0	BW-8944	Upgraded Apache WSS4j from version 1.0 to 1.6.x.
5.10.0	BW-10011	Security Policy Association no longer has the limitation of not signing or encrypting the single element of SOAP body that came without namespace (unqualified).
5.9.2	BW-13529	The exceptions were not handled correctly by the WS Security negative cases and the WS security error code was not written in the exception.
5.7.1	1-8YXNG7	While running a WSS project in TIBCO Designer, the console audit did not work when the Supported Security Token for the inbound policy was set to both X509Token and UserNameToken and the Security Token for the outbound policy was X509Token.
5.6.2	1-8V2XD4, 1-8WXUHW, 1-82HZ17	For WSS Authentication policy using X509 token, if the token contained a self-signed certificate, the authentication succeeded even if the self-signed certificate was not present in the trusted folder.

Closed in Release	Change Request ID	Summary
5.6.1	1-8NUXYI	When basic or WSS authentication failed, audit logs were not created. • For basic authentication: To use the default logging mechanism, set the trace role to **INFO**. To use the log4j logging mechanism, configure the logger, **tibco.bw.infoRole**, and set the logger level to **INFO**. • For WSS authentication: Only the log4j logging mechanism is supported. To use the log4j logging mechanism for WSS authentication, configure the logger, **tibco.bw.infoRole**, and set the logger level to **INFO**.
5.4.2	1-7A0FI9	When using Java JKS keystore as identity in inbound security policy association for confidentiality, TIBCO BusinessWorks expected jks keystore to return a single x509 certificate for a given alias name. However, when multiple x509 certificates were returned, it gave an error.
5.4.0	1-6ZQ7GL	Refresh issue when resetting the X509 Identity field for Outbound policy has been fixed.
Parse Palette		
5.13.0	BW-9663	The Continue on Error option in the **Parse Data** activity did not parse data correctly to the ErrorRow.
5.6.3	1-8YVPVW, 1-8WXN2D	The **Parse Data** activity could only parse a maximum of two optional fields at the end of each line that had a "Fixed" Format.
5.4.0	1-86QUPV, 1-86U6SX	The **Parse Data** activity for the "Fixed Data Format" parsed all the records of multi-files when the calling process was configured to spawn a new machine process for executing the parse data activity. However, when the calling process was not configured to spawn new processes, the inline parse data activity returned incorrect output.
5.4.0	1-7YQWW3, 1-85IAG3	The **Parse Data** activity for the "Fixed Data format" parsed all the records of multi-files when the "noOfRecords" was set to "-1". However, it did not parse the first record of each file correctly when "noOfRecords" was set to "1".

Closed in Release	Change Request ID	Summary
5.4.0	1-70S50M	The **Parse Data** activity no longer throws an `ArrayIndexOutOfBoundException` when the data is longer than 1024.
5.4.0	1-7MSKNW, 1-7HE6TI	The **Parse Data** activity was locking the file and not permitting the file to be deleted in certain situations.
Rendezvous Palette		
5.13.1	BW-17145	TIBCO ActiveMatrix BusinessWorks sent the elements Node and Role as empty elements in the SOAP 1.2 fault message when the corresponding values were null.
5.13.1	BW-16451	ActiveMatrix BusinessWorks created more selective listeners instead of creating the generic listeners `_RV.>`.
5.13.0	BW-16654	The *TIBCO ActiveMatrix BusinessWorks Administration* guide wrongly stated the use of the Rendezvous API property `setTaskBacklogLimitInMessages()` method in BusinessWorks. This has now been corrected.
5.13.0	BW-16450	There was an increase in the native memory when the BusinessWorks engine was started with 100 DQ receivers and 100 different DQ groups, with the tibrvnative.jar.
5.12.0	BW-15816	TIBCO ActiveMatrix BusinessWorks 5.10.0 onwards, a mismatch was observed between the Rendezvous message published and subscribed, when RawRvMsg schema was used.
5.6.1	1-838POJ, 1-838PNH, 1-7Z2MD3	BusinessWorks Engine hung and displayed Null Pointer Exception under heavy stress conditions. This occurred when paging was enabled and the value of the "activationLimit" property was set to 'False' in the "RVCMQ starter" process. As a result, CMQ confirmations and results were not received. This has been fixed.
5.6.0	1-86CD4X	TIBCO ActiveMatrix BusinessWorks did not provide support for external RVD certificates. This has been fixed. Global variables can be used to provide the location of certificates at deployment time.
Service Palette		

Closed in Release	Change Request ID	Summary
5.13.1	BW-17232	The logic that was implemented to replace line feed (LF) with carriage return line feed (CRLF) did not work as expected in the **Invoke Partner** activity.
5.13.1	BW-17203	The SOAP event source was unable to process requests and failed with the error `com.tibco.spin.soap.processors.SoapProcessingException: WS Security Error : 111000`.
5.13.1	BW-17180	Web services became unresponsive while writing attachments to a file when it had content-disposition.
5.13.1	BW-17104	The SOAP server failed to understand the signature of a SOAP request sent from the BusinessWorks SOAP client and displayed the following error: `com.tibco.spin.soap.processors.SoapProcessingException:W S Security Error : 111000`.
5.13.1	BW-17038	The BusinessWorks service failed to understand the signature when the Binary Security Token in the incoming SOAP Request was `X509v3`. It failed with the NULL pointer exception.
5.13.1	BW-16946	There was no provision to change the content-type of attachments when using MTOM attachments in the **Service** activity.
5.13.1	BW-16866	The BusinessWorks Service over JMS failed with a NullPointerException and it did not process the subsequent message even after it received a request with an invalid SoapAction.
5.13.0	BW-16491	The global variable value for JMS Destination and SOAP Action attributes in the Service Agent configuration were incorrectly documented as "No" in the *TIBCO ActiveMatrix BusinessWorks Palette Reference* guide. This has now been corrected.
5.13.0	BW-16490	When a URL request was made to a non-existent resource, the Built-in Retrieve Resource service threw the `File Not Found` error on the console. It hung, and responses were not sent to the client.
5.13.0	BW-16152	When Message Element For Signature was left blank in the Policy Association activity on the inbound side, it did not default to anything, and the request succeeded without the signature.

Closed in Release	Change Request ID	Summary
5.13.0	BW-15867	There was no provision to change the content-type of attachments when using MTOM attachments in the Service activity.
5.13.0	BW-10167	Using the JMS transport, when the Invoke Partner activity executed a OneWay operation, BusinessWorks executed the next Call Process activity after Invoke Partner like it was produced, though it was not.
5.12.0	BW-16240	If the messageFormat tag of a concrete WSDL was"text" in the JMS binding, the Invoke Partner activity in TIBCO ActiveMatrix BusinessWorks using WSDL sent a message to JMS Queue in the byte format.
5.12.0	BW-16145	The Null Pointer Exception was thrown when a call to a subprocess was made after the Invoke Partner activity was used for a one-way service.
5.12.0	BW-15690	Starting a TIBCO ActiveMatrix BusinessWorks Service instance in TIBCO Administrator threw an error.
5.12.0	BW-15656	The Service agent used a wrong file name while writing an attachment to a file, when there were concurrent requests.
5.12.0	BW-15566	Creating Partner Link Configuration with ActiveMatrix and SOAP partner links in sequence failed due to validation error.
5.12.0	BW-15478	Performance improvement in the Invoke Partner scenario.
5.12.0	BW-15328	When the Service activity was used with a JMS transport, the delivery mode of the response message could not be configured. By default, the messages were sent as Non-Persistent.
5.12.0	BW-15323	In TIBCO ActiveMatrix BusinessWorks 5.9.3, an issue was observed when Partner Link Configuration used the WSDL which uses SOAP 1.2 namespace. When using the "+" to add a WSDL operation, the cursor changed into the busy or wait icon without moving and threw a NullPointerException when saved.
5.12.0	BW-13982	NullPointerException was thrown, when the Invoke Partner activity was used to send multiple SOAP requests simultaneously.
5.12.0	BW-7716	The Service resource did not support specifying a namespace in the binding for RPC mode for the literal message type.

Closed in Release	Change Request ID	Summary
5.11.0	BW-7483	When using Service over JMS with Client ACK mode, an option was required for NOT confirming a message, if an error was thrown in the TIBCO ActiveMatrix BusinessWorks process. For NOT confirming a message, set the `bw.plugin.service.jms.confirmOnError` plug-in property to `False`.
5.10.0	BW-13514	When "Enable for AMX" check-box on a Service Resource was clicked, **Apply** did not get enabled.
5.10.0	BW-14311	When running the SOAP client with an invoke partner activity, only the soap fault was received. It did not populate `FaultString`, `FaultCode` and `FaultActor`.
5.10.0	BW-14093	When number of operations and pending messages was more for SOAP over JMS Service in TIBCO ActiveMatrix BusinessWorks (not the event source), the performance was affected.
5.9.3	BW-14691	Service Resource threw error messages when it referenced a Partner Link of ActiveMatrix type with Output Context configured.
5.9.3	BW-14412	Clicking the 'Properties' tab in the Service Agent made TIBCO Designer unresponsive and resulted in the referenced Global Variable not being visible.
5.9.3	BW-14359	The WSDL message was not picked up on a Service Resource, if that WSDL message was defined in the imported WSDL.
5.9.3	BW-14237	The Invoke Partner activity failed to locate the proper schema to validate response message from the third party service. Also the "include" and "redefine" elements were not processed while finding references within the concrete WSDL.
5.9.3	BW-14012	Fixed an issue where SSL configuration within the Partner Link Configuration activity was not allowed, if basic authentication was not enabled in Partner Link Configuration.
5.9.3	BW-14017	MIME part referred in the Service palette when sending the SOAP 1.2 MTOM response, did not have a Content-Transfer-Encoding header field.

Closed in Release	Change Request ID	Summary
5.9.3	BW-13640	With multiple service agents in one project, BusinessWorks engine threw a `"service already exists"` exception, when stared with Java Virtual Machine (JVM).
5.9.2	BW-13268	Under high load while using multiple sessions to handle concurrent message requests with WS-Security enabled, the BusinessWorks ServiceAgent reported `"BadPaddingException: Invalid PKCS #5 padding"` exception.
5.9.2	BW-13511	Partner invocation failed with "Service Partner not registered" when the same Invoke Partner was invoked through server and client processes that are bundled in the same archive.
5.9.2	BW-13551	When a partner link was not configured in at least one of the Process or a Service Resource, the project validation did not show a validation error.
5.9.2	BW-13282	Performance issue with the web service with security policy is fixed. As part of this fix root logger is added in Log4j configuration files to change the default logging level to WARN which was DEBUG earlier.
5.9.2	BW-9893	The Service Agent created from the process containing space characters in the folder names threw HTTP 404 error to the SOAP client, when trying to call this Service.
5.9.2	BW-9861	When using HTTP Component as a Service transport with basic authentication without providing authentication header in the SOAP request, a `NullPointerException` was encountered.
5.9.0	BW-10233	When started with IBM JVM, BW engine threw an "service already exists" exception for a BW project which contained multiple soap services.
5.9.0	1-A42F23 BW-9667	In the RPC encoded style project, when Input or Output or Fault Message Namespace was specified in the Service Resource, the following error was encountered: `"Signature creation failed; nested exception is: org.apache.xml.security.signature.XMLSignatureException: Element ns0:getFloatField has a relative namespace: ns0="InputMessageNamespace"`

Closed in Release	Change Request ID	Summary
5.9.0	1-AJGYAL BW-9983	Deserialization exception was encountered and Invoke Partner did not get Default Fault sent by the Service Implementation if two way security policy was applied on the Service and Partner Link Configuration.
5.8.0	1-9ZEEEF	When a service resource was configured manually by adding PortType, Operation Implementation, or Endpoint bindings etc, the Default style was not picked up. However, when creating service by using Generate Web Service from WSDL in the Tools option, Default style was picked up correctly.
5.7.2	1-9WAVNQ	An operation name containing DBCS in Abstract WSDL caused service error in some cases occasionally.
5.7.2	1-9X8XW3	On specifying either the hostname or the port value in the Input tab of Retrieve Resource Activity, the correct value did not reflect in the retrieved concrete WSDL. However, it reflected correctly in the concrete WSDL when both the values were specified.
5.7.2	1-7ZLTVD	The concrete WSDL generated by the Service palette, `WSDL:operation >soap:operation > soapAction` attribute contained a combination of %-escaped characters and native characters.
5.7.2	1-9RXUCP	For a Partner Link Configuration activity in the TIBCO Designer Project, renaming a WSDL caused the available partners to expose to become unavailable in TIBCO ActiveMatrix BusinessWorks Service Engine.
5.7.2	1-6WAVQR	Non-Latin1 characters specified in the SOAP Action field could not get encoded properly in the resulting WSDL. Subsequently, an error occured when the operation using the generated WSDL was called.
5.7.1	1-9RSBUY	For an ActiveMatrix BusinessWorks process with partners configured on it, renaming a WSDL did not update the WSDL reference in the process.
5.7.1	1-9OE4L0	The ActiveMatrix BusinessWorks engine failed to invoke the specified process and threw a NullPointerException when it was deployed for the second time and used SOAP over JMS transport.

Closed in Release	Change Request ID	Summary
5.7.1	1-93LWFZ	The default SOAP fault message generated by a service agent was not compliant with the SOAP 1.2 specification. This has been fixed. This fix requires TIBCO Runtime Agent 5.6.1 to be installed in your environment.
5.7.1	1-9N83BR	The BusinessWorks service agent did not reflect the Max Jobs property that was set.
5.7.1	1-9OL49H	In the Service palette, if the same service was configured using HTTP and JMS endpoints, the concrete WSDL file generated had `wsdl:porttype` declared twice.
5.7.1	1-9OL405	While sending back a SOAP fault for an internal error that occurred while processing a message through a SOAP service agent configured with JMS transport, the BusinessWorks engine always sent back SOAP 1.1 faults irrespective of the configured SOAP version in the SOAP service agent.
5.7.1	1-9MFMCH	The Invoke Partner activity threw a NullPointerException and did not proceed when run in TIBCO Designer Tester.
5.7.1	1-9F39US	The Service Resource did not show the correct implementation process name when a web service was regenerated from a WSDL without modifying its port type.
5.7.1	1-9NR7L5	The Invoke Partner activity generated an `Error output data invalid` exception instead of a normal timeout exception if the operation contained a fault message and the operation timed out. This has been fixed and the `ActivityTimeoutException` exception is available in the activity's Error Output tab.
5.7.1	1-9MFMHV	When a service with SOAP/JMS was invoked multiple times using Invoke Partner activities, the process threw a NullPointerException intermittently and went out of memory.
5.7.1	1-9LUR95	When the Service resource received a malformed SOAP over JMS message, a NullPointerException was thrown on the console and all subsequent incoming SOAP over JMS messages, including the well-formed ones, were blocked.
5.7.1	1-9J492L	The ActiveMatrix BusinessWorks Service Agent and Partner Link Configuration failed to load the referred concrete WSDL when it was built in a Design Time Library.

