TIBCO ActiveMatrix BusinessWorks™ Release Notes

Software Release 6.5.0

August 2018

Document Updated: October 2018

Two-Second Advantage®

Important Information

SOME TIBCO SOFTWARE EMBEDS OR BUNDLES OTHER TIBCO SOFTWARE. USE OF SUCH EMBEDDED OR BUNDLED TIBCO SOFTWARE IS SOLELY TO ENABLE THE FUNCTIONALITY (OR PROVIDE LIMITED ADD-ON FUNCTIONALITY) OF THE LICENSED TIBCO SOFTWARE. THE EMBEDDED OR BUNDLED SOFTWARE IS NOT LICENSED TO BE USED OR ACCESSED BY ANY OTHER TIBCO SOFTWARE OR FOR ANY OTHER PURPOSE.

USE OF TIBCO SOFTWARE AND THIS DOCUMENT IS SUBJECT TO THE TERMS AND CONDITIONS OF A LICENSE AGREEMENT FOUND IN EITHER A SEPARATELY EXECUTED SOFTWARE LICENSE AGREEMENT, OR, IF THERE IS NO SUCH SEPARATE AGREEMENT, THE CLICKWRAP END USER LICENSE AGREEMENT WHICH IS DISPLAYED DURING DOWNLOAD OR INSTALLATION OF THE SOFTWARE (AND WHICH IS DUPLICATED IN THE LICENSE FILE) OR IF THERE IS NO SUCH SOFTWARE LICENSE AGREEMENT OR CLICKWRAP END USER LICENSE AGREEMENT, THE LICENSE(S) LOCATED IN THE “LICENSE” FILE(S) OF THE SOFTWARE. USE OF THIS DOCUMENT IS SUBJECT TO THOSE TERMS AND CONDITIONS, AND YOUR USE HEREOF SHALL CONSTITUTE ACCEPTANCE OF AND AN AGREEMENT TO BE BOUND BY THE SAME.

ANY SOFTWARE ITEM IDENTIFIED AS THIRD PARTY LIBRARY IS AVAILABLE UNDER SEPARATE SOFTWARE LICENSE TERMS AND IS NOT PART OF A TIBCO PRODUCT. AS SUCH, THESE SOFTWARE ITEMS ARE NOT COVERED BY THE TERMS OF YOUR AGREEMENT WITH TIBCO, INCLUDING ANY TERMS CONCERNING SUPPORT, MAINTENANCE, WARRANTIES, AND INDEMNITIES. DOWNLOAD AND USE OF THESE ITEMS IS SOLELY AT YOUR OWN DISCRETION AND SUBJECT TO THE LICENSE TERMS APPLICABLE TO THEM. BY PROCEEDING TO DOWNLOAD, INSTALL OR USE ANY OF THESE ITEMS, YOU ACKNOWLEDGE THE FOREGOING DISTINCTIONS BETWEEN THESE ITEMS AND TIBCO PRODUCTS.

This document contains confidential information that is subject to U.S. and international copyright laws and treaties. No part of this document may be reproduced in any form without the written authorization of TIBCO Software Inc.

TIBCO, TIBCO ActiveMatrix BusinessWorks, TIBCO Rendezvous, TIBCO Enterprise Message Service, TIBCO Business Studio, TIBCO Enterprise Administrator, TIBCO ActiveSpaces, TIBCO Runtime Agent, TIBCO Designer, and Two-Second Advantage are either registered trademarks or trademarks of TIBCO Software Inc. in the United States and/or other countries.

Enterprise Java Beans (EJB), Java Platform Enterprise Edition (Java EE), Java 2 Platform Enterprise Edition (J2EE), and all Java-based trademarks and logos are trademarks or registered trademarks of Oracle Corporation in the U.S. and other countries.

All other product and company names and marks mentioned in this document are the property of their respective owners and are mentioned for identification purposes only.

THIS SOFTWARE MAY BE AVAILABLE ON MULTIPLE OPERATING SYSTEMS. HOWEVER, NOT ALL OPERATING SYSTEM PLATFORMS FOR A SPECIFIC SOFTWARE VERSION ARE RELEASED AT THE SAME TIME. SEE THE README FILE FOR THE AVAILABILITY OF THIS SOFTWARE VERSION ON A SPECIFIC OPERATING SYSTEM PLATFORM.

THIS DOCUMENT IS PROVIDED “AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT.

THIS DOCUMENT COULD INCLUDE TECHNICAL INACCURACIES OR TYPOGRAPHICAL ERRORS. CHANGES ARE PERIODICALLY ADDED TO THE INFORMATION HEREIN; THESE CHANGES WILL BE INCORPORATED IN NEW EDITIONS OF THIS DOCUMENT. TIBCO SOFTWARE INC. MAY MAKE IMPROVEMENTS AND/OR CHANGES IN THE PRODUCT(S) AND/OR THE PROGRAM(S) DESCRIBED IN THIS DOCUMENT AT ANY TIME.

THE CONTENTS OF THIS DOCUMENT MAY BE MODIFIED AND/OR QUALIFIED, DIRECTLY OR INDIRECTLY, BY OTHER DOCUMENTATION WHICH ACCOMPANIES THIS SOFTWARE, INCLUDING BUT NOT LIMITED TO ANY RELEASE NOTES AND "READ ME" FILES.

Copyright © 2001-2018 TIBCO Software Inc. All rights reserved.

Contents

Context-Sensitive Help Preferences 5

New Features 6

Changes in Functionality 40

Deprecated and Removed Features 50

Closed Issues 51

Known Issues 127

Context-Sensitive Help Preferences

This procedure explains how to change your help preferences in TIBCO Business Studio™ to access context-sensitive help from a local directory or from an internal web server where you have placed the documents.

Prerequisites

Before setting context-sensitive help preferences you must download the documentation for your product from the FTP site provided by your TIBCO representative. Copy the documentation zip file to a local directory, or to an internal web server and then unzip the file.

Procedure

1. In TIBCO Business Studio, click **Window** > **Preferences**. On Mac OS X, click **TIBCO Business Studio** > **Preferences**.
2. In the Preferences dialog, click **BusinessWorks** > **Help**.
3. Select **Custom Location** and then click **Browse** to select the `html` directory where you unzipped the documentation, or provide the URL to the `html` directory on your internal web server.
4. Click **Apply** and then click **OK**.

New Features

The following new features are available in this release of TIBCO ActiveMatrix BusinessWorks™.

Release 6.5.0

Common Features	
A new check box, **Avoid generating empty element for optional-nil element mapping to optional element** added.	A new check box, **Avoid generating empty element for optional-nil element mapping to optional element** has been added in the **Mapper** section of the Preferences dialog box. Select the check box to forbid empty elements in opt-nil element to optional element mapping. After selecting or clearing the check box, clean the project for the changes to take effect.
A new field, **Ignore Additional JSON Fields** has been added in the REST Service Binding and REST Reference Binding.	A new field, **Ignore Additional JSON Fields** has been added to the **Request** tab of the **Operation Details** pane of the REST Service Binding and **Response** tab of the **Operation Details** pane of the REST Reference Binding. Select the check box to ignore additional fields that are received due to the changes in the external payload when processing the schema. By default this check box is clear.
OpenTracing	Support has been added for OpenTracing. For more information, see OpenTracing in the *TIBCO ActiveMatrix BusinessWorks™ Administration* guide.
Blocking Queue Size field added to REST Service Binding.	A new field, **Blocking Queue Size** has been added in the **Advanced Configuration** section of the REST Service Binding. This field sets the number of threads to be created for a REST service. By default, it is set to the value, Integer.MAX_VALUE. For more information, see REST Service Binding in the *TIBCO ActiveMatrix BusinessWorks™ REST Implementation* guide.

Common Features	
A new check box **Check unsynchronized runtime binding** has been added.	A new check box, **Check unsynchronized runtime binding** has been added in the **Mapper** option of the Preferences dialog box. Select the check box to detect the difference in the stored runtime XSLT and the computed runtime XSLT. After selecting or clearing the check box, clean the project for the changes to take effect.
Ability to navigate to an activity in the debug view.	When there are complex processes in a project, you can check the debug status of an activity by double clicking the activity in the process diagram. This action highlights the corresponding entry in the **BusinessWorks Jobs** tab.
The MTOM attachment style now supports SOAP 1.1 and SOAP 1.2 specifications.	The Message Transmission Optimization Mechanism (MTOM) attachment style can now be configured with both the SOAP versions, 1.1 and 1.2.
A new radio button **XPath Version** has been added in the **XPath Builder** dialog box.	A new radio button **XPath Version** has been added in the **XPath Builder** dialog box for **Group** activity and transition only. The following are the two options provided: • **1.0** • **2.0** By default, the option, 2.0 is selected. It validates the specified XPath expression depending upon the selected version.
A new check box, **Hide Server Implementation** has been added.	A new check box, **Hide Server Implementation** has been added to the **HTTP Connector** shared resource. When selected, the `Powered By Jetty` string does not appear in the error response.
Application Logging	Support for Application level logging. For more information about configuring Application logging using the **Log** activity, see Log in the *TIBCO ActiveMatrix BusinessWorks™ Bindings and Palettes Reference* guide. For more information about configuring Application logging using the `logback.xml` file, see Application Logging in the *TIBCO ActiveMatrix BusinessWorks™ Administration* guide.

Common Features	
Two new fields, **SOAP Actor** and **Protect Token** have been added to the **Subject Provider** shared resource.	The **SOAP Actor** field can be used to provide the SOAP actor attribute to address the SOAP header element to a specific endpoint. When the **Protect Token** check box is selected, it enables signing of the Binary Security Token. For more information, see Subject Provider in the *TIBCO ActiveMatrix BusinessWorks™ Bindings and Palettes Reference* guide.
Multiple AppNodes activation mode of the processes for the FTGroup persistence mode.	A new bwengine property `bw.engine.ftgroup.lbmode` has been added to support Multiple AppNodes activation mode of the processes for the FTGroup persistence mode. For more information about this bwengine property, see Configuring the Engine for FTGroup Persistence Mode in the *TIBCO ActiveMatrix BusinessWorks™ Administration* guide.
The **Expose Security Context** check box has been added to the SOAP Service Binding.	The **Expose Security Context** check box has been added to the SOAP Service Binding. Select the check box to expose security context in the message header. After selecting this option, you can map information from the inbound security context to the **SecurityContext** element of the Input Context.
Support has been added to use MariaDB as a database for the engine.	Support has been added to use MariaDB as a database for the engine. For more information, see Configuring Database for the Engine in the *TIBCO ActiveMatrix BusinessWorks™ Administration* guide.
Retrieve the complete version of an application.	The Application Full Version module property has been added to the list of predefined module properties on the **Constants** tab. This module property returns a three-digit application version in the format <major>.<minor>.<micro>
The **Quick Fix** option for extra parameter binding.	The **Quick Fix** option is now available when an extra parameter binding is detected after projects are imported to the workspace. You can use this option to remove all the extra parameter binding related design time errors.
Multiple force kill commands can now be triggered for AppNodes from the Admin CLI and Admin UI.	You can now trigger multiple force kill commands for AppNodes one after the other and the most recent force shut down command takes precedence over the previous commands.

Common Features	
Application portability between TIBCO ActiveMatrix BusinessWorks™ 6.x, TIBCO BusinessWorks™ Container Edition and TIBCO Cloud™ Integration	Now you can deploy TIBCO ActiveMatrix BusinessWorks™ 6.x , TIBCO BusinessWorks™ Container Edition and TIBCO Cloud™ Integration EAR's to any of these three environments. The bwdesign utility now generates the `manifest.json` file from the EAR to push TIBCO ActiveMatrix BusinessWorks™ 6.x or TIBCO BusinessWorks™ Container Edition, EAR files to TIBCO Cloud™ Integration. For more information, see Generating the manifest.json File Using the bwdesign Utility in the *TIBCO ActiveMatrix BusinessWorks™ Application Development* guide.
Implementation of OSGi commands from Admin CLI	OSGi commands can be executed from the Admin CLI.
Support has been added to populate custom HTTP headers in the error response of the REST Service Binding.	When you select the **Use HTTP Header** check box, you can add custom HTTP fault headers defined in the **Response Status** tab in the REST Service Binding and REST Reference Binding.
Ability to elect the leader AppNode in FTGroup scenarios	You can now elect the leader AppNode in FTGroup by configuring two new bwengine properties, **`bw.engine.node.weight`** and **`bw.engine.use.weighted.node`**. For more information, see Engine Properties in the *TIBCO ActiveMatrix BusinessWorks™ Administration* guide.
Coercion now supports XML Attributes	You can coerce input data with Attribute. For more information, see Coercing a Specific Data Type in the *TIBCO ActiveMatrix BusinessWorks™ Application Development* guide.
The WSDL inline schema from shared module can now be referred.	The WSDL inline schema from shared module can now be referred to the application module.

Administration	
Process Monitoring	Using the process monitoring feature you can observe and check the status of process instances from the Admin UI. For more information, see Enabling process Monitoring in the *TIBCO ActiveMatrix BusinessWorks™ Administration* guide.
Password encryption for FTL passwords in `bwagent.ini` file	FTL passwords can now be provided as obfuscated passwords using bwadmin.

Administration	
Support has been added to deploy and start multiple versions of the same application in the same AppSpace.	Same applications with different versions can now be deployed to the same AppSpace.
Ability to show heap memory in Admin UI	You can now view the heap memory usage in the Admin UI on the AppNode Level 1 page in the graph view. For more information, see Viewing AppNode Statuses in the *TIBCO ActiveMatrix BusinessWorks™ Administration* guide.
MariaDB database support added for bwagent with TIBCO EMS and TIBCO FTL	The bwagent can be configured to use the MariaDB database with TIBCO Enterprise Message Service (EMS) and TIBCO FTL for persistence and transport. For more information, see Configuring bwagent for MariaDB and TIBCO EMS and Configuring bwagent for MariaDB and TIBCO FTL in the *TIBCO ActiveMatrix BusinessWorks™ Administration* guide.
Pagination support in Admin UI	Admin UI now supports pagination for Application Archives, AppSpaces, Applications and AppNodes Level 1 Pages to improve page loading performance.
Authorization to BWAgent REST API by roles can now be enabled with LDAP or file based authentication.	Authorization to BWAgent REST API by roles can now be enabled with LDAP or file based authentication. BWAgent REST API supports the admin, operator, and user roles for authorization. To enable authorization, set the property **`bw.agent.http.authorization`** to true in the `bwagent.ini` file. Users assigned the admin role are given full permissions including create, read, update, delete, and lifecycle. The operator role has the read and lifecycle (start, stop) permissions. The user role has the read only permission. Authorization does not work for LDAP Custom Group or Role. To use the LDAP custom group or role along with existing groups or roles, use the property **`customRoleForLDAP`** in the `jaas.login.conf` file .

Administration	
REST API to return partial response	A new feature has been added to BWAgent REST API that returns only the selected fields instead of the full response based on the query parameters. Example 1: To check the status of an Application, the REST API GET URL would be - http://localhost:8079/bw/v1/domains/<DomainName>/appspaces/<AppspaceName>/applications/ <ApplicationName>/<ApplicationVersion>?fields=state The url will return the following response: {"state":"Running"} Use comma separated fields after the question mark (?) with fields=keyword in the request query. Spaces are not permitted. Example 2: To get AppSpace details Normal query - http://localhost:8079/bw/v1/domains/<DomainName>/appspaces/<AppSpaceName> It will give the total payload(all fields). Select Query - http://localhost:8079/bw/v1/domains/<DomainName>/appspaces/<AppSpaceName> ?select=name,status – It will retrieve only 2 fields. Sub-field - http://localhost:8079/bw/v1/domains/<DomainName>/appspaces/<AppSpaceName> ?select=appSpaceConfigRefs.href – It will fetch href of appSpaceConfigRefs. The query will return an empty response if the selected field is a collection.
Dynamically passing application specific properties without restarting the AppNode	You can now dynamically set job tuning properties like Flow Limit and Page Threshold for an application from the Admin UI without restarting the AppNode.

Design Time	
TIBCO Business Studio for BusinessWorks™	TIBCO Business Studio for BusinessWorks™ now supports developing and debugging applications for ActiveMatrix BusinessWorks™ 6.x, TIBCO BusinessWorks™ Container Edition, and TIBCO Cloud™ Integration. For more information, see Reconfiguring Deployment Target in the *TIBCO ActiveMatrix BusinessWorks™ Application Development* guide.
Generate the `manifest.json` file for TIBCO Cloud™ Integration	The bwdesign utility now generates the `manifest.json` file from the EAR. For more information, see Generating the manifest.json File Using the bwdesign Utility in the *TIBCO ActiveMatrix BusinessWorks™ Application Development* guide.
A new preference option **Automatically open process files during debugger session** has been added in the **Run/Debug** wizard.	A new preference option, **Automatically open process files during debugger session** has been added in the **Run/Debug** wizard. This option is enabled by default, and opens all the executed processes while running an application in the debug mode. You can now disable the **Automatically open process files during debugger session** check box by clearing it, and the processes within the application do not open when the application is run in the debug mode.
Analyzing Dependencies and References	The Dependency Visualizer feature provides graphical representation of all the direct and indirect dependencies and references for an application. You can use this option to view the hierarchy of processes, shared resources, WSDL files, and XSD files. For more information, see Analyzing Dependencies and References in the *TIBCO ActiveMatrix BusinessWorks™ Application Development* guide.
Refactoring support has been added to reference a Shared Variable in a Shared Module from an application module.	Refactoring support has been added to reference a Shared Variable in a Shared Module from an application module. A new option, **Update Shared Variable from Shared Module Navigate** has been added to the **Shared Variable** section in the **Module Descriptor** editor. Select the required option and from the Refactoring wizard, select the shared module where the reference to the shared variable needs to be updated.

Design Time	
Support has been added to turn the **Build Automatically** option ON or OFF from the `config.ini` file.	In the `{TIBCO_HOME}/studio/{version}/eclipse/configuration/config.ini` file you can now add the **`bw.autobuild`** property. When the **`bw.autobuild`** property value is `true`, auto building of the project builders is turned on during starting of TIBCO Business Studio™. When the **`bw.autobuild`** property value is `true`, the **Project** > **Build Automatically** option is selected. When the **`bw.autobuild`** property value is `false`, the **Project** > **Build Automatically** option is clear.