Closed in Release	Change Request ID	Summary
5.7.1	1-9J490G	The Invoke Partner activity hung when a WSDL which defined an InOnly operation and transport as JMS was used.
5.7.1	1-9J48WS	A service configured to use JMS as the transport threw an exception `javax.naming.CannotProceedException` if a queue and a topic with the same name existed on the EMS Server.
5.7.1	1-9F2OW4	The Invoke Partner activity replaced the SOAP Fault message with a generic fault message when it received a custom SOAP Fault message.
5.7.0	1-977POH	When the ActiveMatrix BusinessWorks engine is flow controlled, with a FlowLimit value greater than zero, the JMS Receiver activity threw an IllegalStateException after running for a while. This was observed irrespective of the value set for MaxJobs.
5.7.0	1-92KYE6	When an ActiveEnterprise Invoke an Adapter Request Response Service activity timed out, the objects in memory were not released and eventually the BusinessWorks engine threw an OutOfMemoryError.
5.7.0	1-91YA1S	When a TIBCO BusinessWorks Service implementing IN-ONLY operation was invoked through ActiveMatrix, a NullPointerException was thrown.
5.6.3	1-940PGN	For any ActiveMatrix BusinessWorks project with partners to run in ActiveMatrix BusinessWorks Service Engine, the partner link configurations were mandatory and had to be specified in the project. This has been fixed. The bindings can now be delayed and configured in the ActiveMatrix design-time.
5.6.3	1-93AYHD	ActiveMatrix BusinessWorks uses the default operation style if the SOAP operation style for a service is blank. However, when such a service was run in the ActiveMatrix environment, a NullPointerException was thrown.
5.6.3	1-93UPAT	A ConcurrentModificationException was thrown by the Invoke Partner activity when multiple messages were sent rapidly.
5.6.3	1-90OJDL	A SOAP over JMS service resource configured to run with a direct JMS Connection did not give any errors during validation. However, the service gave a connection error at runtime. This has been fixed by providing design-time validation which ensures that a service resource cannot be configured with a direct JMS Connection.

Closed in Release	Change Request ID	Summary
5.6.3	1-8STYTD	Wiring a BusinessWorks component service or reference chevrons did not override the BusinessWorks concrete bindings. If the component service was not overridden, then the reference was also not getting overridden.
5.6.2	1-8WN6RN	The Service resource added the same operation multiple times in the generated concrete WSDL when multiple endpoints were added.
5.6.2	1-8CAEO4	The Context Resource threw an error when the same schema was defined in two or more different XSD files.
5.4.2	1-7Y5Q5S	The documentation tags present in an abstract WSDL were ignored while generating a concrete WSDL in the Service resource WSDL Source tab. This has been fixed and the documentation tags are appropriately added to the concrete WSDL generated in the WSDL Source tab of the Service resource configuration.
SOAP Palette		
5.13.1	BW-17509	MTOM messages created from TIBCO ActiveMatrix BusinessWorks did not include the content transfer encoding header field.
5.13.1	BW-17333	When SOAP messages had 2 date fields in the HTTP header field, the **SOAP Request Reply** activity displayed validation exception.
5.13.1	BW-17301	In the XML injection scenario, the fault string has been suppressed from the service. To suppress the fault string, set the property `bw.plugin.soap.suppressDetailedFaultstring` to `true`. The default value is `false`.
5.13.1	BW-17297	SOAP services with array elements generated the Null Pointer Exception when an incoming request was deserialized.
5.13.1	BW-17271	In the **SOAP Request Reply** activity, when the JMS server was down, new jobs were blocked while attempting reconnection. A property has been introduced for this fail-fast behavior. Set the property `java.property.bw.plugin.jmssender.enableLazyRetryOnFailure` to `true`. The default value is `false`.

Closed in Release	Change Request ID	Summary
5.13.1	BW-17088	The **SOAP Request Reply** activity calling a web service over JMS timed out frequently when the web service included an operation that did not send a response message.
5.13.1	BW-17072	The **SOAP Request Reply** activity using SOAP 1.2 was able to handle HTTP exceptions correctly after the property `java.property.bw.plugin.soap12.http.retainHttpException` was set to `true`. However, when a successful SOAP response was received, the SOAP Request Reply activity generated the exception, `The HTTP server replied with a 4XX status code`.
5.13.1	BW-17008	Setting large values for timeout generated the following error: `java.lang.IllegalArgumentException: timeout value is negative`.
5.13.1	BW-17003	The **SOAP Request Reply** activity did not set the socket connection timeout and used the OS default value. The HTTP thread was blocked by it for more than 10 minutes. A property has been introduced for this. Set the property `bw.plugin.http.setConnectionTimeout` to `true` to use the activity timeout value as the connection timeout value. The default value is `false`. The maximum allowed value is 2147482 seconds.
5.13.1	BW-16988	When the **Get Context** or **Set Context** activities were used to retrieve contents of the SOAP header, which also included the WS-Security structure, the attribute wsu:Id of the element BinarySecurityToken dropped off. A property has been introduced for this. Set the property `java.property.ws.security.policy.retain.wsu.id.attribute` to `true`, to enable the fix.
5.13.1	BW-16862	SOAP service failed at signature verification when the SOAP body contained the carriage return character.

Closed in Release	Change Request ID	Summary
5.13.1	BW-16833	The HTTP Error was not handled correctly when SOAP 1.2 was used by the
		SOAP Request Reply activity. A property has beed introduced for this.
		Set the property `java.property.bw.plugin.soap12.http.retainHttpException` to
		`true`, to enable this fix.
		The default value is `false`.
5.13.1	BW-7140	The **SOAP Request Reply** activity generated an error when the style attribute was not available in the SOAP binding element.
5.13.0	BW-16845	The attribute Encoding Type was missing from the nonce element when a request was sent through SOAP Request Reply using the security type Username Token. To retain the original behavior set the property
		`java.property.com.tibco.security.wss4j.NO_UT_NONCE_ENCODING=true`. The default value of this property is `false`.
5.13.0	BW-16637	The SOAP Request Reply activity was unable to deserialize a SOAP Response message that contained a multi dimensional array. Subsequently, an activity timeout error was thrown.
5.13.0	BW-16576	In BusinessWorks 5.12.0, some servers failed while applying the outbound policy. Applying the outbound policy caused InclusiveNamespaces to be added under SignedInfo.A property has been introduced for this. Set the property `java.property.com.tibco.trinity.wss.DontAddInclusivePrefixes=true`. The default value is `false`.
5.13.0	BW-16529	Setting large values for timeout threw the following error: `java.lang.IllegalArgumentException: timeout value is negative.`
5.13.0	BW-16521	Configure SSL was not enabled when EndPointURI in the Partner Link Configuration activity used global variables which had an HTTPs link.

Closed in Release	Change Request ID	Summary
5.13.0	BW-16488	The exception `Output data invalid, NullPointerException` occurred when the process was started with the SOAP Event Source activity, and the SOAP Event Source activity was selected for review.
5.13.0	BW-16464	When the Get and Set Context Activities were used to retrieve contents of the of the SOAP header, which also included the WS-Security structure, the attribute `wsu:Id` of the element BinarySecurityToken would drop off. A property has been introduced for this. Set the property `java.property.ws.security.policy.retain.wsu.id.attribute =true`, to enable this fix.
5.13.0	BW-16416	For the Soap Request Reply activity, the elements SOAP-ENV:Body and wsu:Timestamp could not be signed.
5.13.0	BW-16369	SOAP Request Reply activity did not set the socket connection timeout and OS default value was used. The http thread was blocked by it for more than 10 minutes.
5.13.0	BW-16392	Using TIBCO ActiveMatrix BusinessWorks externally created SAML Assertions can now be signed. To sign the externally created SAML assertions, set `java.property.com.tibco.security.wss4j.EXPLICIT_ASSERTIO N_SIGNING` to `true`. The default value is `false`.
5.13.0	BW-16370	The SOAP Request Reply activity calling a web service over JMS timed out frequently when the output messages were not configured for the operation.
5.13.0	BW-16256	White spaces were deleted from the original XML input and output data when the activity validation was turned on. A property has been introduced for this. Set the property `java.property.com.tibco.xml.mapper.validation.preserveWh itespace=true` to preserve the white spaces. The default value of this property is `false`.
5.13.0	BW-16062	TIBCO ActiveMatrix BusinessWork was unable to sign or encrypt particular outbound message elements using Partner Link Configuration.
5.13.0	BW-15591	BusinessWorks did not support SOAP 1.1 binding for MTOM 1.1.

Closed in Release	Change Request ID	Summary
5.13.0	BW-15433	HTTP basic authentication in a BusinessWorks application failed with the Null Pointer Exception while using tibrvnative.jar.
5.13.0	BW-13405	BusinessWorks did not support setting the input and output HTTP headers in the SOAP Request Reply activity.
5.13.0	BW-9473	SOAP defaultFaultElement did not include the detail element in the schema.
5.12.0	BW-16215	Chunking threshold was not working in SOAP service calls with Hotfix006 and Hotfix007. The "Java.lang.NumberFormatException" was thrown.
5.12.0	BW-16186	The SOAP Request Reply activity failed with Interrupted Exception, when the reply message was received through SOAP Over JMS.
5.12.0	BW-16185	When the ActiveMatrix BusinessWorks engine was running, messages sent with MIME attachments using the SOAP Request Reply activity could not be deleted. Additionally, the files could not be deleted from Windows.
5.12.0	BW-16178	Under specific conditions, the fix for BW-8166 provided in TIBCO ActiveMatrix BusinessWorks 5.9.3 did not work as expected.
5.12.0	BW-16071	When the SOAP Request Reply activity placed inside the Service palette implementation used the "Write To File" option, it did not create the file and provided the data output as binary or text format.
5.12.0	BW-15921	The Soap Request Reply activity assigned one extra second to the HTTP thread while invoking the service provider. This led to the activity timeout exception even for a successful response. For this a property has been introduced. To enable this fix: Set the property "bw.plugin.soap.http.trace.soapRequestReply" to "true". With this fix, the additional one second (other than the activity timeout value) is avoided, while assigning the timeout value to the HTTP thread with a precise timestamp format.
5.12.0	BW-15890	TIBCO ActiveMatrix BusinessWorks did not log the time stamp of the SOAP Reqest Reply activitiy while using a HTTP transport, when the request sent on wire and when the response was received.

Closed in Release	Change Request ID	Summary
5.12.0	BW-15861	The SOAP Request Reply activity failed to send the request messages to a simple web service over WebLogic JMS Server, if the "Validate Security Context" check box was enabled.
5.12.0	BW-15771	Fixed an issue of TIBCO ActiveMatrix BusinessWorks Web Services failing, when TIBCO ActiveMatrix BusinessWorks 5.9.2 HF16 was installed.
5.12.0	BW-15750	The SOAP Request Reply activity passed an invalid username and password in the WSSE header.
5.12.0	BW-15730	The SOAP Request Reply activity was suspended, when there were nested SOAP-ENC:arrayType elements in the WSDL referred schema. To rename the SOAP array items to 'item', enable the following property: bw.plugin.soap.arrayItemName.useDefault. The default value of this property is "false"
5.12.0	BW-15719	SOAP Request Reply activity now supports wsu:Timestamp element in the signature.
5.12.0	BW-15650	For the Soap Request Reply activity, the 'SOAP-ENV:Body' and 'wsu:Timestamp' elements could not be signed.
5.12.0	BW-15450	Fixed a performance issue with SOAP over JMS Service resource, when Flow Limit was enabled. Set the bw.plugin.jms.sleepOnNullMsg property to "True" for the SessionController Thread to sleep, if the Message received is Null. Set this property to "False" to revert to the default behavior.
5.12.0	BW-15398	If the project contained a large number of SOAP Request Reply activities in the Web Service operation processes and the BusinessWorks engine was started in IBM JVM, such as AIX, some exceptions occurred occasionally.
5.12.0	BW-14755	When a URL request was made to a non-existent resource, the Built-in Retrieve Resource service threw the "File Not Found" error on the console. It hung and responses were not sent to the client.
5.12.0	BW-14648	Sending a custom SOAP message using a SOAP Request Reply activity threw the following exception: "Namespace not found: http://www.w3.org/XML/1998/namespace"

Closed in Release	Change Request ID	Summary
5.12.0	BW-13871	Mapping the custom header element made the field "Transport Properties" a required field. This became an optional field after clicking the Mapper Check and Repair button.
5.11.0	BW-15256	When sending more than two files from the client SOAP Request Reply with the specified file name in "content-disposition" field of mime parts, a few bytes were missing in the last received file (SOAP Event Source/Service Agent).
5.10.0	BW-6862	SOAP engine always passed "item" as an array entry's name when `soapenc:arrayType` was specified at the array node.
5.10.0	BW-3875 1-3N2VY0	In some cases, when a client sent an invalid SOAP Request to a SOAP one-way operation using the JMS protocol, the server did not report an appropriate error.
5.10.0	BW-14118	When using JMS Topic in Soap Request Reply configuration with "Use Shared Configuration" selected, the following error was encountered while testing the connections: `BW-COMMON-101004 Internal error occurred. [ java.lang.ClassCastException: com.tibco.tibjms.naming.TibjmsFederatedQueueConnectionFa ctory cannot be cast to javax.jms.TopicConnectionFactory ]`
5.9.3	BW-14832	MimeParser activity threw an exception in TIBCO ActiveMatrix BusinessWorks 5.9.2, when run using TIBCO Administrator and command prompt.
5.9.3	BW-14398	WSS policy association could not encrypt the optional element properly and threw "General security" error
5.9.3	BW-14318	Fixed an issue where TIBCO ActiveMatrix BusinessWorks did not clean the HTTP threads used by SOAP Request Reply activity and led to the threads leak, if an error was encountered in the specific steps of the initial phase.
5.9.2	BW-3875	Occasionally when an invalid SOAP Request was sent by the client to a SOAP one-way operation using the JMS protocol, the server did not report an appropriate error.