Migration	
The Migration wizard now triggers migration with a single click.	The Migration wizard now triggers migration with a single click using the **Migrate Project** button.
Migration now supports direct call process, context resource and service agent operations containing WSDL messages with reference to type definition.	Migration now supports direct call process, context resource and service agent operations containing WSDL messages with reference to type definition.
Multiple port type support for WSDLs.	Migrating services with multiple port type is supported.
Fault Context Header migration.	Fault Context Header migration is now supported.
Support added for TIBCO ActiveMatrix BusinessWorks 5.x **Invoke Partner** activity migration.	The **Invoke Partner** activity will create reference bindings in migrated processes. This activity will also support header message creation for reference bindings from TIBCO ActiveMatrix BusinessWorks 5.x **Partner Link Resource** configuration.

Palettes	
Support has been added to use a module property for the **Default Confidentiality** field.	The **Default Confidentiality** field in the **Security** pane of the **HTTP Client** shared resource now supports a module property and a literal value. For more information see Default Confidentiality in the *TIBCO ActiveMatrix BusinessWorks™ Bindings and Palettes Reference* guide.

Palettes	
A new check box **Fill Standard Headers** has been added.	A new check box, **Fill Standard Headers** has been added in the **Advanced** tab of the **HTTP Receiver** and **Wait for HTTP Request** activities. When selected, additional headers such as **Authorization**, **User-agent**, and **Host** are populated in Dynamic Headers in the output of these activities. For more information, see HTTP Receiver and Wait for HTTP Request in the *TIBCO ActiveMatrix BusinessWorks™ Bindings and Palettes Reference* guide.
A new check box **Override S/A DataType Schema** has been added.	A new check box, **Override S/A DataType Schema** has been added in the **Advanced** tab of **JDBC Call Procedure** activity for object and collection use cases. When selected, the check box replaces the schema name used with the object type by a newly provided schema in the **Schema** tab of the **JDBC Call Procedure** activity at runtime. For more information, see JDBC Call Procedure in the *TIBCO ActiveMatrix BusinessWorks™ Bindings and Palettes Reference* guide.
Support has been added for the OPTIONS method.	ActiveMatrix BusinessWorks™ now supports the OPTIONS method in the REST Service Binding and REST Reference Binding.
Support for custom JNDI properties.	Support has been added for custom JNDI properties in the JNDI Configuration shared resource. A new JNDI provider option, **TIBCO Custom JMS** has been added in the JNDI Configuration shared resource. For more information, see JNDI Configuration in the *TIBCO ActiveMatrix BusinessWorks™ Bindings and Palettes Reference* guide.
Support for PostgreSQL function.	Support has been added in the **JDBC Call Procedure** activity for PostgreSQL function to return a resultset.

Palettes	
A new check box **Write Non Mime Content** has been added.	A new check box, **Write Non Mime Content** in **Advanced** tab of the **Send HTTP Request** activity is displayed on selecting the **Write To File** option. When selected, non-MIME attachments or data downloaded from a server can be saved to the disk. The filePath element has been added in the output schema that contains the path of the file where the attachment is stored. For more information, see the Send HTTP Request in the *TIBCO ActiveMatrix BusinessWorks™ Bindings and Palettes Reference* guide.
Support has been added for the HTTP PATCH method in the **Send HTTP Request** activity and **HTTP Receiver** activity for the Apache Components Client.	The **PostData** field in the **Input** tab of the **Send HTTP Request** activity is used to provide the input for the HTTP PATCH method.
Support has been added for the PATCH method in the **Disable HTTP Methods** field in the **HTTP Connector** shared resource.	The PATCH method is added to the list of HTTP methods in the **Disable HTTP Methods** field. The method can be optionally disabled at the **HTTP Connector** shared resource. An error `405 Method not Allowed` is displayed when a request is sent with a disabled method.
A new check box **Provide Client Resource** has been added.	A new check box, **Provide Client Resource** has been added in the **Advanced** tab of the **Send HTTP Request** activity. Select this check box to dynamically select a different **HTTP Client** resource. When you select this check box, **Host** and **Port** fields are replaced by the **ClientResource** field in the **Input** tab. For more information, see Send HTTP Request in *TIBCO ActiveMatrix BusinessWorks™ Bindings and Palettes Reference* guide.
A new activity **Transform JSON** has been added.	A new activity **Transform JSON** has been added in the **REST/JSON** Palette. You can convert JSON data in one format to the other JSON format using the Jolt specification. For more information about the fields of the activity, see Transform JSON in the *TIBCO ActiveMatrix BusinessWorks™ Bindings and Palettes Reference* guide

Palettes	
Support has been added for Oracle database 12c Release 2.	TIBCO ActiveMatrix BusinessWorks™ now supports Oracle database 12c Release 2.
A new field **Connection Idle Timeout** has been added.	A new field **Connection Idle Timeout** has been added in the JDBC Driver section of the JDBC Connection shared resource. For more information, see JDBC Connection in the *TIBCO ActiveMatrix BusinessWorks™ Bindings and Palettes Reference* guide.
Support has been added for custom JMS driver	Support has been added for the TIBCO Custom JMS driver in the **JNDI Connection** section of the **JNDI Configuration** shared resource. For more information, see the JNDI Configuration topic in the *TIBCO ActiveMatrix BusinessWorks™ Bindings and Palettes Reference* guide.
MariaDB is now supported in JDBC Palette	MariaDB can now be used for the **JDBC Connection** shared resource, and activities from the JDBC palette.
Support for module property has been added in the **Confidentiality** check box of the **HTTP Client** shared resource.	You can provide module property along with the standard behavior of **Confidentiality** check box in the **HTTP Client** shared resource. For more information, see the HTTP Client topic in the *TIBCO ActiveMatrix BusinessWorks™ Bindings and Palettes Reference* guide.
Support has been added for the Shared Subscription feature of JMS 2.0 specification.	A new check box, **Shared Subscription** has been added on the **General** tab of the **JMS Receive Message** activity. For more information, see JMS Receive Message in the *TIBCO ActiveMatrix BusinessWorks™ Bindings and Palettes Reference* guide.
Support has been added to set the constructor arguments for the **Java Global Instance** shared resource using module properties.	You can set the value of a constructor parameter by using module properties in the **Java Global Instance** shared resource.

Release 6.4.2

Common Features	
Custom HTTP headers can be set for declared faults on the SOAP Service and Reference bindings.	Declared fault messages for the SOAP Service and Reference bindings can be configured by setting unbound and undescribed headers for the bindings. When headers for declared faults are set for the SOAP Service bindings, the same headers are required to be added manually in the Reference bindings. Additionally, different schemas can be mapped to the headers of different fault messages. For more information on how to configure unbound headers, refer to Fault Operation Configuration in the *Bindings and Palettes Reference* guide. For more information on how to configure undescribed headers, refer to Fault Operation Configuration in the *Bindings and Palettes Reference* guide.
Cross-module support for schemas with empty target namespaces	Schemas that do not have target namespaces or schemas belonging to a global namespace can be defined in a shared module and used in application modules or other shared modules.
Ability to configure the cookie policy on an **HTTP Client** shared resource	The **Cookie Policy** field has been newly added to the **HTTP Client** Shared Resource, and users can choose to implement one of the following cookie policies: Before selecting a cookie policy, ensure that you select **Apache HttpComponents (Supported by HTTP and REST)** as the implementation library. • **BROWSER_COMPATIBILITY** • **NETSCAPE** • **RFC_2109** • **IGNORE_COOKIES** • **BEST_MATCH:** For more information, see HTTP Client in the *TIBCO ActiveMatrix BusinessWorks™ Bindings and Palettes Reference* guide.

Common Features	
Kerberos Authentication is now supported on the REST Reference Binding.	The REST Reference Binding can now call Kerberos enabled services. To enable Kerberos authentication on the REST Reference binding, the binding must be configured to use the **Apache HttpComponents (Supported by HTTP and REST)** implementation library. Kerberos authentication is not supported on the **Invoke REST API** activity, but can be configured on the REST Reference Binding instead.
New check boxes **Use Null For Empty Values** and **Use Empty values for Null** have been added to the REST reference and service binding.	The **Use Null For Empty Values** check box has been added to the **Request** tab and **Use Empty values for Null** check box has been added to the **Response** tab of REST Service Binding. Also, **Use Empty Values for Null** check box has been added to **Request** tab and **Use Null for Empty values** has been added to **Response** tab for REST Reference Binding. Using these check boxes, users can determine whether the values in XML needs to be treated as NULL or empty in the converted JSON. By default, the check box is unchecked. So nil attributes in XML are treated as NULL. For more information, refer to Rest Service and Rest Reference topics in the *REST Reference* guide.
Ability to clean the `/config` folder every time the AppNode starts	The **bw.appnode.clean.config.folder.on.startup** property has been newly added to the AppNode and AppSpace config.ini files. When the AppNode is not gracefully shut down, it could corrupt the `/config` folder. Setting the **bw.appnode.clean.config.folder.on.startup** property to `true` causes a new `/config` folder being created every time the AppNode starts. Setting the property to `false`, or leaving it undefined, results in the `/config` folder not being deleted when the AppNode starts.
Error logging for impaired applications is now provided.	Error logging for applications in the **Impaired** state has been newly added. Information about what the issue is, and what caused it, is provided in the error logs for users to refer to when investigating why the application failed to start.

Design Time	
The new option -v has been added to the bwdesign create application command.	Using this option, the user can specify the version to be added while creating the application. This is an optional field. Syntax for the command is `application [name] [modules] -v [version]`
Support for Namespace Registry	The namespace registry feature allows users to define prefixes for namespaces. Module namespace registry applies to all processes in the module. Process namespace registry applies to the process and the process namespace registry takes precedence over module namespace registry. For more information, refer to Configuring a process in the *Application Development* guide.
Ability to remove existing groups that have scopes or are local transaction groups.	Use the Ungroup option to remove groups with scopes, or local transaction groups. Groups with scopes can contain group variables, event handlers, fault handlers, and compensation handlers. When these groups are removed, the **GroupStart** and **GroupEnd** elements are deleted, and the activities move to the space that formerly contained the group. The type of container that held the group is another factor that determines where the contents of the group are re-located to. For example, a group with a scope can be contained within a local transaction group, a group with a scope, or a process. For more information, refer to Ungrouping Groups with Scopes in the *Application Development* guide to know, how the contents of groups with different scopes are re-located once the group is removed. For more information on how to configure the Ungroup option when removing groups with scopes, refer to Configuring the Ungroup Preferences in the *Application Development* guide. Local transaction groups can be removed in a similar way. For more information, refer to Ungrouping a Local Transaction Group in the *Application Development* guide.
Job shared variables can now be shared across application modules and shared modules.	Job shared variables from one shared module can now be shared across shared modules. Application modules and shared modules can now share job shared variables from different shared modules within the same ActiveMatrix BusinessWorks™ application.

Design Time	
Generate process design diagrams for EAR files.	Users can now generate process diagrams explicitly from TIBCO Business Studio or from the command line interface. For more information, refer to Creating Process Diagrams Explicitly topic in the *Application Development* guide.
Enable shared modules in target platform.	You can now import shared modules from an external location to a shared location, where other users can reference them. The shared modules that are imported are read-only. For more information, refer to Referencing Shared Modules topic in the *Administration* guide.
New preference option added to consider or ignore the .qualifier suffix in the version qualifier	When the version qualifier in an application module or shared module does not contain a .qualifier suffix, a design time validation error is displayed by default. To change this preference setting navigate to **Window** > **Preferences** > **BusinessWorks** > **Validation** > **Missing .qualifier literal for module version**. For more information, refer to Generating Deployment Artifacts in the *Application Development* guide.

Administration	
BWAgent REST API now supports LDAP custom group or role configuration.	The user can now define custom roles or groups in the LDAP server to secure BWAgent REST API using LDAP.
Application deployment and command history.	Deployment history of the application is now available from the **Deployment History** tab. To view the command log of AppNodes, AppSpaces and Applications, open the **Command History** tab.
TEA Instance Based Permission	Permissions can now be enforced on an instance of an entity. For more information, refer to Roles and Permissions in the *Administration* guide.
The new optional argument **`-f eoe`** is added to bwadmin command	Using this optional argument, the user can execute bwadmin commands in a batch mode. If any of the commands fail, the next command is not executed. Syntax for the command is **`bwadmin.exe -f eoe bwadmin.sh`**

Palettes	
New check boxes have been added: **Use Null For Empty Values** in **Parse JSON** activity and **Use Empty values for Null** in **Render JSON** activity.	The **Use Null For Empty Value** check box from **General** tab of **Parse JSON** activity and **Use Empty values for Null** check box from **General** tab of **Render JSON** activity helps users to decide if nil values in XML needs to be treated as NULL or empty in the converted JSON. By default, the check box is unchecked. So nil attributes in XML are treated as NULL. For more information, refer to the Parse JSON and Render JSON topics from *Bindings and Palettes Reference* guide.
Support for **Set Context** and **Get Context** activities in direct sub processes.	The **Set Context** and **Get Context** activities are now supported in direct sub processes.
Users can now enable and configure SSL connection with the FTL Realm server.	Provide the path to the `ftl-trust.pem` file in the field **Realm Server Trust File**, to establish the SSL connection. For more information, refer to the FTL Realm Server Connection topic in the *Bindings and Palettes Reference* guide.
The new check box **Delivery Delay(msec)** has been added.	The new check box **Delivery Delay(msec)** has been added on the **Advanced** tab of the **JMS Send Message** activity to support JMS 2.0 delivery delay feature. For more information, refer to the JMS Send Message topic in *Bindings and Palettes Reference* guide.
The **Use Shared Context** check box added to the **Set Context** and **Get Context** activities.	This new check box supported for both the activities, **Get Context** and **Set Context** enables these activities to use a job shared variable to share the context. For more information, refer to Get Context and Set Context topics in the *Bindings and Palette Reference* guide.
MariaDB is now supported for the **JDBC Connection** Shared Resource and the JDBC palette.	MariaDB can now be used for the **JDBC Connection** Shared Resource, and activities from the JDBC palette. For more information, refer to JDBC Connection topic in the *Bindings and Palettes Reference* guide.

Release 6.4.1

Runtime	
A new TIBCO Hawk® Microagent method can be used to retrieve details about the AppNode status during runtime.	The AppNodeRuntimeStateInfo method is a newly offered TIBCO Hawk Microagent method that can be used to retrieve details about the AppNode state during runtime. Refer to AppNodeRuntimeStateInfo in the *Administration* guide for more details.
Option to print schema logs by configuring the **bw.engine.suppress.xml.schema.on.fault** property in the AppNode `config.ini` file.	By default, the **bw.engine.suppress.xml.schema.on.fault** in the `config.ini` file is set to `false`. When this property is set to false, and an error is encountered while parsing an XML file, the XML schema displays in the error logs. Setting this property to `true` suppresses the XML schema from being logged in the error logs if a fault is encountered.

Administration	
Status of applications in the standby mode or disabled mode are now displayed as Stopped.	You can now view the runtime status of applications with multiple components from the command line interface and from the Admin UI. Refer to Fault Tolerance in the *Administration* guide for more details.
Added an internal communication port to the bwagent.ini file.	Configure the **`bw.appnode.agent.http.communication.port`** property to specify an internal HTTP communication port for the Thor engine to use when communicating with the bwagent to send the status of AppNodes and applications. Refer to List of Ports and Configuring bwagent in the*Administration* guide for more details.

Palettes	
XML datatype support added for the **JDBC Call Procedure** activity.	The **JDBC Call Procedure** activity now supports XML as a database datatype.

Palettes	
The **Override SQL Statements** option has been added to the **Advance** tab of the **JDBC Query** activity.	The **Override SQL Statements** option has been added to the **Advance** tab of the **JDBC Query** activity. Selecting this check box overrides the SQL SELECT statement specified on the **Statement** tab, and enables you to add a new SQL statement on the **Input** tab. The new SQL statement must comply with the input and output of the original SQL statement that was specified in the **Statement** tab. Refer to the JDBC Query topic in the *Bindings and Palettes Reference* guide for more details.
JMS expections thrown from a JMS transaction now display the activity details.	Now, within a JMS transaction, when multiple JMS activities throw exceptions, the exceptions display the name of the activity that threw the error.
Added a new field, **Validate Output**, in the **Parse XML** activity.	The **Validate Output** field is now available in the **Parse XML** activity. When selected, this field is used to validate the activity output against the schema specified in the **Output Editor** tab. Strict validation has been removed. It is now optional to make output validations with the **Parse XML** activity.

Release 6.4.0

Common Features	
New option added to resolve XSLT Out of Sync error.	After migrating a project, the **Quick Fix** option can be used to resolve XSLT out of Sync errors in the project. Refer to Using the Quick Fix Option to Resolve XSLT out of Sync Errors in the *Migration* guide for additional details.
New property `bw.agent.technology.dbems.ems.reconnection.interval` added to bwagent.ini file.	Set the `bw.agent.technology.dbems.ems.reconnection.interval` property to specify in milliseconds how often the bwagent tries to re-connect with the EMS server if connection is lost. The default time interval is 10 seconds, or 10000 milliseconds. Refer to Database with TIBCO Enterprise Message Service Configuration for bwagent in the *Administration* guide for additional details.
Ability to select elements from a schema located within a shared module when configuring the **Iteration Element** field of **Iterate** group.	Elements from schemas located within a shared module can now be selected when configuring the **Iteration Element** field of an **Iterate** group.

Common Features	
New commands in **`bwdesign`** utility enables shared modules to be exported as a binary shared modules.	Use the `export -binary` *`<shared_module>`*, or the `export -bin` *`<shared_module>`*, command to export a shared module as a binary shared module from the command line .Refer to Exporting a Shared Module as a Binary Shared Module in the *Application Development* guide for additional details.
Support to force shut down an AppNode from Admin UI and the command line interface.	A new feature has been implemented to support force shut down of the AppNode. From the command line, a new argument `-timeout` or `-t` has been introduced with the **`Stop`** command. With this argument you can specify the timeout in minutes, after which the AppNode shuts down forcefully, irrespective of the state of the AppNode or the applications. From the Admin UI, click the **Stop** icon and specify the wait time in minutes. Refer to Force Shutting Down an AppNode in the *Administration* guide for additional details.
Java Starter process now accepts module property for init input parameter.	Support has been added to accept module properties for init input parameter in a **Java Starter** process.
New module property, **Process Stack** added to **TIBCO BW Predefined Module Properties**.	A new option, **Process Stack**, has been added to the **TIBCO BW Predefined Module Properties** section of the **Constants** tab in the input mapper. This module property returns the entire process stack, including the nested subprocesses, and the parent process For example, `main.Process/SubProcess1->sm.SubProcess1/SubProcess2->sm1.SubProcess2`. Refer to XPath Expresion in the *Application Development* guide for additional details.
Engine Command Activity	The new **Engine Command** activity allows you to retrieve statistics and information about process definitions, process instances, and activities for the application and the AppNode that executes the command. Refer to Engine Command in the *Bindings and Palette Reference* guide for additional details.
Support for **Call Process** activity in local JDBC or JMS transactions.	If a **Call Process** activity is used within a local transaction group, the direct subprocesses that the **Call Process** activity calls are also included in the local transaction.