Closed in Release	Change Request ID	Summary
5.9.2	BW-9448	At the first instance of starting the BW Engine if multiple processes were triggered using SOAP Request Reply with security policy applied that used Identity resource, some processes failed with the following exception: `Can not register 2 factories for the same fileType/ObjectType combination: id, com.tibco.plugin.share.security.of.Impl_Identity.`
5.9.2	BW-3875	When an invalid SOAP request was sent using the JMS protocol to a SOAP one way operation, the SOAP Event Source activity threw a Null Pointer Exception.
5.9.2	BW-13426	When associating a WSS policy to the SOAP Request Reply activity and using type substitution for the input message type, the namespace declaration became invalid and resulted in the "xmlns" prefix getting removed.
5.9.2	BW-9888	When SOAP Request Reply activity was configured to use custom topic connection factory, TIBCO ActiveMatrix BusinessWorks ignored the factory settings and continued to look up for the administered objects using "TopicConnectionFactory". However, if the default topic connection factory was deleted from the EMS server, TIBCO ActiveMatrix BusinessWorks failed to lookup and threw an exception.
5.9.0	BW-9742	The Retrieve Resources Activity encountered an "Unable to get the specified resource" error, when not working in conjunction with the HTTP Receiver process starter.
5.9.0	1-97NHJB BW-8782	When the security policy was applied, the SOAP Request Reply or the SOAP Send Reply activities sent SOAP messages with redundant namespace prefix declarations. This has been fixed by adding a new property, `java.property.com.tibco.security.tibcryptx.NamespaceFix.` Set this property to `true` to enable the fix.
5.9.0	1-9E5VOP BW-9210	In the SOAP Event Source process starter when SOAP version 1.2 was selected, the Style field was disabled in the Output Attachments Binding tab. The mimeEnvelopeElement field in the Input tab however, was not disabled.

Closed in Release	Change Request ID	Summary
5.9.0	1-AKG9OH BW-9997	When using Invoke Partner activity in the client process and applying Security Policy on the Partner Link Configuration and Service Resource, the following Exception was thrown on restarting the Client Project. `"Can not use a destroyed object provider"`
5.9.0	1-AJG461 BW-9982	Security Context is available for the Default Fault.
5.8.0	1-ACFBLD 1-9VR8AM	Generate Error activity when used to send fault for service invoked through service resource, always logs SOAP fault to engine logs. This has been fixed by providing a way to disable logging of this fault message by setting the engine property `'bw.plugin.service.fault.disableLogging = true'` in the `bwengine.tra` file.
5.8.0	1-AAF74Y 1-A7OTWJ	The Soap Event Source did not allow the user to choose MTOM from the drop-down box present in the Output Attachment Bindings under the Advanced tab when the transport was HTTP.
5.8.0	1-AAF73I 1-A5I9FT	TIBCO ActiveMatrix BusinessWorks MTOM uses the **startinfo** parameter in the content-type header of the outer package. As per the W3C specifications, it must be **start-info**. With this fix now, the content-type has **start-info** as well as **startinfo** parameter.
5.8.0	1-A7L0Z3	Throughput degraded considerably in MIME Parser activity, when the attachment size was increased.
5.8.0	1-ACYU93	Unbound headers were not handled on the partner link and threw a `NullPointerException`.
5.8.0	1-ACAU1N	Unbound Outbound Headers did not get copied to the response SOAP message in the Service Resource.
5.8.0	1-A0UUY8	SOAP Request Reply activity was not able to process the fault parts properly, when the Output Headers were of the same type.
5.8.0	1-A0UUX3	SOAP Request Reply activity threw an error when SOAP 1.2 was used and the following property was set to `True`. `java.property.bw.plugin.soapfault.detail.allowmultiplechildren=true`

Closed in Release	Change Request ID	Summary
5.8.0	1-9GTEI9	When running a ActiveMatrix BusinessWorks examples project `"soap_over_http_X509_sign_encrypt_and_verify_using_entrust"` in TIBCO Designer, it threw the "unable to deserialize SOAP envelope" error due to the expired Entrust certificate validity date.
5.8.0	1-9ZEAJT	SOAP event source continued to process a JMS message that was not in a XML format.
5.8.0	1-9ASO9L	On receiving a bad-XML-format message, SoapEventSource activity reported the following error: `"The URL/SoapAction specified in the incoming message was invalid."` However, JMS Queue Sender did not receive any error message.
5.8.0	1-AAF71X 1-A3XFN2	When restarting the ActiveMatrix BusinessWorks process from the checkpoint, the Serviceagent reported a NullPointerException and this resulted in the process failing to restart.
5.8.0	1-82YDUT	When Security Policy was used by two policies associated with two different SOAP Request Reply activities in two different processes, it was required to start both the processes in order to test one of them otherwise an error was encountered.
5.8.0	1-A0W8J7	Output context did not get propagated correctly when mapped to `mimeEnvelopeElement` at random in the Output Context tab of the Advanced SOAP Settings dialog in a Service Resource. It appeared when the content getting mapped to the mimeEnvelopeElement did not have any MIME semantics. This resulted in the Output Context not getting propagated at all.
5.8.0	1-9MEXQ2	When setting the property `java.property.com.tibco.plugin.soap.forceDOMModel` to `true` or using the WSS Policy, and if the response message was invalid (for example, contained non-compliant UTF-8 character) the Soap Request Reply activity did not throw any exception and timed out.
5.7.2	1-9PHZ92	When the output message was an "element reference", the properties were not visible in the Input tab of SOAPSendReply activity eventhough the `JMS_Application_Properties` file was loaded in the Transport tab.

Closed in Release	Change Request ID	Summary
5.7.2	1-9MY18E	When using the MTOM attachment to invoke the server, the Soap Request Reply activity did not understand the URL encoding in the content ID.
5.7.2	1-9LYMJB	As optional input and output soap headers were treated as mandatory, validation errors were thrown. Also, the SOAP Event Source and SOAP Request Reply restricted the order of SOAP headers in SOAP message and threw validation exception. To make the SOAP headers optional, set the following JAVA property in designer.tra and bwengine.tra. `java.property.bw.plugin.soap.headers.optional=true`
5.7.2	1-9IYLM7	When using the explicit header, TIBCO ActiveMatrix BusinessWorks could not read the "mustUnderstand" attribute in the schema and threw an exception during XML validation. However, it worked correctly with the implicit header.
5.7.2	1-9MPQQT	A memory leak was observed when the SOAP Request Reply activity over HTTP timed out.
5.7.2	1-9X8U61	The SOAP Request Reply activity using the HTTP transport did not report errors when invoking one-way operations, even if there was an HTTP communication error.
5.7.1	1-9EC106	When the **MTOM** option was chosen in the SOAP and Service Palette activities, the 'JMS Message Type' was not set as 'bytes'.
5.7.1	1-9LFFJR	The SOAP MTOM support in ActiveMatrix BusinessWorks required the MIME parts of the attachments to be in the same order as referred to in the SOAP Message body.
5.7.1	1-9CL80S	An ActiveMatrix BusinessWorks client threw an exception 'Unable to deserialize the SOAP envelope' when it received a SOAP 1.2 fault message. This has been fixed. This fix requires TIBCO Runtime Agent 5.6.1 to be installed in your environment.
5.7.1	1-9IVAWF	When an ActiveMatrix BusinessWorks project with version 5.7.0 was deployed and started in the Administrator a NullPointerException was thrown if the property `bw.platform.services.retreiveresources.Enabled` was set to true.

Closed in Release	Change Request ID	Summary
5.7.1	1-9P4369	The SOAP Request Reply activity's Test Transport Connection failed to test the connection to a JMS server if a topic and a queue had the same name.
5.7.1	1-9OL3ZK	Fixed a binding error associated with the SOAP Request Reply activity.
5.7.1	1-9E5P8V	The SOAP Request Reply activity for both SOAP over HTTP and SOAP over JMS, displayed faults in the SOAP 1.1 version structure irrespective of the SOAP version being used.
5.7.1	1-9CISIJ	The Transport tab in SOAP Request Reply activity showed the destination list of type QUEUE even when the connection factory was set to TopicConnectionFactory.
5.7.1	1-9LURCT	When **Expose Security Context** was checked and a SOAP message containing a WSS Username token with either **plaintext** or **digest** was sent from a SOAP UI, a NullPointerException was thrown.
5.7.1	1-8F7ZU9	An `HTTPClientException` error was thrown by the ActiveMatrix BusinessWorks client when it sent a SOAP 1.2 message to a proxy endpoint without any credentials.
5.7.1	1-8MDEIB	The concrete WSDL retrieved using Built-in Resource Provider(BRP) always had the same port number as that configured for BRP, and not the one that was configured for the Service or the Retrieve Resource activity.
5.7.0	1-9CQ2AE	When using SOAP over JMS with JMS application properties, the application properties were not visible in the input tab of SOAPSendReply activity.
5.7.0	1-8X5ZWX	**Use schema elements while creating web services from process definitions**: The *TIBCO ActiveMatrix BusinessWorks Process Design Guide* (page 239) stated that while creating web services from process definitions, the input, output, and error schemas for a process definition must be specified as WSDL messages. This is not applicable for TIBCO BusinessWorks version 5.4.0 or higher.
		This information has been updated. Refer to Chapter 14, Invoking and Implementing Web Services in the *TIBCO ActiveMatrix BusinessWorks Process Design Guide*.

Closed in Release	Change Request ID	Summary
5.7.0	1-8LQDNZ	The SOAP Event Source returns "`process initialization failed for...`" error when using BW 5.6.0 or 5.4.2.
5.7.0	1-8CGW3Z	The SOAP service showed performance degradation as compared to SOAP Event Source activity.
5.7.0	1-917MRN	When a Get JMS Queue Message activity was configured with an IBM MQ Server and was run with a wrong queue name specified in the activity, the connection opened to the IBM MQ server was not closed. This resulted in a large number of open connections to the server over time.
5.7.0	1-8ZFWTK	Whenever an exception occurs in JMS, TIBCO BusinessWorks checked for the validity of the connection which resulted in creating a session that was never closed. The situation aggravated when MQ JMS server was used as it created a JMS connection for every session and the session was never closed.
5.7.0	1-8ZDV6Z	When the Get JMS Queue Message activity with a dynamic destination was used in a loop and the number of messages received exceeded the queue prefetch value, the activity stopped without an error message. Also, the messages remaining in the queue were not confirmed.
5.7.0	1-9D1MZL, 1-9D1IB9	NullPointerException was thrown when a MTOM reply had only a 'string' parameter.
5.7.0	1-9CZZI7	When multiple attachments were sent in the MTOM request, they consisted of the same content-id in the request.
5.6.3	1-775KM8	The inbound SOAP messages were not processed and an error was thrown if the SOAP Header element contained the attribute 'actor'.
5.6.3	1-8Z8VLH, 1-8YN00B	The SOAPRequestReply activity did not support type substitution in the detail element of the SOAP Fault message.

Closed in Release	Change Request ID	Summary
5.6.2	1-8V2XG9, 1-7ZF6LM	SOAP Fault messages with message part of type 'type' were wrapped under the 'partname' element. Due to this, fault messages with multiple child elements under the 'details' element could not be constructed. This has been fixed by introducing a new property, `bw.plugin.soapfault.detail.allowmultiplechildren`. To maintain backward compatibility, the default value of property is set to `false`. Set this property to `true` to handle multiple direct child elements under the element 'detail'.
5.6.2	1-8SF2DO, 1-8SF2CH	The SOAPSendFault activity returned a Null Pointer Exception when the input data of "anyType" was substituted.
5.6.1	1-3DGD8X	The SOAP Request Reply activity using the HTTP transport did not report errors when invoking one-way operations, even if there was an HTTP communication error or if the remote service returned a fault.
5.6.1	1-8L963X, 1-81AQRT	The SOAP Response message lost its encoding when the SOAP body for the input or output of a SOAP Request Reply activity contained special characters and the "Text Message" message format was used. The special characters include Latin characters, Japanese characters, and the French accent characters.
5.6.1	1-8E9YDQ, 1-8QJS3H	When a concrete WSDL was retrieved using the built-in resource provider (BRP), the SOAP address location port was incorrect. The BRP port was overridden. Also, the information retrieved always showed a non-secure connection, even when BRP was started on a secure connection.
5.6.1	1-8JCPE3, 1-8IT527	When the SOAP Event Source activity received a SOAP over JMS message which was not a well-formed XML, the activity kept processing the message in an infinite loop.
5.6.1	1-8JD4YK, 1-7Y0501	When the SOAP Event Source activity received a SOAP over JMS message which was not a well-formed XML, the activity kept processing the message in an infinite loop.
5.6.1	1-8JY51Y, 1-8IJIJV	When using SOAP over JMS with Acknowledgement Mode set to Client, job creation was not limited by the value of Max Sessions. Also, when the first job was acknowledged, all the messages in the queue were lost.

Closed in Release	Change Request ID	Summary
5.6.1	1-8NNZUZ, 1-8MP2KJ	SOAP Request Reply activity failed with an exception when the global variable `BW_GLOBAL_TRUSTED_CA_STORE` was defined in a BusinessWorks project but was not necessarily used in the confidentiality policy palette. The problem occurred when the confidentiality policy was set up for outbound.
5.6.1	1-8NNZTM, 1-8JRXSV	When the default namespace was used to refer to the namespace, such as `<Envelope xmlns="http://www.w3.org/2003/05/soap-envelope">`, the SOAP Request Reply activity threw an exception.
5.6.1	1-8OM0GC, 1-8FK3L4	When the 'Use Shared JMS Connection' checkbox in the SOAP Request Reply activity is selected, the connection information (such as Username and Password) of the shared JMS connection resource has to be used. Instead, the connection information was being picked up from the values specified in the transport details tab of the SOAP Request Reply activity.
5.6.1	1-8I5MKV	When using SOAP over JMS, SOAP Request Reply activity was unable to process SOAP Fault messages.
5.6.1	1-8FH26U	When an inbound SOAP message with the SOAP payload containing '&cr;' or '&crlf;' as part of the text field was received by SOAP service or SOAP Event Source activity, the integrity check failed.
5.6.1	1-8EGZXT	TIBCO BusinessWorks required the user certificate to have "dataEncipherment" KeyUsage flag in addition to "digitalSignature" and "keyEncipherment", even though the latter two KeyUsage attributes were sufficient to encrypt and sign the SOAP message.
5.6.1	1-8E7S4A, 1-8H5NWR	SOAP Request Reply activity put wrong namespace in `xsi:type` when elements of type Array were used.
5.4.2	1-8JO67L	The SOAP Response message lost its encoding when the SOAP body for the input or output of a SOAP Request Reply activity contained special characters and the "Text Message" message format was used. The special characters include Latin characters, Japanese characters, and the French accent characters.
5.4.2	1-8F8CX9	The JMSCorrelationID received from the incoming request message using SOAP Event Source or Service resource was not getting mapped to its reply message sent using SOAP Reply.

Closed in Release	Change Request ID	Summary
5.4.2	1-8DSVDX	SOAP Faults generated by TIBCO BusinessWorks Service implementation, configured with SOAP 1.2 and 'Document Style' had fault fields in the wrong order.
5.4.2	1-89TUOC	TIBCO BusinessWorks could not process a SOAP message when the `<SOAP:name ="Untitled">` attribute was not declared and gave an error message - "Only the default namespace may be undeclared".
5.4.1	1-856C6P, 1-85094Z	The SOAPSendFault activity returns a Null Pointer Exception when the input data of "anyType" is substituted.
5.4.1	1-89WD1R	The SOAP over JMS services required the SOAPAction field to be specified in quotes to enable BusinessWorks service to pick up messages from the queue.
5.4.1	1-7VZ198	The WSDL returned by SOAP EventSource was different from the WSDL generated at runtime using RetrieveResource activity, when SOAP was configured with an attachment.
5.4.1	1-7MBL3H	The value for Timeout in the SOAPRequestReply Activity Configuration tab can be specified in seconds. However, while calculating the actual timeout, the number of seconds specified was not converted to milliseconds before adding to the current time in milliseconds.
5.4.0	1-86QT1A, 1-875ITS, 1-875IT0	While receiving SOAP over JMS messages, TIBCO BusinessWorks always looks for 'SoapAction' JMS header in a case-sensitive way. This results in interoperability issues if client is sending 'SoapAction' JMS header in a different case. Currently SOAP over JMS is not a standard specification and so this fix will relax the constraints while receiving SOAP over JMS messages to accept 'SoapAction' header in the following four commonly used cases: SoapAction, SOAPAction, soapAction and soapaction.
5.4.0	1-6ME83D, 1-85IAAZ	The SOAP Request Reply activity lost the default prefix of the first child of `soap:Body` because of problems in `xsi:type` resolutions.
5.4.0	1-6TBKTB, 1-85IAFH, 1-85IAEX	When an encryption policy was applied to the entire body of a SOAP fault message, the SOAP Send Fault activity failed to process the message.
5.4.0	1-851ZGF, 1-85IABK	For RPC/literal/type SOAP messaging, the namespace information for parent element was not passed to the child element.

Closed in Release	Change Request ID	Summary
5.4.0	1-7KR0T3, 1-7BBFIF	The Retrieve Resources activity was not using the hostname or port specified on the Input tab as the concrete service endpoint in the returned WSDL.
5.4.0	1-79PJ6Z	Configuring SOAP activities to use the SSL Verify Host Name option was not working.
TCP Palette		
5.13.1	BW-17158	The TCP receiver failed to establish a session when an exception occurred during socket creation. A property has been introduced for this. Set the property `bw.plugin.tcp.retryListeningOnError` to `true`, to enable this fix. The default value is `false`.
5.13.1	BW-16844	The **Read TCP Data** activity did not wait for the full timeout when the message extended across multiple packets.
5.12.0	BW-15728	**TCP Close Connection** activity did not work as required, when the property "bw.plugin.tcp.closeSocketOnShutdown" was set to "`false`".
5.12.0	BW-15839	Fixed an issue, where TCP Client did not work properly in FT mode on the secondary engine. This fix does not work, if the property `bw.plugin.tcp.closeSocketOnShutdown` is set to `false`.
5.12.0	BW-15684	The **Read TCP Data** activity (in binary mode) has settings for "bytesToRead" and "timeout". This signifies that this activity should wait for the specified timeout (in milliseconds). However, the Read TCP Data activity did not wait for the full timeout, if the message extended across multiple packets. This is a property driven fix. Set the property `bw.plugin.tcp.waitUntilBytesToReadReceived` to "`true`" for the Read TCP Activity to wait until it receives the exact number of bytes specified in the "bytesToRead" field, or the end of Stream is detected. Default value is "`false`".

Closed in Release	Change Request ID	Summary
5.12.0	BW-15613	During the TCP Server shutdown, one message sent by the TCP server to the TCP client was lost. This occurred when the message was written by the TCP client during the TCP server shut down. To enable TIBCO ActiveMatrix BusinessWorks not to close the server side socket during shut down, set the property "bw.plugin.tcp.closeSocketOnShutdown" to "false". To revert to the default behaviour, set this property to "true".
5.12.0	BW-15583	TCP Open Connection did not return unique connection handles.
5.9.2	BW-13257	When upgrading from previous release to TIBCO ActiveMatrix BusinessWorks 5.7.2, TCP Open Connection activity threw an "`Error opening TCP Connection. Reason: java.net.ConnectException`".
5.9.0	BW-9805 1-AAL9L5	In a TCP Receiver Activity project, the performance degraded as the TCP Connection encountered errors.
5.7.2	1-9WS1JR	When the type of data selected was "Binary" and timeout was not mentioned on 'Read TCP Data' activity, the 'Write TCP Data' activity failed to proceed.
5.7.2	1-9FS2E5	In a TCP Receiver Activity project, the performance degraded as the TCP Connection encountered errors.
5.7.1	1-9DSCYF	The TCP Read activity can now be configured for 'n' number of threads by setting the property `TCPRead.ThreadCount=n`.
5.7.1	1-9NK59S	When a TCP Receiver exceeded the FlowLimit, a BindException stating that the address was already in use was thrown and the TCP Receiver stopped triggering new jobs.
5.4.2	1-8BVTA5	The TCP server socket was bound to the localhost alone and not on all available interfaces when the Host field in the TCP Connection shared resource was not specified.
5.4.0	1-71UR60	On Windows XP systems, even when the Bytes To Read field is set to a larger value, the Read TCP Data activity can only read up to 64KB.
Transaction Palette		

Closed in Release	Change Request ID	Summary
5.7.1	1-9J48YN	The JMS activities in a sub-process failed if the same sub-process was used earlier in a JMS local transaction group. This has been fixed.
5.4.2	1-8BTMO5, 1-8FIH3G	When the connection to a database was lost for a JDBC activity in a transaction, the transaction was rolled back internally. Since the activity did not throw an error, the transaction group succeeded when it was expected to fail. This scenario resulted in potential loss of data.
5.4.0	1-7RAIHG, 1-7CGZCU	When using the BEA WebLogic application server and JTA transactions, TIBCO BusinessWorks was incorrectly trying to reuse connections that the application server closed and an exception was thrown. This has been fixed so that TIBCO BusinessWorks now attempts to obtain a new connection from the pool.
WSDL Palette		
5.9.0	1-9P3VH2 BW-9359	When a port type was modified or deleted in a WSDL, the 'Validate Project for Deployment' option did not show errors.
5.7.0	1-6T6LGN	WSDL file did not generate the import locations correctly and continued to retain the machine name in the import locations.
5.4.1	1-85UUP2	A WSDL published via BSC returned an End Point URL instead of the WSDL location when retrieved or browsed via BusinessWorks UDDI GUI. However, when the WSDL was published and retrieved using BusinessWorks UDDI GUI, it returned the WSDL location correctly.
5.4.0	1-7RMRWV	Some problems were encountered when concrete WSDLs were generated from abstract WSDLs (for example, when the Retrieve Resources activity generates a concrete WSDL) when the same namespace was used by multiple schemas.
XML Activities Palette		
5.13.1	BW-17042	The schema used on a shared variable resource was referenced automatically in the Shared Archive while creating the Enterprise Archive Designer on Windows. It did not reference the shared variable resource automatically while using Linux.

Closed in Release	Change Request ID	Summary
5.12.0	BW-13942	When the node of a substituted element in an XML document is explicitly nill, a validation error was seen. But the XML document passed validation from XMLSpy and SOAP UI.
5.12.0	BW-9591	An error was encountered when the Saxon parser was used in the Transform XML activity in TIBCO ActiveMatrix BusinessWorks 5.7.0.
5.10.0	BW-13925 BW-13926	The output was not extracted correctly, if the attributes for JAVA to XML activity were of non Primitive type such as list of JavaBeanObject or ArrayList containing another ArrayList with JavaBeanObject.
5.10.0	BW-13651	The Mapper activity took a long time to load the schema and continued to show "Loading" in the Input tab whenever it was selected.
5.9.2	1-6RQI5V	The Transform XML activity is configured such that the styleSheet has XPath expressions for both, an input document and another XML document that is configured as a styleSheet parameter. If the nodes in the parameter document were namespace prefixed, then Namespace information for the parameter document was lost.
5.7.1	1-9L8EIY	The Transform XML activity threw a NullPointerException at run-time if the field **Stylesheet** in the activity's Configuration tab was blank.
5.7.0	1-9BAWN1	A Transform XML activity used to transform UTF-8 encoded xml to ISO8859-1 encoded xml turned some characters into garbage values.
5.6.3	1-934UO1	The value specified for a variable in the XPath Formula Builder was not retained if the parameter type for the variable, specified in the Input/Output editor, was 'Attribute of Type'. When a value for such a parameter was provided in the Input tab and the changes applied by clicking the 'Apply' button, exceptions were thrown on the console.
5.4.0	1-81GFX2	The Transform XML activity randomly threw exceptions when some parameters were passed into the stylesheet as "XML document".
5.4.0	1-7UM0UL	In certain situations, the XML Transform activity produced incorrect output in some fields.

Known Issues

The tables in this section list known issues in this release. The information is organized on a palette basis.

General

Summary (BW-16371): The TIBCO ActiveMatrix BusinessWorks engine does not start on the Windows 32 bit set-up and fails with the error "java.lang.UnsatisfiedLinkError Native library not found: tibrvnativesd".

Workaround: To run TIBCO Rendezvous SSL projects, customers are required to generate `classes.jsa` manually.
Perform the following tasks:

1. Create a backup and remove `classes.jsa` from the tibcojre client location (`%TIBCO_HOME%tibcojre\[JREVERSION]\bin\client`).

2. Run the `%TIBCO_HOME%tibcojre\[JREVERSION]\bin\java –Xshare:dump`.

3. Replace `%RV_HOME%/lib/tibrvnative.jar` with `%RV_HOME%/lib/tibrvnativesd.jar` in bwengine.tra and designer .tra.

Summary (BW-15514): Occasionally, the ActiveMatrix BusinessWorks engine does not start on HP-IA platform in TIBCO Administrator.

Workaround: Open `application.tra` and update `java.thread.stack.size=256K` to `java.thread.stack.size=`**512**`K`.

Summary (BW-15189): When publishing Japanese character message, an `ArrayIndexOutOfBoundsException` is encountered on `tibrvnative.jar` and `tibrvnativesd.jar`.

Workaround: Customers using any character set other than ISO 8859-1 should upgrade to TIBCO Rendezvous hotfix (TIBCO Rendezvous 8.3.2 HF6 or 8.4.0 HF2 to resolve) for this issue.

Summary (BW-15187): The `tibrvnative.jar` and `tibrvnativesd.jar` do not support native encoding MS932.

Workaround: Customers using any character set other than ISO 8859-1 should upgrade to TIBCO Rendezvous hotfix (TIBCO Rendezvous 8.3.2 HF6 or 8.4.0 HF2 to resolve) for this issue.

Summary (BW-13398): "AMX Endpoint" is visible while configuring the endpoint type in Service Resource and Partner Link Configuration.

Workaround: Use "AMX Endpoint" only when working with ActiveMatrix BusinessWorks Service Engine in the TIBCO ActiveMatrix environment.

Summary (BW-13586): There are some spurious paths getting added in the '.tra' file which do not have any impact.

Workaround: None or remove them manually.

MimeParts require Content-Type header for the "unknown" MimeTypes (1-7TLPRZ): Currently the MimeParts require Content-Type header for the "unknown" MimeTypes. This is incorrect according to RFC 822 and RFC 1341 as MimeParts do not require any headers.

Workaround: None.

Security Policies not associated with Services (1-9F267G): The Security Policies cannot be associated with Services through Invoke Partner activity.

Workaround: None.

ActiveMatrix BusinessWorks not using the provided credentials (Username/Password) when JNDI Lookup is configured through a LDAP connection: When a JNDI Lookup is configured through a LDAP connection with the connection factory objects stored in LDAP, the LDAP/JNDI credentials used to connect to EMS instance result in a connection failure. (1-97H368)

Workaround: None

NullPointer error when a special character is used in the search string in TIBCO Designer console: A NullPointer exception is thrown, when a hyphen or an underscore character is used in the search string for the 'filename' field in the Configuration tab of the Filepoller activity. (1-9CDYH8)

Workaround: None.

Unable to open TIBCO Installation Manager on Linux: TIBCO Installation Manager fails to open on Linux platform after TIBCO Runtime Agent version 5.5.4 and any version TIBCO ActiveMatrix BusinessWorks are installed. (1-981M0B)

Workaround: Use the following syntax to launch TIBCO Installation Manager using a a different JRE:

```
$ ./TIBCOIntsallationManager -is:javahome JRE_HOME
```

Service level Global Variables values set in the tra file are not picked up by bwengine: The service level Global Variables values set in the tra file in the format tibco.clientVar.<Variable Name> are not picked up by the bwengine. Instead it shows the values set in the TIBCO Designer. (1-9AXI79)

Workaround: None.

Increased memory footprint and memory sizing issue: TIBCO BusinessWorks 5.2.0 and higher versions may see an increase in memory footprint and a potential memory sizing issue. (1-8G8PXB)

Workaround: TIBCO BusinessWorks version 5.2.0 and above point to server JVM and versions older than TIBCO BusinessWorks 5.2.0 point to client JVM in the bwengine.tra file. While sizing and tuning your environment, consider the following:

- The total memory used by the JVM (memory footprint) is dependent on the type of JVM used (Server JVM or Client JVM), the JVM version, and the JVM vendor.

- A Server JVM occupies a higher memory footprint and may result in higher performance when compared to a Client JVM.

- A Client JVM may have a lower startup time and memory footprint.

For more information on tuning the JVM to suit your application, refer to the JVM Tuning Guide of the JVM used in your environment. You may also consult your JVM vendor for details about the exact memory footprint and heap management in the JVM version used in your environment.

Output data invalid error with TIBCO Rendezvous 8.1: On UNIX, when TIBCO ActiveMatrix BusinessWorks version is run with TIBCO Rendezvous 8.1, the following error is displayed: "Output data invalid". (1-8W890J)

Workaround: Edit the CLASSPATH in the bwengine.tra file to put the *RV_HOME*/lib/tibrvj.jar before *RV_HOME*/lib in the CLASSPATH.

Rebranding for BW Processes tab in TIBCO Administrator: The BW Processes tab in TIBCO Administrator does not reflect the rebranding of the product to ActiveMatrix BusinessWorks. (1-89JY1I)

Workaround: None. The tab will continue to be called "BW Processes".

Mapped drives not recognized by deployed services: If the TIBCO Hawk Agent is started as an NT Service, mapped drives on the machine are not recognized by deployed services. (1-103GMT)

Workaround: Start the TIBCO Hawk Agent from the command line.