Common Features	
Referencing multiple XSDs with the same namespace.	Multiple XSDs with the same target namespace can be referenced from a Shared Module in an Application Module, as long as the documents do not have conflicting Qnames. and the same root element does not exist in both the XSDs. Also, the referenced XSDs must include an XSD in a schema file from a Shared Module, and the Shared Module must use elements in the **Iterate** group.
New column **Deployed To** added to the Applications Archive page on the Admin UI.	A new column **Deployed To** has been added to the Applications Archive page, and displays the number of AppSpaces in which the archive has been deployed. Click on the number in the **Deployed To** column and the names of the AppSpaces where the EAR file has been deployed is displayed.
'XSD includes' is now supported across shared modules.	XSD includes is now supported across , and multiple documents can contain the same target namespace in a shared module. However, the Qnames should not collide.
`Element ElapsedTimeSinceStarted` added to the command **`GetProcessInstanceInfo`**.	A new element `ElapsedTimeSinceStarted` has been added in the Output schema of the **`GetProcessInstanceInfo`** command of the **Engine Command** activity. The `ElapsedTimeSinceStarted` element displays the elapsed clock time (in milliseconds) since the process instance started.
Connecting to AppNodes using the SSH client.	Uncomment the properties in the AppNode's `config.ini` file and provide an available port for `osgi.console.ssh` and the host name for `osgi.console`. Restart the AppNode and connect to the hostname and port of the AppNode.
Uploading and Downloading logback files from the Admin UI	Support has been added to upload or download logback files from the Admin UI. To upload or download a logback file, click the **Upload** or **Download** link, from the AppNode Level 2 page.

Common Features	
Unit Testing	You can now take the Test-Driven Design(TDD) approach for developing ActiveMatrix BusinessWorks applications with the new Unit Testing feature. You can define assertions for individual activities in the BusinessWorks Process, test the assertions through the debugger and see the test results in the Debug perspective. Refer to Unit Testing in the *Application Development* guide.
Upgrading from ActiveMatrix BusinessWorks™ 6.3.x to ActiveMatrix BusinessWorks 6.4.x.	Support added to upgrade from ActiveMatrix BusinessWorks 6.3.x to ActiveMatrix BusinessWorks 6.4.x in the same TIBCO home. If the DB drivers and EMS drivers are present in the previous version of the installation, the drivers will not need to be re-installed. Refer to Upgrading to ActiveMatrix BusinessWorks™ 6.4.0 in *Installation* guide for additional details.

Design Time	
Renaming resource packages in TIBCO Business Studio.	Packages in the Resources folder can now be renamed. Shared resource references for each resource under the package can also be renamed. The SOAP and REST bindings that reference the renamed resource can also be renamed.
The **Request Entity Processing** field on the REST Reference Binding can be configured to use **Chunked** or **Buffered**.	When configuring the **Request Entity Processing** field, you can choose one of the following options: • BUFFERED: The request entity is buffered in memory to determine the content length that is sent as a Content-Length header in the request. • CHUNKED: The entity is sent as chunked encoded. The Content-Length is specified, and the entity is streamed. The Transfer-Encoding header is set to Chunked. The default value is `Chunked`. Refer to REST Reference Binding in the *Binding and Palettes Reference* guide for additional details.

Design Time	
Resources and policies can be refactored.	This feature allows resources and policies in an application to be renamed and moved to a different location in the project. References to the modified resources and policies are also updated when these resources are refactored. Refer to Refactoring a Shared Resource or Policy Package in the *Application Development* guide for additional details.
Shared module properties are now shareable.	Module properties from a Shared Module are now accessible in an Application Module. You can define module properties in a Shared Module and access them in the Application Module resources.
Referencing schema elements from shared modules for the **Iterate** group.	You can now select elements from a schema located in a shared module for an **Iterate** group.
Support added for the API Modeler functionality.	The API Explorer view is now enabled in TIBCO Business Studio by default to allow customers to access the API Modeler functionality in TIBCO Cloud Integration to model their APIs and implement them. The cloud URL, the oauth2 URL, the username and password are configurable in the **Settings** dialog of the **API Explorer** view.
The **Ignore mustUnderstand** check box has been added to SOAP Reference Binding.	A new check box, **Ignore mustUnderstand** has been added to SOAP Reference binding to disable all SOAP Headers if the value of the `mustUnderstand` attribute is set to `true`.
New check box **Enforce BW Service Response** added to REST Service Binding.	A new check box **Enforce BW Service Response** has been added to the REST Service Binding, and this check box allows users to set strict response preferences for **BW Service Response**.

Migration	
Migrating the ActiveMatrix BusinessWorks 5.x Design Time Library to a ActiveMatrix BusinessWorks 6.x Shared Modules.	ActiveMatrix BusinessWorks 5.x design time library source projects can be migrated as ActiveMatrix BusinessWorks 6.x shared modules. Using the ActiveMatrix BusinessWorks framework, you can migrate ActiveMatrix BusinessWorks 5.x projects where the process uses design time libraries to define the resources, subprocesses, and so on. Refer to Migrating Design Time Libraries (DTL) as Shared Modules in the *Migration* guide for additional details.

Migration	
Command line Migration support to migrate design time libraries, custom XPath functions and selective migration.	The ActiveMatrix BusinessWorks6.x migration configuration file, `bw6migration.properties` file is a template file that contains configurable properties to migrate design time libraries, custom XPath functions, and migrating selected processes using the command line. Refer to Migrating Projects Using Command Line in the *Migration* guide for additional details.
Application resources residing outside of default package folders in shared modules are fully exported during migration.	When migrating shared modules, application resources residing outside of the default package folders are fully exported and available to the application after migration. Shared Resource and Processes outside of the default folders are also organized under two new sections after the shared module is migrated. To view these new sections, expand the Module Descriptors folder under the application package, and select the Provides folder. The top section, "Special Folder Level Packages", displays all Shared Resources and processes contained in the default Resource and Process folders in the Shared Module. The second section, "Project Level packages", displays all Shared Resources and processes that are located outside of the default folders in the Shared Module.

Release 6.3.5

Common Features	
Logging error messages for run time errors in the JDBC shared resource	When exceptions occur during run time a warning or error message to know the root cause is logged.
HTTP PATCH method is now supported in REST Service Binding and REST Reference Binding	PATCH method is now supported in REST Service Binding and REST Reference Binding. Refer to REST Service Binding and the REST Reference Binding in the *REST Implementation in TIBCO ActiveMatrix BusinessWorks™* guide for additional details.

Common Features	
The **Reset Variables** field is now available for groups with conditions.	The **Reset Variables** field is now available for groups with conditions. While configuring the **Iterate**, **While**, **For Each**, and **Repeat** group activities, set this field to reset variables during each iteration. Refer to following topics in the *TIBCO ActiveMatrix BusinessWorks™ Bindings and Palettes Reference* guide for additional details: • Iterate • While • For Each • Repeat
A new check box, **Single XPATH Function Group Project**, is offered in the Project Migration Wizard.	A new option is offered in the Project Migration Wizard that enables users to create a single plug-in project for all JAVA XPath sources inside an ActiveMatrix Business Works™ 5.x project when migrating the project. The **Single XPATH Function Group Project** check box is selected by default. If this check box has not been selected, a individual plug-in project is created for each JAVA XPath source file. Refer to the topic Migrating Projects Using TIBCO Business Studio in the *Migration* guide for additional details.
New option provided in the Project Migration Wizard to add third party jars to the XPATH Function Project.	The migration wizard has been updated with the **Browse** field to browse for the third party JARS folder. All the JAR files in the folder are now copied to the lib folder of the Custom XPath Function Group Plugin Project after migration, and are added to the plugin class path. Refer to the topic Migrating Projects Using TIBCO Business Studio in the *Migration* guide for additional details. If ActiveMatrix BusinessWorks 5.x. custom functions containing the return type `void` are migrated, the function is migrated without a return type statement.
Ability to start and stop components on individual application instances from the Admin UI.	Users can start and stop components on individual application instances from the Admin UI. Refer to the Starting a component in an Application topic and the Stopping a component in an Application topic in the *Administration* guide for additional details.

Design Time	
A new check box, **Interpret invalid XML chars**, has been added to the **Advanced** tab in the **JDBC Call Procedure** activity.	A new check box, **Interpret invalid XML chars**, has been added to the **Advanced** tab in the **JDBC Call Procedure** activity. Call procedure execution will fail if this check box is not selected, and invalid characters are sent from the database to TIBCO Business Studio™. If invalid characters are sent, and the check box **Interpret invalid XML chars** is selected, the process is executed successfully.

Release 6.3.4

Common Features	
REST Reference and Service Bindings now support plain text, as a request or response message format.	REST Reference and Service Bindings now support plain text as a message format for requests and responses for REST operations (POST, GET, PUT, DELETE). Messages will be returned as a simple string.
Elements from different namespaces can now be used in the REST Service Binding.	Elements from different namespaces can now be used in REST Service Binding. Schemas cannot have cyclic dependencies with other schemas, and complex elements cannot have two child members with the same local name, but from different namespaces.
Query parameters now support multiple values.	The REST Binding supports defining query parameters with repeating cardinality.
Support for anonymous arrays in JSON responses.	Support for processing and returning anonymous arrays in a JSON response has been added to the **Parse JSON** and **Render JSON** activities. When selecting the method to use when parsing data, select the **Anonymous Array** option. This option specifies the input JSON style for these activities, and allows the activity to accept a JSON array without the parent element, where the root element has exactly one child of the type Array.
BIGINT is a supported datatype for the input and output parameters on the **JDBC Call Procedure** activity.	The **JDBC Call Procedure** activity can call a stored procedure with input and output parameters of BIGINT type in MSSQL Server 2008+, for both native and data direct drivers.