Service Container: If you start the bwcontainer and try to use commands like `--list` or `--undeploy,` it throws the following exception:

`java.rmi.server.ExportException: Port already in use :8004.` (1-8A7O5Z)

Workaround:

If you want to do the JMX based management and monitoring of the container, you need to manually configure the following:

Add the following properties and set the appropriate value in the `bwcontainer.tra` for the JMX management monitoring using the JConsole:

```
# enabling jmx - no security, default port is 8004
java.property.com.sun.management.jmxremote=true
java.property.com.sun.management.jmxremote.port=8004
java.property.com.sun.management.jmxremote.authenticate=false
java.property.com.sun.management.jmxremote.ssl=false
```

OR

Specify the following JMX URL in the Advanced tab of JConsole:

`service:jmx:rmi:///jundi/rmi://localhost:<port>/<containerName>`
where;

- *<port>*: Its the value in bwcontainer.tra specified by property `"com.tibco.bw.container.rmi.port"`

- *<containerName>*:the containerName is the container name specified when you start up the BW container.

Validation of a schema file fails when the schema file imports other schema files: While importing schemas using the Schema Importer tool, a new location with URL such as `C:\<folder_name>\schema.xsd` is created and the schemas are imported. However, validating the schema file containing the xsd:include fails with a syntactic error saying the attribute 'SchemaLocation' is required. (1-79SX64)

Workaround: Provide the URL for the schema.xsd file as `http://server:port/<folder_name>/schema.xsd`

Fault handling is incorrect: When an exception thrown in ActiveMatrix BusinessWorks has the same schema as the fault, the fault does not get propagated properly. (1-8EXN93)

Workaround: None.

Multiple WSDL message references in a schema: Currently, you can create an in-line schema in an Editor tab (for example, on the Output Editor tab of the Start activity) that has multiple references to WSDL messages. This is not permitted. (1-6ROND3)

Workaround: You can only have one reference to a WSDL message in an Editor schema and it must be at the root level of the schema. Do not create multiple elements in a schema of type WSDL Message. A future version of TIBCO ActiveMatrix BusinessWorks will not allow this type of schema to be created.

Uninstalling TIBCO BusinessWorks 5.3.1: Uninstalling TIBCO BusinessWorks Release 5.3.1 does not restore the base 5.3.0 version. Instead, all release 5.3 files are removed. (1-70FW9X)

Workaround: If you wish to uninstall Release 5.3.1 and revert to the base 5.3.0 version, manually copy the files from the directory *<install_dir>*_uninst\backup5.3.0 (for example, on MS Windows, c:\tibco\bw\5.3_uninst\backup_5.3.0) to their original location.

XPath Formula Builder: On Windows platforms, the XPath Formula Builder dialog has an X icon in the top right corner that dismisses the dialog. On UNIX platforms, this icon does not appear.

Workaround: To close the XPath Formula Builder dialog on UNIX systems, either click the XPath Formula Builder button (the pencil icon) in the Input tab of the activity (this button toggles the display of the dialog) or use the keyboard shortcut for dismissing a window in your windowing system. For most UNIX platforms and windowing systems, this keyboard shortcut is Alt-F4.

Using the preceding axis in XSLT: In previous releases, the for-each-group XSLT statement was not available for use. To workaround this, the preceding axis was sometimes used to create the same output. There were performance problems when using the preceding axis that caused unreasonable slowdowns during mapping.

Workaround: The for-each-group statement performs faster than using the preceeding axis. As such, xsl:for-each-group should be used in preference to the combination of xsl:for-each and the preceding axis to solve the problem more efficiently. Modify your mappings to use for-each-group.

The Stop Button in Test Mode: In some situations, this button may not stop the process immediately because TIBCO ActiveMatrix BusinessWorks may be waiting for the current operation to be completed. For example, if the current activity is FTP Put and you are attempting to place a very large file on the remote server, the process engine will not exit test mode until the FTP command has completed, failed, or a timeout has been reached.

Optional boolean datatype mapped to a Render XML activity must be specified: If a boolean datatype in a WSDL is mapped to a Render XML activity and the cardinality of the boolean datatype is optional, then the value of the boolean datatype must be specified. An exception is thrown if the value is not specified. (1-9ARJ0V)

Workaround: None.

Test Mode Error: If you attempt to test a process where an XML Render activity has not specified any input, you will receive the "Unable to reparse source view error".

Workaround: The cause of this error may not be clear when you receive it. Check any XML Render activities and make sure the input mappings are specified.

Deployment of multiple engines: The current version of TIBCO Administrator does not allow you to specify different values for global variables for each engine in a load-balancing group. For example, you may have multiple engines executing the same process definition that starts a process when a new RVCMQ message is received. For each of these engines, you cannot specify a different value for global variables such as Worker Weight or Scheduler Weight in the current TIBCO Administrator interface.

Workaround: If you define a global variable with the Service checkbox checked (using the Advanced Editor of the global variable tab), TIBCO Administrator creates an entry into the service's .tra file like the following:

```
tibco.clientVar.<variableName> = <Value>
```

You can edit this entry in the .tra file for the deployed process engine and specify a value for your global variables. This will allow you to specify different values for global variables for each engine in a load-balancing group.

ActiveEnterprise Adapter Palette

Invoking an operation with no "in" parameters: You cannot currently invoke an operation that has no input parameters.

AE configuration requires Connection Username and Connection Password (1-A2H5G1): When configuring AE with JMS transport and SSL enabled, a username and password is required for the **Connection Username** and **Connection Password** in the session configuration in the adapter.

Workaround: None.

AE clients throw AE metadata loading error when deployed in the TIBCO Admin (1-9E58L9, BW-8992): EAR created from AE client projects which have a Publish to Adapter activity do not have the required AEschemas; as a result they throw AE metadata loading error when deployed in TIBCO Admin.

Workaround: None.

Validation error when using an Adapter WSDL generated in ActiveMatrix Designtime (1-90NRBK): When a WSDL file, generated for an adapter in TIBCO Business Studio, is mapped to a Partner Link Configuration in TIBCO Designer and the Designer project is validated, the following error is thrown:

```
[Partner Link Configuration = Partner Link Configuration;
Partner Link = name_1]. Partner Link has invalid configuration
```

Workaround: None. The validation error can be ignored if and only if you intend to use the project in the ActiveMatrix environment where you MUST wire the partner reference in the composite.

Summary (1-8G52YL): Any ActiveMatrix BusinessWorks process with Adapter activities using JMS as a transport and has SSL enabled, fails to initialize.

Workaround: None.

JMS Server crashes: If the JMS server goes down while you are designing and testing your process definition (and your ActiveEnterprise Adapter activities are using the JMS transport), you must restart TIBCO Designer because the connection to the JMS server cannot be refreshed.

Publishing messages containing unions with XML message format: You cannot currently publish a message that contains a union when using the XML message format.

Association Lists: You cannot use association lists in any custom adapter. While there will be no errors during configuration, you will encounter errors at runtime because association lists are not supported in TIBCO ActiveMatrix BusinessWorks.

Ledger File field when using the RVCM transport: TIBCO ActiveMatrix BusinessWorks constructs the default value of the Ledger File field from global variables and the Adapter Service configuration. The value of this field must result in a valid path on the filesystem where the process is run. It is possible that the default value may not be a valid path.

Workaround: You may need to modify the default value in this field or modify the global variables used in this field to make sure the field results in a valid filesystem path.

EJB Palette

Earlier releases of the TIBCO BusinessWorks EJB Plug-in: The 5.1.x releases of this plug-in will not work with TIBCO BusinessWorks Release 5.2.0.

Workaround: You must upgrade and install the latest release of the plug-in (release 5.2.0) if you wish the plug-in to work with TIBCO BusinessWorks 5.2.0.

WebSphere 5.0.2: The WebSphere EJB components are not fully serializable. Because of this, checkpoints may not completely capture references to EJB Home and Remote objects. Therefore, if a process engine crashes after a checkpoint, the restarted process instance will throw an exception when an EJB Home or EJB Remote activity attempts to call a method on an EJB object created before the checkpoint.

WebLogic 7.0 Service Pack 2: In WebLogic 7.0, the EJB components are not fully serializable. Therefore, checkpoints fail in processes containing EJB Home or EJB Remote activities when using this version of WebLogic.

Workaround: The issue is fixed in WebLogic 8.1. Upgrade to that version, if possible.

WebLogic 7.0 Service Pack 2: There is an InitialContext conflict when using BEA WebLogic Application Server and deploying processes that use activities in both the JMS palette and the EBJ palette (or when using multiple users in activities in the EJB palette).

Workaround: Set the Maximum Connections field in the EJB Connection resource to "0" so that a new InitialContext is created for each lookup operation.

JBoss 3.2.1: For some of the EJB method invocations [for example, calling `getEJBHome` on a remote object], a `jndi.properties` file must be present in the TIBCO BusinessWorks engine classpath, otherwise the following error occurs:

```
EJB application exception occurred. The EJBRemote interface
method [test.bw.ejb.stateLess.Test1.getEJBHome] raised exception
[java.lang.reflect.UndeclaredThrowableException].
java.lang.reflect.UndeclaredThrowableException
     at
com.tibco.plugin.ejb.EJBRemoteActivity.for(EJBRemoteActivity.jav
a:143)
```

Workaround: Create the appropriate jndi.properties file and place it into the engine CLASSPATH. This is most easily done by editing `bwengine.tra` before starting TIBCO Designer or before deploying your project. See the documentation for TIBCO Administrator for more information about `.tra` files and deploying projects. Sample `jndi.properties` files are available in the JBoss3.2.1 installation.

Error Transition

Error transitions in parallel tracks: Currently, the `$_error` process data produced by an error transition is global to the process.

This means the result of `$_error` may be unpredictable if there are error transitions in two or more parallel tracks.

Workaround: Use a group to isolate the tracks with error transitions from each other.

File Palette

Warning messages on console when File Poller activity is run (1-8RRUNG): When a project containing the File Poller activity is run with TIBCO ActiveMatrix BusinessWorks version 5.6.x, the following warning messages are seen on the console:

```
Warn [BW_Core] Duplicate message map entry for
errorRole.BW_Plugin.BW-FILE-100009
```

```
Warn [BW_Core] Duplicate message map entry for
errorRole.BW_Plugin.BW-FILE-100018
```

Workaround: None.These warning messages are harmless and are shown on the console if two classes attempt to load the same message bundle.

FTP Palette

FTP servers outside of a firewall (1-6ZIUQ1):   Only the FTP PUT and FTP GET activities work properly when using FTP activities to access an FTP server outside of a firewall (using the Firewall and Proxy fields on the FTP Connection resource). No other FTP activities can be used to access an FTP server outside of a firewall.

Workaround: This will be fixed in a future release of TIBCO ActiveMatrix BusinessWorks.

Implicit Mode for FTP over SSL (1-70DCEV):   This is not supported.

Workaround: Only explicit mode is supported.

General Activities Palette

When Checkpointing against a load balancing database, occasionally there are some left over job records in the database even when all jobs are successfully executed (1-8K03P5): A Checkpoint activity when performed against a load balancing database, occasionally leaves some job records in the database as incomplete inspite of all jobs successfully executed status. Hence, when the process engine is restarted, it tries to recover those remaining incomplete jobs.

Workaround: None.

Schema in a Call Process Activity (1-8GFHIR):   The Input and Output schema of a Call Process activity in a parent process do not show the schema in the Start and End activity of the child process that is called by the Call Process activity. This is observed when multiple WSDL files with the same target namespace are used.

Workaround: Ensure that the target namespaces for the WSDL files in the TIBCO ActiveMatrix BusinessWorks project are different.

Summary (1-8VR7Z3): The Timer activity on the Daylight Saving Time goes into an infinite loop at the beginning of the day.

Workaround: None.

Wait Notify activities do not support MySQL database (1-8P1V1F):   The Wait Notify activities do not support the MySQL database and throw an error if they are connected to a MySQL database.

Workaround: None.

Support for DB2 in Wait Activity (1-8EI6BX):   The Wait activity does not support DB2 database.

Call Process activity is case sensitive at run time (1-5EPVYK): The Call Process activity, in debug mode, handles the name of the process to be called in a case insensitive manner. However, if the process name differs in case from the actual process name, the Call Process activity returns an error when deployed and run as the process name is handled in a case sensitive manner.

Workaround: Use the resource picker to select the process to be called.

Editing Shared Variable initial values (1-79Q35L): If you create a schema for a Shared Variable resource and then attempt to set its initial value, the schema sometimes does not appear in the dialog to set the initial value.

Workaround: Select a different resource, and then return to the Shared Variable resource, the schema now appears in the dialog to set the variable's initial value.

Changing icon: If you change the icon for a `Call Process` resource and apply the change, it is not possible to undo the change.

Workaround: Delete the `Call Process` and add a new one.

HTTP Palette

Summary (BW-14459): Writing large attachments with serverType selected in the HttpConnection is 'HttpComponent', throws an exception.

Workaround: None.

Summary (BW-13500): 'Defer Client Authentication' does not work with HTTP components as HTTP server.

Workaround: Use Tomcat server.

Summary (1-855CTR): When the hostname is anything other than the `localhost`, then TIBCO BusinessWorks considers the machine as a multi home environment and considers default host as null.

Workaround: Set the `bw.plugin.http.server.defaultHost` property in `bwengine.tra` file to the same value as has been set in the host field of HTTP Shared Connection for default host.

Empty reason phrase field in the Send HTTP Request activity (1-9QYSTP): The reason phrase field for the Send HTTP Request activity is empty if the HTTP server process contains a custom status code and reason phrase in the **status Line** field of the Send HTTP Response activity's Input schema. This is observed when you migrate from TIBCO Runtime Agent 5.6.0 to 5.6.1. Note that this issue is specific to the Tomcat server and is not observed when using HTTPComponents.

Workaround: None.

Warning messages on console when any activity from the HTTP Palette is run (1-8RQOSD): When a project containing any activity from the HTTP Palette is run with TIBCO ActiveMatrix BusinessWorks version 5.6.x, the following warning messages are seen on the console:

```
Warn [BW_Core] Duplicate message map entry for
errorRole.BW_Plugin.BW-HTTP-100118
```

```
Warn [BW_Core] Duplicate message map entry for
errorRole.BW_Plugin.BW-HTTP-100206
```

Workaround: None.These warning messages are harmless and are shown on the console if two classes attempt to load the same message bundle.

Separating multiple name/value pairs in cookies (1-7V7K10): The convention to separate multiple name-value pairs in the same cookie element is typically a semi-colon (;), but TIBCO ActiveMatrix BusinessWorks uses a comma (,).

Workaround: Use commas to separate multiple name/value pairs in the same Cookie header element.