Common Features	
Add query parameters for individual REST operations.	ActiveMatrix BusinessWorks™ now supports adding query parameters for individual REST operations.
The **Receive Notification** activity and the **On Notification Timeout** are offered as process starter activities in the General Activities palette.	The **On Notification Timeout** activity specifies a process to execute, when a timeout is reached for storing notification data for a **Notify** activity. The **Receive Notification** activity starts a process when another process executes a **Notify** activity with a matching key and a shared configuration resource.
Support for Kerberos (SPNEGO) Authentication for outbound HTTP requests.	The **HTTP Client** shared resource now supports Kerberos Authentication for applications using HTTP and REST.
Additional elements have been added to the Catch All fault.	Two new elements are available for the Catch All fault: • **FullClass**: Contains the full package that the fault class resides. • **Class**: Specifies the class name of the exception.

Design Time	
Importing and Exporting Application Profiles	This feature allows profile values to be exported and imported to and from an application in TIBCO Business Studio™. Using this feature you can import or export preference settings from one workspace into another.
Binary Shared Modules	Binary shared modules can be created to hide the implementation details of a shared module from the users of the module.
Composite XPath Expressions	Added checks for validating composite XPath Expression for newly migrated ActiveMatrix BusinessWorks 6.x using the **Migrate Projects** menu option.
Password type application properties can now reference password type module properties.	Password type application properties can now reference password type module properties.

Runtime Administration Framework	
FTGroup mode now offered as a persistence mode for the engine.	Support provided for a new fault tolerant mode `ftgroup` that does not require a database. As the new fault tolerant mode does not use a database, this mode does not support checkpointing. Only one AppNode runs the applications, while the other AppNode stands by to take over in the event of a failure of the active AppNode.

Release 6.3.3

Common Features	
New activities and shared resource added.	ActiveMatrix BusinessWorks provides the **Wait for Notification** and **Notify** activities and the **Notify Configuration** shared resource to handle inter-process communication. These activities are similar to semaphores in programming. A process containing a **Wait for Notification** activity waits for another process to execute a corresponding **Notify** activity. The **Notify Configuration** Shared Resource specifies a schema for passing data between executing process instances.
Support added for JSON based EMS configurations	ActiveMatrix BusinessWorks now supports JSON based EMS configurations.
Design time libraries (DTL) as a part of ActiveMatrix BusinessWorks6.x Migration Utility	In the Migration Utility, DTLs are now migrated as part of the ActiveMatrix BusinessWorks 5.x project. To configure the project libraries, click the **Browse** button in the **Select ProjectLibs(DTLs) used by Project** field. This enables the DTLs to be loaded during migration, keeping all other properties of the project like resources and references intact.

Common Features	
Concrete WSDLs can now be generated at runtime for SOAP over HTTP bindings.	Users can generate concrete WSDLs at runtime using the endpoint URI, followed by a question mark **(?)**. For example, to extract a SOAP Over HTTP Service wsdl, we can use the SOAP service Endpoint URI appended by the request parameter, **`wsdl`**. In the example for SOAPUnboundHeaders, that is shipped with the product, and can be accessed in TIBCO Business Studio from `binding\soap\http\tibco.bw.sample.binding.soap.http.SOAPUnboundHeaders`, the SOAP Over HTTP service binding, called SOAPServiceBinding, published with the HTTP resource, HTTP ConnectorResource, is configured to run on the host machine localhost, and port number 9909. The binding, SOAPServiceBinding is configured with the endpoint URI `/SOAPServiceBinding/serverProcess/`, and the URL to extract the runtime WSDL definition would be http://localhost:9909/ SOAPServiceBinding/serverProcess/?wsdl, where **`wsdl`** is the query parameter.
Support has been added to the WSS Consumer and WSS Provider policies to encrypt and sign certain parts of the message header.	Under the **Confidentiality** tab of the WSS Consumer and WSS Provider policies, users have the option to encrypt or sign elements in the request or response message. If users select this option, they can specify elements in the request or response message to encrypt or sign, and specify the namespace of the element, and the prefix of the element if it has one.

Design Time	
Ability to select inline schemas from WSDLS in the same application module	From the **Output Editor** tab of the **Start** activity, and the **Input Editor** tab of the **End** activity, click , and from the Select Schema Element Declaration window, select **Include WSLD Inline Schemas** to display inline schemas from the WSDLs in the module.
Group index variable can be made available by selecting the **Global** check-box for groups	Toggle the **Global** check box, located under the **General** tab of the **Repeat**, **While**, **For Each**, **Iterate** and **Repeat on Error** groups, to make the group index variable available at the process level or revert to local level.

Runtime Administration Framework	
SSL support when connecting to EMS servers.	AppNodes support connecting to a SSL enabled EMS Server when using the group persistence mode.
LDAP support for user authentication for bwagent REST API.	The bwagent REST API can be configured with the LDAP login module.
Support for multiple bwagents to be registered with TEA.	Multiple bwagent networks can now be managed using the same TEA Server.

Release 6.3.2

Common Features	
Added support for header parameters described in the Swagger 2.0 specification.	Added support for header parameters described in the Swagger 2.0 specification.
Support for Form, specifically application/www-x-form-urlencoded and multipart/form-data as a media type for REST Service and REST Reference bindings.	Support for Form, specifically application/www-x-form-urlencoded and multipart/form-data as a media type for REST Service and REST Reference bindings.
Support for anonymous JSON arrays	Support for anonymous JSON arrays.

Design Time	
New type of subprocess	You can now use a new non-WSDL-based subprocess, called a direct subprocess. A direct subprocess does not require a WSDL to define subprocess details. Instead, details are set on the **Start** and **End** activities in the process interface. During migration processes all subprocesses are migrated as direct subprocesses.
Support for HTTPS protocol on the REST Reference Binding that are not defined using Swagger Specification	You can now configure the REST Reference Binding to use HTTPS protocol.
Support for posting raw binary data through the **Send HTTP Request** activity	When configuring the **Post Data Type** field from the **General** tab, users can now choose to send post data as a string or as binary.
REST Reference wizard allows users to invoke web services from Business Studio	In former versions of TIBCO ActiveMatrix BusinessWorks 6.x, web services could only be invoked using Swagger files. In this release, the new **REST Reference** wizard in Business Studio allows users to invoke web services by providing the web service URL.

Design Time	
Ability to reuse an **HTTP Connector** Shared Resource from a Shared Module in multiple applications deployed on the same AppNode	Selecting the **Share Across Applications** check box, under the Advanced Configuration section, enables users to reuse the **HTTP Connector** Shared Resource across multiple Application Modules. This check box is only applicable if the **HTTP Connector** Shared Resource is present in the Application module.
Ability to select HTTP methods to disable	Users can configure the newly added field **Disable HTTP Methods**, located under the Advance Configuration section of the **HTTP Connector** Shared Resource, to disable specific HTTP methods. To add an HTTP method, click **Add** icon ➕. To remove an HTTP method, select the method, and click the **Delete** icon ✖. The first time you click the **Add** icon ➕, by default the TRACE method is selected and added to the list of methods to be disabled.
Ability to use default confidentiality	Users can now select **Default Confidentiality** check-box on the **HTTP Client** Shared Resource to connect to HTTP servers using SSL without having to manually specify a SSL Client Resource or Keystores.
Users can now use module properties when selecting an **HTTP Client** Shared Resource for Transport Configuration in SOAP binding.	Users can now use module properties when selecting an **HTTP Client** Shared Resource for Transport Configuration in SOAP binding
Support for a custom fault schema for individual operations and fault codes for REST services.	Users can specify a custom fault schema and the HTTP code and Reason Phrase for individual operations.
Improved ability to create XML schema from a JSON payload.	Users can now generate an XML Schema Definition from a JSON payload which contains anonymous JSON Arrays.
Users can now have null values in the JSON if the XML schema has nillable attribute set to `true` for the XML Element definition.	ActiveMatrix BusinessWorks now supports NULL values in JSON. However, this support does not extend to supporting NULL values in root elements.

Design Time	
Ability to select individual processes and resources during migration.	Selective processes and resources can now be migrated while migrating projects from ActiveMatrix BusinessWorks 5.x to ActiveMatrix BusinessWorks 6.x. The migration utility migrates all the dependent processes and resources while migration.
Logging HTTP request and response time.	Select the **Log Request/Response** check box to log the time required for sending and receiving the HTTP response in the **Send HTTP Request** activity.
Ability to select individual processes and resources when running the Debugger.	You can now select individual processes and resources to launch, or exclude, when running the Debugger in Business Studio.