Double-byte characters in mime headers (1-6TH5F9): The `mimeHeaders` element of Send HTTP Request can not contain any double byte characters.

Workaround: None.

Migrated projects that specify the HTTPVersion input element: The Send HTTP Request activity in previous releases of TIBCO BusinessWorks had an input element named HTTPVersion. This input element did not throw an exception if an invalid HTTP version was specified. This field is now deprecated and no longer appears in the input of Send HTTP Request activities. However, for migrated projects, this input element will appear, and it will still not throw an error if an invalid version is supplied.

Workaround: Remove the HTTPVersion from your activity's input schema in any migrated projects. It is not needed.

Accept Redirects field on Send HTTP Request: When this field is checked, if the remote server sends the redirection status code (3xx), the request is automatically redirected, if the remote host redirects the request to the same host and port. Currently, redirecting to a different host or a different port on the same host is not permitted.

Workaround: If the remote host attempts to redirect the request to a different host and/or port, you must handle this in your process definition logic instead of expecting automatic redirection.

When we decode the escaped characters of the Request URI of an incoming HTTP GET request, we always use UTF-8.

When we deserialize an incoming HTTP request, we do not properly use the encoding specified in the Content-Type header

When the Content-Type of an HTTP POST request that sends parameters is not specified, we do not default to application/x-www-form-urlencoded.
Workaround: The user will have to specify the Content-Type and not rely on the default value.

- TIBCO ActiveMatrix BusinessWorks does not perform key store validation. i.e. expired keys.

- TIBCO ActiveMatrix BusinessWorks validates the certificate when user imports it, but if certificate expires after that, it becomes an invalid certificate and TIBCO ActiveMatrix BusinessWorks does not trust it.

- The key store password must be the same as the keys inside it.

- TIBCO ActiveMatrix BusinessWorks does not encourage the use of self-signed certificates. If a self-signed certificate is used, TIBCO ActiveMatrix BusinessWorks assumes it is coming from a trusted trading partner.

- In this release, TIBCO ActiveMatrix BusinessWorks only supports Java key stores. P12 key stores are not currently supported.

Java Palette

Reference to the jar by the JAVA schema is lost when the project is reopened (1-8QX10D): In TIBCO Designer, JAVA schema in the project refers to the class included in the jar that is referred by the Alias library. However, the reference to the jar by the JAVA schema is lost when the project is reopened.

Workaround: None.

Deployment fails if the JAVA schema resource is used (1-8E2S6X): When starting the bwengine in bwcontainer, the deployment fails if the JAVA schema resource is used and some activity in this process refers to this JAVA schema.

Workaround: None.

Code truncation: Choosing "Invoke Method Body" on the Code tab of a Java Code activity will sometimes only display a portion of the code. This is because the Java Code activity expects that there are always matching open and close curly braces within your code. You could, have code like the following:

```
myString[4] = new String("A15%!}       Z");
```

This would cause a mismatch of curly braces, and code beyond this point would be truncated.

No code is lost, but the display will be truncated when a mismatched closing curly brace is encountered. Choosing Full Class will always display all code, so this problem: only occurs when you wish to display the Invoke method.

Workaround: You can either choose to always display the full class, or you can add matching curly braces to your code within comments to avoid the problem. For example, for the line of code above, you can change it as follows to make the curly braces match:

```
// matching brace for next line {
myString[4] = new String("A15%!}       Z");
```

JDBC Palette

Summary (BW-16979): While connecting to Microsoft SQL 2005, the connection fails with the following error message:
```
java.lang.Exception:
com.microsoft.sqlserver.jdbc.SQLServerException: SQL Server did
not return a response. The connection has been closed.
```

Workaround: When using Microsoft SQL Server 2005, add
`java.property.com.tibco.security.EntrustLast=true` or
`java.property.TIBCO_SECURITY_VENDOR=j2se` in the designer.tra and bwengine.tra files.

MySQL - JDBC QUERY: NULL handling (BW-13337): When selecting from the table using not null clause, a `java.sql.SQLException: Column 'sales_rep_id'` not found exception is encountered by the native driver.

Workaround: Set the property use `OldAliasMetadataBehavior=true` in the JDBC URL

`(jdbc:mysql://<hostname>:<port>/<databasename>?useOldAliasMetada taBehavior=true )`.

Summary (BW-13335): When using MYSQL JDBC Driver, selecting using date FUNCTIONS shows add_month,day_month column values like MjAwMy0wNi0wMQ== etc. with latest MySql Native driver**.**

Workaround: None. May work with the earlier version.

Summary (BW-8480): Sybase XA Driver (native) is not supported.

Workaround: None.

Summary (BW-9934): TIBCO ActiveMatrix BusinessWorks 5.9 does not Support Sybase Jconnect 6.0 driver.

Workaround: Use JConnect 5.x drivers.

JDBC Query activity throws an exception (1-A43CR5): The JDBC Query activity throws a '`java.lang.IndexOutOfBoundsException: Index: 2, Size: 2`' exception for the nested table containing object of Table Type and this Table Type object contains multiple Table Type objects.

Workaround: None

Exception against Oracle 9i with thin driver (1-A1F3YX): Setting the value to explicit Nill in the Oracle Stored Procedures with Object Types throws an exception against Oracle 9i with thin driver.

Workaround: Use Oracle 10g driver.

For DB2 on Z/OS Catalog/Package names are not listed when 'Select Catalog/Package' button is clicked (1-95VORP): In the DB2 on Z/OS when the SelectCatalog/Package button of the Configuration tab is clicked, the JDBC Call Procedure Activity does not list the Catalog/Package names.

Workaround: None

JDBC Query shifts the values of time by an hour in a DST timezone (1-91NE9P): In a DB2 Table TIME field, the JDBC Query shifts the values of time by 1 hour when the ActiveMatrix BusinessWorks engine is run in a DST timezone.

Workaround: None

JDBC Connection with the Datasource does not set all the properties supported by a driver (1-8WR8W1): When using `bw.plugin.jdbc.connection.useDatasource` property, the JDBC Connection with the Datasource does not set all the properties supported by a driver.

For example, the property `SendStringParametersAsUnicode=false.`

Workaround: None.

JDBC Call Procedure throws an error when a number containing more than 20 digits is used as IN parameter (1-8W9FFH): When invoking the Sybase Stored Procedure containing a numeric data type (defined as numeric (30, 0)) as one of its IN/OUT parameter and a number comprising of more than 20 digits as IN parameter, the JDBC Call Procedure throws the following error:

`"Arithmetic overflow during implicit conversion of NUMERIC value '12345678901234567890123456' to a NUMERIC field".`

Workaround: None.

Incorrect time adjustment when a timestamp is inserted by a JDBC activity (1-8Z1DMR): When a JDBC update activity inserts a timestamp value with Server Timezone set to "GMT" or "UTC" and the machine local timezone is PST, time is adjusted by an hour.

Workaround: None

Incorrect precision returned when Object contains float data type (1-8JPASU): The precision returned is incorrect when an object contains a float data type and the float value has more than 16 digits.

For example, consider a table containing an object with a float data type, where the float data type is set to 12345678901234567890123456. When JDBC Query activity queries this table for the object, the value of the float data type returned is 12345678901234568000000000 and not its actual value.

Workaround: No workaround at this time.

Support for MySQL driver version 5.0.6 (1-88KVN1): TIBCO ActiveMatrix BusinessWorks supports MySQL driver version 5.0.6. However, you may face issues when older versions of the driver are used.

Workaround: None

Problem fetching IN/OUT schema using ojdbc14 9.2.0.1.0 driver (1-8JCRB2): When ojdbc14 9.2.0.1.0 driver is used, the JDBC query activity does not fetch IN/OUT schema when querying from a table that has a simple object as its column type and the object contains Oracle Timestamp data type. The Call Procedure activity also does not list the IN/OUT parameters.

Workaround: Place the Oracle 10g R2 driver, ojdbc14 10.2.0.3.0 under *<TIBCO_HOME>*/tpcl/jdbc. The correct schema will be fetched during design-time.

JDBC Query activity does not display the Timezone information (1-88F6AN): The JDBC Query activity does not display the Timezone information when used with MySQL 5.0 driver. For a select query process with Server Timezone set to EST, the output is similar to '1970-01-01 00:00:01', whereas the expected output is '1970-01-01T00:00:01-05:00'. The MySQL query function returns a value of type string and not datetime. Thus, the Timezone information is not displayed.

Migration from previous releases: Some activities of the JDBC palette have changed so that some existing 2.x projects may have errors in the migration log. Most of the problems that will occur are due to changes in the input schema of the activities and new enforcement rules for SQL statements.

Workaround: See the release notes document of an older release version for a description of the changes in this release to the activities of the JDBC palette. If possible, update your 2.x project to take these changes into account before migrating the project. If you have already migrated to 5.1, alter the migrated activities to account for the new and changed functionality of the activities of this palette.

Migration from previous releases: When migrating projects from previous releases, the JDBC connection information found in the project is used to fetch schema from the database where necessary. If the JDBC connection is unsuccessful during migration, the input or output schemas of JDBC activities may not be available.

Workaround: The runtime values for any global variable substitution is not performed when making the JDBC connection. Therefore, make certain the connection information is correct in the 2.x project before migration. Also, make sure the database is up, running, and reachable when migrating the project. If you open the migrated project in TIBCO BusinessWorks 5.1 and the input or output schemas are not the expected schemas, click the Fetch or Refresh button on the activity's Configuration tab, click Apply, then save the project.

Migration from previous releases: Prior to release 5.x, if a value returned from a table was null, the output element corresponding to that table value was not placed into the output schema for a JDBC Call Procedure activity, if the output element was optional. In release 5.x, the element is now placed into the output schema and has "`xsi:nil = true`" to indicate the element is null.

Workaround: To be compatible with this release and future releases, you should surround elements that can be nil with an if statement to determine whether to output the element. Another way to workaround this problem is to set a property in the bwengine.tra file to maintain the behavior of previous releases. The `Config.JDBC.CallProcedure.OutputUseNil` property controls whether elements that are nil are contained in the output. Set the property to `false` to achieve the behavior of previous releases.

Summary (1-7V3VSS):   Under certain situations, time out exceptions are not thrown when using stored procedures in an Oracle database. This can sometimes occur if the stored procedure calls Java functions that sleep for some amount of time.

Workaround: Use caution when calling stored procedures that call Java functions that sleep.

Stored procedures returning multiple result sets from Sybase (1-36AMUR):   When using the jConn or Data Direct 3.3 driver and connecting to a Sybase database, stored procedures that are supposed to return multiple result sets do not return any data.

Workaround: This only occurs when using the jConn or Data Direct 3.3 database drivers and a Sybase database. To avoid this problem, you can either use the `sun.jdbc.odbc.JdbcOdbcDriver` instead or you can add `set nocount on` to your stored procedure definition.

Parameter Types When Calling A Procedure Using the Sybase JConnect Driver: When using the JDBC Call Procedure activity with the `com.sybase.jdbc2.jdbc.SybDriver` driver, you may need to update the Parameter Types of in/out parameters before execution.

For example, all ProcedureColumnOut types will initially appear as ProcedureColumnIn. You must manually change these to ProcedureColumnOut. This can either be done by typing or by selecting from the pull-down list of values. Then, apply and save your project before executing the process definition.

Aliases and Sybase: When you use the `tibcosoftwareinc.jdbc.sybase.SybaseDriver` driver to connect to a Sybase database, column alias names are ignored in SQL statements. Instead of the specified alias, the column name is used in the result set schema.

If you are attempting to execute a query that includes a multi-table join and you are trying to select columns with the same name, you must use column name aliases. Because of this issue, these types of queries will not work properly.

Workaround: This is only an issue when using `tibcosoftwareinc.jdbc.sybase.SybaseDriver`. Other drivers work correctly. Either use a different driver or do not use aliases in your SQL statements. A future release of this bundled driver may fix this problem.

Using COUNT(*) in queries: Depending on the JDBC driver you use, the output datatype of COUNT(*) differs. When using Oracle drivers, the output datatype is a float. When using MS SQL Server drivers, the output datatype is an integer.

Select for update statements to Oracle databases: When a JDBC Query activity has the SELECT statement with the FOR UPDATE clause for an Oracle database, a "fetch out of sequence" error is returned if the activity is not part of a transaction.

Workaround: Enclose the activity in a transaction group.

Optional Stored Procedure parameters: Optional stored procedure parameters are not supported. If one of the arguments is missing, the standard procedure cannot be executed.

Workaround: Provide a value for all parameters in the JDBC Call Procedure activity input. If a parameter does not have a value, specify an explicit nil for the input element.

For Oracle, calling arguments or return values of the PL/SQL types TABLE (now known as indexed-by tables), RESULT SET, RECORD, or BOOLEAN is not supported. For more information, please visit http://otn.oracle.com/tech/java/sqlj_jdbc/htdocs/jdbc_faq.htm

Inserting large BLOBs: If inserting / updating a huge BLOB fails, activity timeout may need to be adjusted to allow sufficient time to finish the operation

DML statements: If DML statements are used with SQL Direct activity, using 8.x versions of Oracle thin / thick drivers doesn't work in some cases.

Workaround: Upgrade to 9.x drivers. Note that 9.x drivers work with 8.x and 7.x databases, so only the driver must be changed.

Maximum Rows not supported: While working with Oracle stored procedures, the `Maximum Rows` property is not supported by the Oracle thin driver.

Workaround: Use the Data Direct driver included with the release.

Stored procedure custom exceptions: A `JDBC Call Procedure` activity throws a generic exception for any custom exceptions raised in stored procedures. The exception thrown is driver specific. Below are the error messages thrown for each combination of database and driver:

Data Direct Oracle: JDBC error reported (SQLState = HY000)

Thin Oracle: JDBC error reported (SQLState = 72000)

Data Direct MSSQL: JDBC error reported (SQLState = HY000)

CLOB/BLOB Datatypes: Columns of type CLOB or BLOB can only be used in JDBC activities when you use one of the following drivers in the JDBC Connection resource:

`tibcosoftwareinc.jdbc.oracle.OracleDriver`

`oracle.jdbc.driver.OracleDriver (oci)`

`oracle.jdbc.driver.OracleDriver (thin)`

Manipulating CLOB or BLOB data is not supported with other database drivers.

The `UnresolvedResultsets` output parameter can be used to utilize the result sets returned by stored procedures. It represents records in return result sets as an XML string. Since the structure of the XML string is unknown at design time and no mapping can be done if the schema is unknown, use the workaround to overcome the problem.