Runtime Administration Framework	
Support for storing historical execution data of process or activity	As a part of monitoring, when users start process instance or activity statistics collection they can store all the historical execution data of the process or activity to an external database.
Support for using TIBCO FTL® for the bwagent transport.	The bwagent can be configured to use TIBCO FTL for transport among bwagents. PostgreSQL, MySQL, Microsoft SQL, Oracle, and DB2 are the supported databases. Use of TIBCO FTL® with ActiveMatrix BusinessWorks for configuring bwagent and for configuring group provider for engine does not require TIBCO FTL® licenses.
Support for using TIBCO FTL® as the group provider technology for the engine.	TIBCO FTL® can be used as the group provider technology for the engine when the engine is configured for `group` mode. Use of TIBCO FTL ® with TIBCO ActiveMatrix BusinessWorks™ for configuring bwagent and for configuring group provider for engine does not require TIBCO FTL® licenses.
Enabling and disabling specific process starters in an application	Users can now enable, or disable, a particular component in an application from TIBCO® Enterprise Administrator (TEA).

Runtime Administration Framework	
New Hawk commands	Hawk Microagent support for two new methods has been added: 1. ResumeBWComponent 2. SuspendBWComponent
Publishing APIs to Mashery from the Admin UI using the **Publish to Mashery** button.	You can now publish APIs to TIBCO Mashery® from TIBCO® Enterprise Administrator (TEA) using the **Publish to Mashery** button.

Release 6.3.1

Runtime Administration Framework	
Unshared State Failover (UFO) support in JMS	This feature introduces a new check box to indicate the usage of Unshared State Failover in JMS. This check box appears only when the option **Direct** is used in the **Connection Factory Type** field. When using the unshared failover setup, if a connection loss is detected on Server (A), ActiveMatrix BusinessWorks will try to connect to Server (B) as defined in the connection factory configuration. After enabling the check-box, you can pass the provider URL in the form of UFO. For example, `tcp://serverA:7222+tcp://serverB:7222,` where Server A and Server B are two EMS servers configured for sharing the Unshared State Failover.

Common Features	
Support for Java Runtime Environment (JRE) 8	JRE has been upgraded for Business Studio, Core Runtime and all the tools for Administration.

Runtime Administration Framework	
Unshared State Failover (UFO) support in JMS	This feature introduces a new check-box to indicate the usage of Unshared State Failover in JMS. This check box appears only when the option **Direct** is used in the **Connection Factory Type** field. When using the unshared failover setup, if a connection loss is detected on Server (A), BusinessWorks will try to connect to Server (B) as defined in the connection factory configuration. After enabling the check-box, you can pass the provider URL in the form of UFO. For example, `tcp://serverA:7222+tcp://serverB:7222,` where Server A and Server B are two EMS servers configured for sharing the Unshared State Failover.

Release 6.3.0

Design-time	
REST Consumption Improvements	With this release, we have introduced support for REST reference bindings using Swagger specifications. The path and query parameters are fetched from the Swagger document. ! Path parameter names and query parameter names must be unique in a resource service path. If the Request Format for a REST Binding is Form, the parameter name must be different from all element names in the referenced schema.
TIBCO Business Studio upgraded to Eclipse 4.4.1.	TIBCO Business Studio now uses Eclipse 4.4.1 as the underlying platform for design-time. This brings significant improvements in user experience and performance. In addition, from a compatibility point of view, the upgrade also provides better support for other plug-ins that are used with Eclipse.
Support for Error Transitions for all activities and groups.	Error transitions can now be created between two activities, or a group and an activity.
Support for implementing selective operations for a given port type.	Users can now choose to implement only a select set of operations for given port type as part of their process design.

Runtime Administration Framework	
Swagger support upgraded from 1.2 to 2.0 specification.	ActiveMatrix BusinessWorks generates Swagger 2.0 specification as a standard for documenting RESTful services. The associated Swagger UI has also been upgraded to support the 2.0 specification. Users can now create and consume RESTful services defined using Swagger 1.2 and 2.0 specifications.
Ability to provide the prefix to be appended to the AppNode process (name).	The required prefix can be appended to the AppNode process (name) by setting the environment variable *bw_appnode_pid_prefix* to the desired value.
Support for Microsoft SQL server and TIBCO Enterprise Messaging Server (EMS) for data persistence and transport.	bwagent can now be configured to use Microsoft SQL server and TIBCO Enterprise Messaging Server (EMS) for data persistence and transport. For additional details, refer to the section "Configuring bwagent for Microsoft SQL Server and TIBCO Enterprise Message Service" in the *Administration* guide.
Ability to enable the governance agent on the AppNode to ensure security is enforced on ActiveMatrix BusinessWorks 6.x applications deployed with policies.	To enable the governance agent, set the property `bw.governance.enabled` to `true`. You can modify this property in the AppNode settings through the Admin UI, or in the AppSpace template file, **appspace_config.ini_ template**, located in `<BW_HOME>\config\`.
Job data is available in the main process though the execution was suspended by the sub process.	In TIBCO Business Studio, when a sub-process suspends a main process, the job data can be viewed in the main process.

Changes in Functionality

The following functionality-related changes have been made in this release.

Release 6.5.0

Administration	
Default landing page for application monitoring	The process instances page is now set as the default landing page. Activity instance details can now be seen when you click the **Activity Details** tab next to the **Process Diagram** tab for a process instance.
Process and activity statistics collection using the logback file.	Set the property, `bw.agent.technology.logbackappender=true` in the `bwagent.ini` file. The process or activity statistics operation from the Admin UI saves the statistics to the CSV file or the database based on the logback file. The default mechanism does not use logback.
BWAgent REST API now supports LDAP custom group or role configuration.	To work with the LDAP Custom Group, update the property `bw.agent.http.authorization=false` in the `bwagent.ini` file. When the property is set to `true`, the LDAP Custom Group does not work. Add the `customRoleForLDAP=myGroup` property in `jaas.login.conf` file, where myGroup is the custom group defined in LDAP.

Design-time	
Problems view now grouped by type.	The errors in the problems view are now grouped by type.

Design-time	
Validation options have been removed from the Repair BusinessWorks project wizard.	The **Quick Fix** option has been added for the following validation errors: • Remove imports with invalid location references • Remove imports with missing resource • Remove error transition with invalid references • Repair Group Iteration and Accumulation • Recover Activity IDs Use the **Quick Fix** option instead of the Repair BusinessWorks project wizard for the above use cases.

General	
The Hawk Microagent is no longer bundled with TIBCO Activematrix BusinessWorks™ installer.	The Microagent is available as a separate component with TIBCO Activematrix BusinessWorks™ 6.5.0 and needs to be installed separately.

Palettes	
RESET packets are not sent to release the connection.	HTTP client does not send RESET packets to release connections when the **Disable Connection Pooling** check box is clear, that is, persistent connections are enabled, and **Disable Connection State Tracking** check box is selected at **HTTP Client** shared resource, and the library chosen is Apache HTTP Components.
Multiple Set-Cookie elements can be sent.	An error was generated when multiple Set-Cookie elements were sent by the HTTP server as HTTP Request outputs. Now multiple Set-Cookie elements are allowed to be sent. The cardinality of the Set-Cookie elements in the inline schema has been changed from optional (0 or 1) to multiple (0 or more). This is effective for new projects. In case of older projects which are imported, Set-Cookie element is still optional in the inline schema. In such cases, you can select the new default schema, instead of the inline schema, to be used for the output headers for the **Send HTTP Request** activity.

Release 6.4.2

Design-time	
An error is shown in the log view after copying and pasting the **End** and **Start** activities in the same process.	Restrictions have now been placed when users try to copy and paste the **End** and **Start** activities in the same flow, catch or the catch all block. If the **End** activity was copied in a previous version of the software, the new process variable does not get added to the process. An error is now displayed when such extra variables are found. The **Quick Fix** option can be used to resolve this error. Navigate to **Error Marker** > **Quick Fix**> Select Issues to be fixed and select **Confirm**.
Changes to the **Client Auth Type** field.	The default value of the **Client Auth Type** field in the SSL server configuration shared resource has been changed from **None** to **Optional**. The previous default value **None** was invalid.
An error message is displayed in TIBCO Business Studio™ to alert the users about missing dependencies caused by version mismatch.	When the shared module version was updated, the dependent project dependency version configuration was not updated. TIBCO Business Studio did not report any errors for this missing dependency. Now, when shared module version is changed, the change is also reflected in the application module dependencies.
Renaming of an activity by double-clicking the process canvas is disabled.	Renaming an activity by double-clicking the process canvas was allowed. This caused inconsistency. This functionality is disabled. Now to rename an activity, you must switch to **Properties** view, click the **General** tab, and modify the **Name** field.

Design-time	
Removal of TIBCO FTL Client Libraries	Starting with the TIBCO ActiveMatrix BusinessWorks™ 6.4.2 release, TIBCO FTL client libraries are no longer shipped with the product. This affects the following areas of the product: • Palettes - FTL • Configuring bwagent with FTL and Database • Configuring engine Managed Fault Tolerance using FT and Database A new bwinstall utility target has been created for users to easily add the client libraries from the FTL installation. To install FTL Client libraries, run the following command from <BW_HOME>/bin folder and follow the prompts: **`bwinstall ftl-driver`**

Administration	
Warning message is displayed with the **`-replace archive`** command	While uploading an archive with **`-replace archive`** command, all running application instances using the same EAR file and version are deleted. Now, a warning message is displayed before undeploying all the applications. Additionally, an extra prameter **`-f`** that is, **`force replace`** has been added to the **`-replace`** option. When a user uploads an application that is deployed on one or more AppSpaces the force replace option can be used. This option will undeploy the existing application and replace the old archive file with the new file. For more information, refer to Deploying an Application in the *Administration* guide.