Note: At this time, only stored procedures that always generate a fixed schema can be utilized

Workaround:

1. Configure the `Call Procedure` activity.

2. Add a `Write File` activity

3. Configure a `Write File` activity to write a text file, provide a local file name with `.xml` extension.

4. Map unresolved result sets from call activity's output to `textContent` input field in the `Write File` activity.

5. Execute the process definition. Upon successful execution, all records are written to the specified XML file in a predefined format

6. Open the XML file in XML Authority as a schema. XML Authority generates a schema based on the contents of the XML file (or create the schema manually using the structure provided in the XML file)

7. Create a schema definition resource using the newly generated schema.

8. Add a `Parse XML` activity. In the `Configuration` tab, select the newly created schema definition and type `Resultsets` in the `Element` field

9. Map unresolved result sets from the `Call Process` activity's output to the `Parse XML` activity's `xmlString` input field.

Result sets can now be utilized at design time from the output of the `Parse XML` activity.

JMS Palette

JMS over SSL is not working with TIBCO ActiveMatrix BusinessWorks 5.9.3 (BW-14933): JMS connection does not work with JMS over SSL in TIBCO ActiveMatrix BusinessWorks 5.9.3. The BusinessWorks engine fails to connect to the EMS server and quits.

Workaround: Add the following property in `bwengine.tra`.
`java.property.com.entrust.toolkit.ssl.fragmentblockcipher=false`

Summary (1-8MBNE3): Wait for JMS Queue activity when tied with Reply to JMS activity in a JMS Transaction group, succeeds in sending the message to the JMS Requestor in a transaction rollback.

Workaround: None

JMS activity inside the XA Transaction fails upon commit (1-A5ZFFB): JMS Queue Receiver with reply to JMS activity inside the XA Transaction fails with the following error upon commit:

```
Commit failed with exception "Should not be call for an
XASession". Will rollback current transaction
```

Workaround: None.

Thread blocks causing low CPU utilization (1-9GT9CV): When using the JMS Request Reply activity, a low CPU utilization (about 55%) caused by a large number of thread blocks is observed.

Workaround: None.

TIMEOUT Exception encountered occasionally in GetJMSActivity for Auto, DUPS OK and Transactional Ack modes (1-9E8K4V): In GetJMSActivity for Auto, DUPS OK and Transactional Ack modes, a TIMEOUT Exception is encountered occasionally even though the queue contains the messages.

Workaround: Set **prefetch** value for queue to **NONE**.

Get JMS Queue Message activity does not work as expected when used in a group (1-878YNU): The Get JMS Queue Message activity does not work as expected when used in a group and with the Sun JMS Queue Message server. When the timeout value for the Get JMS Queue message activity is not specified, the activity consumes all the messages in the queue and waits for new messages. However, the activity does not consume any new messages that arrive on the queue after a time interval.

Workaround: Specify the timeout for the Get JMS Queue Message activity before using the activity with Sun JMS Queue Message server.

Using Different Ports for JNDI and the JMS server (1-6VW8GN): Performance can degrade when using a message selector in the Get JMS Queue Message activity and different ports have been specified for the Provider URL and JNDI.

Workaround: Make sure the port number specified in the Provider URL and JNDI fields match. Alternatively, use TCP to connect to the JMS server. This will be fixed in a future version.

JMSProperties Input Elements: For activities that publish messages (for example, JMS Topic Publisher or Reply to JMS Message), the JMSProperties input element is available. If you specify a value for any of the JMSProperties, then save the project, then delete the value for the property, the JMSProperties element does not get properly removed from the project. You will get an invalid attribute error if you attempt to execute the process definition where the property has not been properly deleted.

Workaround: To work around this problem, edit the process definition `.process` file in a text editor and search for `<JMSProperties/>`. Remove this string from the `.process` file, then restart TIBCO Designer. This will be fixed in a future version.

replyToDestination Input Element: Use of the replyToDestination input element in the JMS Topic/Queue Requestor activities does not always result in the expected behavior if more than one process instance specifies the same reply to destination.

Workaround: If you do wish to specify a destination name for reply messages, you should either specify unique reply to destinations for each process instance or use the JMS Queue Sender and JMS Topic Publisher activities together with the corresponding Wait for JMS Queue Message and Wait for JMS Topic Message so that the "Wait" activities can use the appropriate key to receive the correct reply message for the process.

Mail Palette

Reading Attachments from Files: When attachments are contained in a file, the file is read using the system default encoding. There is no way to specify the expected encoding of the file's contents.

Workaround: None. This will be addressed in a future release.

Text Attachments: When a text attachment is sent by the Send Mail activity, the attachment appears as `byte[]` when opened in MS Outlook.

Receive Mail attachments (Japanese): When email is received that was sent by Netscape Navigator on a Japanese machine, the content of any attachments is corrupt in the `Receive Mail` activity.

Mapper Palette

Special characters not recognized in the input for Mapper fields (1-AGZUNE): Special characters such as "<", ">", "&" are not recognized when specified as input for the mapper fields which accept (xml) strings and throws an error during Run-time. They should be converted to "<" and ">" etc.

Workaround: None.

Design-time validation: The mapper does not support design-time validation of string length constraints. It also does not validate maximum and minimum (inclusive and exclusive) constraints on numbers.

Policy Palette

"Invalid system security subject" Error at runtime (1-7BVBMN): An "Invalid system security subject" error is thrown at runtime in the following cases:

- If a BusinessWorks project EAR file contains both SOAP activities and service resources, and the policy is applied only to a SOAP activity that is part of a dynamically called process.

- If all the processes associated with security policy association in a BusinessWorks project are not included in the tester, irrespective of whether the process starter needs it or not.

Workaround: Validate all policy associations before starting the engine. Also, ensure that during deployment configuration all the event sources, service resources, and service agents that have policies applied are not disabled.

Longer startup time for projects using Policy palette resources under JRE 1.5 (1-72BWF4): When you are using JRE 1.5, startup time for the engine is increased for projects that use security policies.

Workaround: JRE 1.5 actually improves performance as the engine continues to run for longer periods, but startup time can increase when using security policies.

Exception when encryption enabled (1-6XH7P3): Under some situations, some requests that have encryption enabled raise an exception.

Workaround: None.

InclusiveNamespaces tag in signature (1-6RU37X): An exception occurs on messages if you are using `jwsdp1.6` (SUN's API for signing SOAP messages), and you are using the InclusiveNamespaces tag in the canonicalization method.

Workaround: None.

Exception Thrown When Engine Starts (1-6WT8Q5): When resources in the Policy palette are in the project, the engine throws a java.lang.NoSuchFieldException: m_ functions exception upon startup due to Xalan compatibility issues.

Workaround: Ignore the exception, the engine functions properly.

Using J2SE to Encrypt Messages (1-6XGX2F): Setting java.propperty.TIBCO_SECURITY_PROVIDER to j2se is not supported for encrypting messages. Authentication and signatures are supported, but not encryption.

Workaround: None.

Multiple policies applied to the same resource (1-6T6Q6N): You can create multiple Security Policy Association resources that apply different policies to the same resource. This is not recommended, but at this time, the product allows this to occur without a warning. At runtime, the first policy encountered will be used for the resource.

Workaround: Do not create multiple Security Policy Association resources that apply to the same SOAP or Service resource. In the future, this condition will not be permitted.

Rendezvous Palette

Summary (BW-14736): While retrieving TibrvMsgField from TibrvMsg for an unsigned short with value 65535, it gets converted to -1. This causes XsUnsignedShort to throw NumberFormatException.

Workaround: None.

Send RV Request activity failed to send complex data schemas: On UNIX, the Send RV Request activity failed to send complex data schemas.

Workaround: In the bwengine.tra and designer.tra files, put RV_HOME/lib/tibrv.jar before RV_HOME/lib in the CLASSPATH.

Use of the replySubject input element in the Send Rendezvous Request activity would not always result in the expected behavior if more than one process instance specified the same reply subject. If you do wish to specify a reply subject, you should either specify unique reply subjects for each process instance, or you can use the Publish Rendezvous Message activity together with the Wait for Rendezvous Message activity so that the "Wait" activity can use the appropriate key to receive the correct reply message for the process.

RMI Palette

Using localhost as the registry server host name: Java does not support more than one registry server running in the same Java VM. If you are using "localhost" as the registry server host name, you may encounter this problem when trying to test process definitions. TIBCO ActiveMatrix BusinessWorks attempts to start the registry server when a test session is initiated in TIBCO Designer. If you attempt to start another test session with a different port number on the same machine (localhost), you will encounter an error when an attempt is made to use the registry server (for example, to execute a RMI Lookup activity).

Workaround: If you must change the port number of the registry server when using the same registry server host name, you must restart the Java VM by closing and restarting TIBCO Designer before starting another test session.

Service Palette

Summary (BW-13420): A similar value in the incoming/outgoing SOAP fault messages on the wire for both the fault headers is received, if the WSDL has two fault headers with the same part name.

Workaround: None.

Summary (BW-13403): When one Fault is removed from the Abstract WSDL's operation, it does not rollback that fault in the Fault Headers Soap fault list.

Workaround: None.

Summary (BW-13423): Endpoint Type 'AMX' is visible in the Endpoint Bindings inspite of the **Enable for AMX** check-box in the Service Resource not being enabled.

Workaround: AMX endpoints are used with ActiveMatrix only. This does not affect any functionality.

Summary (BW-13571): Concrete WSDL generated by TIBCO ActiveMatrix BusinessWorks while using SOAP over JMS, does not generate the location attribute value for SOAP address in the SOAP bindings.

Workaround: Enter the attribute value.

Design-time validation error not thrown (1-9F7MW1): Design-time validation error is not thrown when a service with Doc/Encoded style is created with the message parts defined as elements. However, an error is thrown when you run such a service.

Workaround: None.

Exception thrown during WSDL generation (1-6SU5T4): When folders are created in a project and the project has not yet been saved, the folders do not yet exist in the file system. When referenced folders do not yet exist, the Service resource cannot generate the WSDL file on the WSDL Source tab properly and an exception occurs. The following conditions can cause the exception:

• the parent folder of the Service resource or any folder containing resources that the Service resource depends upon do not exist in the file system.

• the WSDL file that is referenced by the Service resource is located in a folder that does not exist on the file system.

• one of the resources (WSDL/XSD) referenced by the WSDL file that is referenced by the Service resource is located in a folder that does not exist on the file system.

Workaround: Save the project before viewing the WSDL file on the WSDL Source tab.

Validation and the Service Resource (1-709ZQN): Validation of the Service Resource does not check the following rules (both at design-time and run-time):

• validate that all the message parts are defined using types - for SOAP Encoding

• validate that there is only one part defined using type - for document style services and literal encoding

• validate that all message parts are either defined using types or are all defined using elements

• validate that each part has a unique name in the context of a message

Workaround: None.

SOAP Palette

Summary (1-7URNHS): Under certain conditions, SOAP Request Reply activities that attempt to connect to a server by way of a proxy receive a 5xx error.

Workaround: Do not use a proxy server to access the server. This will be addressed in a future release.

Inconsistent representation of the value of charset = UTF-8 (1-7AXY6R): The value of `charset=UTF-8` is inconsistent in the Content-type of HTTP Headers for SOAP Request Reply, Send SOAP Fault, and HTTP Request Reply activities. SOAP Request Reply accepts the value with quotes, such as "UTF-8", while Send SOAP Fault and HTTP Request Reply activities accept the value without quotes, such as UTF-8.

Workaround: None

Validate For Deployment and Schemas (1-3Q0GSD): When you have a number of Schemas (WSDL and XSDs) stored in a directory and the directory is renamed, validate for deployment will initially report errors.

Workaround: Shutdown and restart TIBCO Designer and the errors are no longer reported when validating for deployment.

Invoking a Web Service implemented by a process definition The URL for web services that are implemented by TIBCO BusinessWorks process definitions is derived from the process name and the path to the process within the project. In previous releases, this URL was represented in the WSDL file exactly as it appeared in the project. That is, if there were any spaces or other special characters (for example, &, /, or =), these characters were not altered in the URL. Therefore, a client of the web service would use URL encoding to represent the special characters when requesting the service. This has been changed in release 5.x so that any special characters in the URL are mangled and represented using regular characters.

Workaround For projects created in release 2.x and migrated to 5.x, you must use the new URL. That is, for SOAP Request Reply activities that call web services implemented by process definitions, refresh the WSDL file that calls the web service. For web clients, retrieve the new WSDL file before calling the web service.

Headers and faults have limited support for SOAP encoding. For example, the `href` attribute is not supported for fault details or header elements.

Reading Attachments from Files: When attachments are contained in a file, the file is read using the system default encoding. There is no way to specify the expected encoding of the file's contents.

Workaround: None. This will be addressed in a future release.

Validate for Deployment Errors: WSDL files using special types for attachments report errors for a missing location attribute when validating for deployment.

Workaround: Ignore the error. The process definition using the WSDL file will execute properly.

TCP Palette

TCP Read Data Activity does not read the complete data in a specified time (1-A03E2T): When the 'Read TCP Activity' specifies the timeout value in the binary mode, 'Write TCP Data' activity does not proceed and hangs; unless the TCP Connection on server side is stopped.

Workaround: Configure a 'TCP Close Connection' in the error transition for the 'Read TCP Activity' on the server side.

TCP Read Data Activity does not timeout when using TIBCO Runtime Agent 5.6.1 (1-9SE9TR): The TCP Read Data activity's Timeout functionality does not work in the Binary mode when the **bytes to Read** is set and **No Separator** is selected. This issue is observed intermittently when you migrate from TIBCO Runtime Agent 5.6.0 to 5.6.1.

Workaround: None.

TIBCO Designer

If you place a process definition in a custom palette, save the custom palette, then reopen TIBCO Designer, an error occurs preventing you from reopening TIBCO Designer.

Workaround: Do not place process definitions in custom palettes. Use custom palettes for Generic Adapter Configuration resources or other non-process definition resources. If you encounter this error, navigate to the location where the custom palettes are stored (this is customizable, but Windows NT, for example, stores these in your
WINNT\Profiles\<user>\.TIBCO\custom_palettes directory), and delete the custom palette containing the process definition.

TIBCO Designer 5.2 Strict Naming Convention: A stricter naming convention is enforced in this release. The strict naming convention prevents you from renaming an object by changing case and prevents the use of certain characters. The strict naming convention must be turned off if you are opening 5.1.x project in Designer 5.2 that contains characters that are illegal in release 5.2.

Workaround: The -Dstrictnames flag is used to enforce or relax the strict naming convention. The flag is set in the designer.tra file. The default is true.

- If set to true, the strict naming convention is enforced. This means you cannot rename an object by changing case. For example, you cannot rename an object from myobject to MyObject. You also cannot use the following characters in an object name: | / \ " ' : ?.

- If set to false, the strict naming convention is not enforced. This means you can rename objects by changing case. You also can use the following characters in an object name: | / \ " ' : ?.

The -Dstrictnames flag should be set to false when opening a 5.1.3 project in TIBCO Designer 5.2 that contains object names which use the disallowed characters. After opening the project, you should change object names by removing the disallowed characters and reset the -Dstrictnames flag to true.

See the *TIBCO Designer Release Notes* for more information.

Web Service Wizards

WSDL references in process input/output (1-6T3OMN): Only processes that have XSD references in the input/output specified on the Start and End activities are supported. The wizards do not support WSDL messages as input or output to a process definition.

Workaround: None.

XSD schema names in process input or output (1-6U6LWB): When using the wizard that creates a WSDL and Service resource, double byte characters are not permitted in the XSD schema names in the input and output specified on the Start and End activities.

Workaround: None.

Service resource generates an invalid WSDL (1-6SU5T4): When folders are created in a project and the project has not yet been saved, the folders do not exist in the file system. When referenced folders do not yet exist, the Service resource cannot generate the WSDL file on the WSDL Source tab properly and an exception occurs. The following conditions can cause the exception:

— the parent folder of the Service resource or any folder containing resources that the Service resource depends upon do not exist in the file system.

— the WSDL file that is referenced by the Service resource is located in a folder that does not exist on the file system.

— one of the resources (WSDL/XSD) referenced by the WSDL file that is referenced by the Service resource is located in a folder that does not exist on the file system.

Workaround: Save the project before viewing the WSDL file on the WSDL Source tab.

WSIL and UDDI Registry Browser in TIBCO Designer

www.xmethods WSIL (1-1WLHKN): Using the UDDI option on the Tools menu to browse http://www.xmethods.net/inspection.wsil does not work properly.

Workaround: None.

WSDL Palette

NullPointerException when generating web-service from WSDL (1-9P26JP): A NullPointerException is thrown on the console while generating a web-service from a WSDL.

Workaround: None. This is a harmless exception and the web-service is generated successfully.

Copy and paste not available for resources in the WSDL palette (1-7V1IOB): Copy and paste are not available for resources in the WSDL palette.

Workaround: None.

XML Activities Palette

Namespace information for Transform XML activity is lost (1-6RQI5V): The Transform XML activity is configured such that the styleSheet has XPath expressions for both, an input document and another XML document that is configured as a styleSheet parameter. If the nodes in the parameter document are namespace prefixed, then Namespace information for the parameter document is lost.

Workaround: None

xsl:number function in the Transform XML activity: The `xsl:number` function is not supported in style sheets used by this activity.

Workaround: Do not use the `xsl:number` function.

XML Schemas

Redefine: The `<redefine ...>` mechanism is not supported in XML Schemas. If you use a schema with this mechanism, the `<redefine ...>` is ignored, and if you attempt to validate your project or resources that use the schema, errors will occur.

<include> tags: "Chameleon" schemas: When one XML Schema (XSD) resource that has a targetNamespace attribute includes a XSD which has no targetNamespace, the element/type/group reference from the including to the included schema in this case will not be resolved and will result in error indications (red highlights) in activities' input and output tabs.

<include> tags: Include context: Schema A defines component X and includes schema B, which defines component Y. Y's definition references X, even though B does not include A or any other schema that defines X. This pattern is sometimes used as a way of expressing "templates" in XSDs.

This case results in error indications in activities' input and output tabs even if they explicitly reference schema A.

QName (qualified name) conflicts: Two XSDs, A and B, both have the same targetNamespace (or no targetNamespace) and both define component X. In that case, they are "mutually exclusive" in the context of the same process definition. For example, you cannot have two XML Parse activities in the same process with one configured to use element X from A and the other using element X from B. This results in error indications in the activities' input and/or output tabs.

There are warnings when this is about to happen (that is, if the user tries to use A's X and B's X from the same inline schema editor). The warnings will be clarified, and a facility for explicitly resolving such QName conflicts at the process definition level will be added in a future release, however the fundamental restriction is currently expected to always be present.

XPath

Numbers: XPath converts all numbers regardless of their datatypes to double. For large positive or negative decimals and integers, there could be a loss of precision.

Workaround   Use a string instead of a number. However, for very small float and double numbers (for example, 1.4E-45), this will not work.

TIBCO ActiveMatrix BusinessWorks is fully compliant with the XPath 1.0 specification for comparing booleans. The resulting behavior is counter-intuitive.

Here is an example for writing expressions comparing boolean data values. Assume this is part of your process data:

```
$MyResult/
   aBooleanValue
```

... so `aBooleanValue` is a boolean inside of the variable `$MyResult`.

The cleanest expression for a boolean condition based on this input is:

```
$MyResult/aBooleanValue = 'true'
```

The expressions:

```
$MyResult/aBooleanValue = true()
boolean($MyResult/aBooleanValue) = true()
string($MyResult/aBooleanValue)=true()
$MyResult/aBooleanValue
```

will, according to the XPath specification, always return true. Specifically:

- In the first two cases the test is if the element `aBooleanValue` exists.

- In the third case, the test for comparing a string to a boolean is if the `length(string)>0`, so this is true for both true and false values.

- The fourth case is equivalent to `boolean($MyResult/aBooleanValue)` and, like the first two, tests for the existence of `aBooleanValue` rather than its string value.

The way to check a boolean in XPath is to check its textual value. This is how the XPath specification defines the behavior.

Internationalization

For this release of TIBCO ActiveMatrix BusinessWorks, the only platform on which internationalization features have been tested is Japanese Windows 2000. Also, integration tests have not yet been performed, so internationalization features have only been tested for TIBCO ActiveMatrix BusinessWorks as a standalone product.

TIBCO Messaging Encoding

Starting with the 5.0.1 release, only Multi-File projects are allowed. In the project creation panel, users are given the options to choose the encoding for the project (either ISO8859-1 or UTF-8). This encoding is *not* the persistent storage encoding of the project (that is always UTF-8), but is the TIBCO Messaging Encoding used for the communication between TIBCO product components. The communication channel can be either TIBCO Rendezvous or TIBCO Enterprise for JMS.

This TIBCO Messaging Encoding value can be set during the creation of a new project. Once a project is created, you can change the encoding value by selecting the root node in project tree. Then select the "Project Settings" tab in Configuration Window.

If you are familiar with TIBCO BusinessWorks Release 2.x, you can view this project encoding value as the equivalent of the encoding value configured using Repository Finder for Local Repository projects.

XML Messages using JMS or AE/RV Wireformats

The current release only supports UTF-8 encoding for XML messages. XML messages are configured in the following ways:

- TIBCO ActiveEnterprise activities can send or receive messages using AE XML wireformat.
- TIBCO ActiveEnterprise activities can use JMS as a transport, and this transport uses XML messages.
- TIBCO Rendezvous activities can specify that messages are RV XML format.

Non-ASCII data in XML messages using Latin-1 encoding is not properly handled. Therefore, if you choose to use an XML format, you must use UTF-8 as the message encoding.

Usage Notes

Double-Byte Characters in Filenames

Double-byte filenames can be used in filenames within activities (for text, binary, or XML or XDS files). However, project names cannot contain double-byte characters.

Double-Byte Characters in XPath Expressions

The TIBCO Designer GUI allows you to use XPath expressions in many locations (process parameters, return values, conditions in conditional transitions, and so on). Double-byte characters are supported in all these locations.

TIBCO Designer Display Font

In the TIBCO Designer **Edit > Preferences > View** tab, there are two kinds of fonts, UI Font type and Script Font type. Script Font type is used for display characters in the XPath Formula Editor and UI Font Type is used to display characters in other locations. If double-byte characters are displayed as rectangles, choose an appropriate font in the preferences dialog, then exit and re-open TIBCO Designer for the change to take effect.

ActiveEnterprise Adapter Palette

Through activities in this palette, TIBCO ActiveMatrix BusinessWorks can communicate with TIBCO adapters by way of different wire formats. All wire formats support transmitting non-ASCII data. The wireformat character encoding is determined by the TIBCO Messaging Encoding settings described in TIBCO Messaging Encoding on page 154.

EJB Palette

Non-ASCII data can be used as the EJB Remote call's parameters and return values for both stateful and stateless session beans.

The internationalization test of EJB is only conducted against BEA Weblogic 8.1 application server.

File Palette

In the File Poller and Wait for File Change activities, if the value for the Content as: field is text, the user can now select the encoding in the Encoding field. This encoding value is used to read the file contents. The Output tab will then show the encoding for the file contents in the encoding subelement of the fileContent element.

In the Read File and Write File activities, for text files the encoding to read/write the file can be specified in the Input tab in the optional Encoding field. The Output tab will then show the encoding for the file contents in encoding subelement of the fileContent element.

In JDK 1.3.1, Shift_JIS encoding is closer to MS932 encoding because it covers more special Japanese characters that are present in MS932. In JDK 1.4.1, Shift_JIS encoding is closer to SJIS because it no longer covers the special Japanese characters that are present in MS932.

FTP Palette

FTP palette now support files with both non-ASCII contents and filenames to be transmitted to and from a remote FTP server. Currently, internationalization features are tested only on UNIX-based FTP servers.

- FTP Put activity — this activity allows you to transmit files with non-ASCII data to an FTP server using non-binary mode. The source data could be retrieved from a file on disk or from process data. If the source data is from process data, you must specify the encoding for the remote file because the source data is always in Unicode, or the local system's default encoding is used for the remote file. Line endings on different operating systems are handled properly and automatically.

- FTP Get activity — this activity allows you to retrieve files with non-ASCII content from an FTP server using non-binary mode. The retrieved data could be written to a file on disk or to process data. In the later case, you must specify the encoding of the original file on the server so the activity can perform the conversion from the original encoding to Unicode. Line endings on different operating systems are handled properly and automatically.

- The activities of the FTP palette can support file names on the remote FTP server that use a different encoding than the local machine. When this is the case, the Remote File Name Encoding field in the FTP Connection must be configured properly.

HTTP Palette

The activities in the HTTP palette now support non-ASCII data in both GET and POST requests. Depending upon the configuration of the HTTP Request side, the encoding scheme of both a GET and POST request could be normally encoded or URL-encoded (defined in the W3C: Character Model for WWW 1.0). The HTTP Receiver side must be configured accordingly to accommodate these different encoding schemes.

Known Issues:

• HTTP Receiver — If the inbound HTTP POST request is URL-encoded and it contains non-ASCII data, and the HTTP Receiver's "Parse Post Data Method" field is unchecked, the Output "PostData" element will contain garbage data. **Workaround:** Check the "Parse Post Data Method" checkbox and specify output parameters for the parameters of the HTTP request. This allows the HTTP Receiver to properly parse the inbound URL-encoded data. The "PostData" element also returns the correctly decoded request.

• HTTP Receiver — If the inbound HTTP GET request is URL-encoded and it contains non-ASCII data, and the HTTP Receiver's "Parse Post Data Method" field is unchecked, the Output "QueryString" element will contain garbage data. **Workaround:** Specify output parameters for the parameters of the HTTP request. This allows the HTTP Receiver to properly parse the inbound URL-encoded data.

• HTTP Receiver — The process starter will not be able to receive and decode a request submitted by a browser (for example, Internet Explorer or Netscape) correctly if the request contains any non-Latin1 data. This is because the current implementations of the major Internet browsers do no include a Content-Type header in the outbound request. Thus, the HTTP Receiver always uses ISO8859-1 (Latin-1) encoding to decode the inbound request. **Workaround:** Workaround is available from TIBCO Support.

Java Code Activity

Hard-coded, double-byte data is now allowed in Java source code. Also, most Java locale-sensitive classes and methods are supported.

JDBC Palette

JDBC Query and JDBC Update now support double-byte data in table names, column names, and column values.

JDBC internationalization testing is only conducted against the Oracle 8.1.7 server. The server instance character sets that have been tested against include JA16SJIS, ECUJP, and UTF8. Both Oracle thin JDBC driver and DataDirect Oracle JDBC driver are tested.

Known Issues:

- The `tibcosoftwareinc.jdbc.oracle.OracleDriver` (the DataDirect Oracle JDBC driver) has problems under some circumstances. For example, if the database's encoding is EUC-JP, ASCII and non-ASCII data cannot be inserted correctly.

JMS Palette

This release of TIBCO ActiveMatrix BusinessWorks was tested only using the TIBCO Enterprise for JMS Server 3.1.0.

The TIBCO Enterprise for JMS server does not support double-byte topic or queue names.

Mail Palette

Mail Activities now support attachments that use CJK encoding.

RV Palette

RV activities now use the TIBCO Messaging Encoding as the wire encoding. You have to set the TIBCO Messaging Encoding to UTF-8 when you create a new project if you want to send/receive CJK characters using RV palette activities. The default project encoding value is ISO8859-1 that only supports Western Europeans characters including English. Please refer to TIBCO Messaging Encoding on page 154.

SOAP Palette

The activities of this palette allow you to send and receive non-ASCII data in SOAP messages using UTF-8 encoding in document mode and RPC mode for both Literal and SOAP-Encoded message styles. The message character encoding is transparent, you do not need to configure the activities to obtain this functionality.

XML Activities Palette

XML Parse and XML Render activities now support XML files encoded in any IANA-compliant encodings.

Due to changes from JDK 1.3.1 to JDK 1.4.x, a shift_jis encoded XML file that contains special Japanese characters is handled differently by the Parse XML and Render XML activities. In TIBCO BusinessWorks Release 5.1.3 with JDK 1.4.x, when you parse shift_jis encoded XML files you should set Parse XML's forceEncoding value to MS932 or Windows-31J for binary mode, so that special Japanese characters can be parsed correctly. To render a shift_jis encoded XML file that contains special Japanese characters, you should use text mode in the Render XML activity. Then you can map the output xmlString from Render XML to a Write File activity with encoding value set to MS932 or Windows-31J.

Using Non-Default TIBCO Rendezvous Parameters

When you install TIBCO BusinessWorks version 5.3 and above, you can specify non-default TIBCO Rendezvous parameters for the TIBCO administration domain during installation.

- If you keep the default parameters, already installed adapter can join the TIBCO Administration Domain with no problems because both TIBCO Administrator and the adapter will then use the default TIBCO Rendezvous parameters.

- If you change the TIBCO Rendezvous parameters, you can use TIBCO ActiveMatrix BusinessWorks standalone with the new settings. Any adapters you install afterwards on the same machine will use the same settings.

If adapters need to join an administration domain using non-default TIBCO Rendezvous parameters, it is recommended you proceed as follows:

1. Install TIBCO Administrator and the adapter using the default TIBCO Rendezvous parameters.

2. Using the domain utility, change the TIBCO Rendezvous parameters for TIBCO Administrator to the desired settings.

3. Using the domain utility, change the TIBCO Rendezvous parameters for the adapter to the desired settings.

The domain utility and associated documentation is available in the tra/*version*/tools folder.