General	
The statement `type: object` is ignored in the Swagger file.	If `$ref` and `type: object` are present in the Swagger file, previously an error was thrown. Now this has been modified to consider as `$ref` instead. For more information, refer to Conversion Between Swagger and XML in TIBCO Business Studio topic in the *REST Reference* guide.

Release 6.4.1

Design-time	
Application modules must include the .qualifier suffix after the version number.	When specifying a version for the application module, the .qualifier suffix must be included. For example, if you change the version of an application module from 1.0.0 to 1.0.1, you must enter `1.0.1.qualifer` in the **Version** field. If you do not include .qualifier in the version number, a validation error is shown in the **Problems** view.

Migration	
Activator processes are now migrated as direct subprocesses.	When migrating an activator process, a direct subprocess is generated instead of a service-based subprocess.

Administration	
Improvements to how runtime component and bwagent component communicate the status of an application.	Runtime component now pushes the application status to the bwagent database. With this change, the bwagent can now reference the bwagent database, reducing the potential for overloading runtime with queries about the current application status.

Release 6.4.0

Design-time	
Restrictions on naming the activities in TIBCO Business Studio.	Activities cannot have the same name as that of operation in a service, or a reference in a current process.

Design-time	
Changes in the way subprocesses are displayed after you drag and drop them on a process or subprocess.	In former versions of the software, dragging a direct or service subprocess from the Project Explorer and dropping it on a process, direct subprocess, or service subprocess that was open in the Process Editor caused an activity icon to appear with the default activity name. For example, dropping a direct subprocess onto a process caused a **Call Process** activity, named **CallProcess** to appear in the process. Alternatively, dropping a service subprocess onto a process caused an **Invoke** activity, named **Invoke**, to appear in the process. With this enhancement, the Call Process or Invoke activities that appear in the process, or subprocess, are named after the subprocess they reference. For example, dropping a direct subprocess, called SubprocessA, onto a process will result in a **Call Process** activity named **SubProcessA** to appear. The same applies for service subproccess.
Ability to select multiple process properties to delete.	Multiple process properties can now be selected and deleted from the **Properties** tab in TIBCO Business Studio. To select multiple process properties, hold down the **Shift** key, and either select the individual process properties, or use the down directional key on your keyboard.
The Rename Refactoring dialog appears only if a change has been detected in the name of the module property group.	The Rename Refactoring dialog appears only if a change has been detected in the name of the module property or module group.
Module Properties support for HTTP transport.	The **HTTP Client Connector** in SOAP Reference Binding can now be configured with a literal value or a module property.
Remove button disabled in the REST Bindings tab.	If the binding used is a REST binding, the **Remove** button is disabled in the REST Service Bindings tab. Users will no longer be able to remove a REST Binding.
The warning `Invalid PartnerLinkType name - Reference PartnerLink name is not unique` changed to an error.	Changed the validation warning, `Invalid PartnerLinkType name - Reference PartnerLink name is not unique` to an error. As a result, you cannot add two PartnerLink references with same name in a process.

Release 6.3.5

Migration	
Classes folder removed from the Custom XPath Function Group Plugin project	After migration, the classes folder will no longer be available inside the Custom XPath Function Group Plugin Project. The `customXPathFunction.jar` file for classes referred by the project are placed in the lib folder. The same JAR file will also be added to the project class path.
Custom XPath Function Group Plugin	After migration, Custom XPath Function Plugin Project will be included in the application project.

General	
Stricter validation for accepted response type	REST service has a stricter validation on the accepted response type, and if anything other than the supported response types is used, the unsupported response media type exception is thrown.

Release 6.3.4

Design-time	
Flow limit on REST Service Bindings	To apply Flow Limit to applications that use HTTP-based transports, specify the number of maximum QTP threads on the **HTTP Connector** shared resource. The value you set for the minimum number of QTP threads should always be less than, or equal to, the number you set for maximum QTP threads. If applications are using non-HTTP-based transports, for example JMS, set the **bw.application.job.flowlimit** property. For more information on this, refer to the "Flow Limit (bw.application.job. flow limit)" topic in the *Performance and Tuning* guide.
Replacing a deployed archive file will undeploy the application.	To replace an archive that has been uploaded, but not deployed, use the **`-replace`** option with the upload command to upload the archive again. To replace an archive file has been uploaded and deployed, use the **`-replace`** option.

Design-time	
Removal of TIBCO Enterprise Message Service Client Libraries	Starting with the TIBCO ActiveMatrix BusinessWorks™ 6.3.4 release, TIBCO Enterprise Message Service (EMS) client libraries are no longer shipped with the product. This affects the following areas of the product: • Palettes - JMS (when using EMS as the server) • Binding - SOAP (when using JMS transport) • Configuring bwagent with EMS and Database • Configuring engine Managed Fault Tolerance using EMS and Database A new bwinstall utility target has been created for users to easily add client libraries from the EMS installation. To install EMS Client libraries run the following command from <BW_HOME>/bin folder and follow the prompts: `bwinstall ems-driver`

Release 6.3.3

There are no changes in functionality in the version 6.3.3 of ActiveMatrix BusinessWorks™.

Release 6.3.2

Design-time	
Invoke activities with a single Message-Part(Element) as the output, can be selected as the Output Activity for the group	The **Accumulate Output** check box is now supported for the **Invoke** activity when the activity is used inside of a group.
An easier way to create an XSD schema from a JSON payload in Business Studio	The new JSON to Schema Wizard provides a streamlined approach to creating an XML schema from a JSON Payload. It can be easily accessed by right-clicking on the Schemas folder from the **Project Explorer** pane, and clicking **New > XML Schema File from JSON Payload**.

Design-time	
Updates to the HTTP access logs	The following HTTP Access Log properties, which were introduced in ActiveMatrix BusinessWorks 6.3.0, were removed: 1. bw.plugin.http.jetty.disableaccesslogs 2. bw.plugin.http.jetty.accesslogs.extended 3. bw.plugin.http.jetty.accesslogs.cookies 4. bw.plugin.http.jetty.accesslogs.servername 5. bw.plugin.http.jetty.accesslogs.dispatchtime Another update made was to the default behavior of HTTP access logs. Previously, HTTP access logs were printed by default. In this version of the software, HTTP access logs will not be printed by default.Users can choose one of the following options to enable the access log: - To turn on HTTP access logs for new applications created using TIBCO ActiveMatrix BusinessWorks 6.3.2, select the **Enable Access Logs** check box in the **HTTP Connector** Shared Resource. - To turn on HTTP access logs for applications that were created using ActiveMatrix BusinessWorks 6.3.1 , or using previous versions of the software, set the **bw.plugin.http.jetty.accesslogs.enable** to **true**. Lastly, in previous versions of the software, access logs could only be turned on from an AppNode level. In this release, users have fine-grained control over access logs as they can now enable access logs on individual Shared Resources.
The JDBC palette can be configured to use custom JDBC drivers	The **JDBC Connection** Shared Resource can be configured to use custom drivers at run time. For additional details, refer to the "Using Custom Drivers for Run Time" section in the *TIBCO ActiveMatrix BusinessWorks Bindings and Palettes Reference* guide.

Design-time	
JMS activities now support dynamic JMS properties	Users can add JMS properties to the following JMS activities at runtime: • Get JMS Queue Message • JMS Receive Message • JMS Request Reply • JMS Send Message • Reply to JMS Message • Wait for JMS Request

Migration	
Subprocesses in ActiveMatrix BusinessWorks 5.x applications are migrated as direct subprocesses.	During migration subprocesses in ActiveMatrix BusinessWorks 5.x applications are migrated as direct subprocesses.

Release 6.3.1

There are no changes in functionality in the version 6.3.1 of ActiveMatrix BusinessWorks.

Release 6.3.0

Design-time	
An error message is displayed if user attempts to add a circular dependency.	When a Shared Module or a Service Descriptor is added as a dependency to a separate Shared Module that is already dependent on it, a message is displayed warning the user that a dependency loop will be created.
Module properties and Process Properties can now be selected for the **Schema** and **Catalog or Package** fields in the **JDBC Call Procedure** activity.	Configure the **Schema** field to use a **Process Property** or a **Module Property** if a schema has been defined for the project, and you know the schema name. To search for a schema, configure the field to use a **Literal Value**, and click the **Browse** button to select a schema from the database that is using the specified **JDBC Connection**.

Runtime Administration Framework	
The existing statistics functionality has been updated to pass the optional arguments `processname` and `activityname`.	Optionally, to retrieve statistics for a particular processname or activityname use the arguments `-bp` or `-ba`, respectively. If not provided, statistics for all processes and activities will be retrieved

Deprecated and Removed Features

This section lists the features that have been deprecated or removed in this release.

Deprecated Features

The following feature have been deprecated in this release:

- TIBCO Service Performance Manager Agent

Closed Issues

The following are the closed issues for the 6.5.x releases of TIBCO ActiveMatrix BusinessWorks™.

The closed issues are grouped by components:

- Administration
- Bindings
- General
- Migration
- Palettes
- Policies

Administration

Release 6.5.0

Key	Description
AMBW-31242	The bwagent now closes all the EMS connections during shut down.
AMBW-31120	Support for obfuscated password for FTL has been added. Users can use the bwobfuscator.exe utility to obfuscate plain text passwords.
AMBW-30932	BWagent REST API role management failed to grant read access rights to all the browse REST APIs.
AMBW-30903	The `-home` option in the Create Domain command while creating a domain sets the domain home on all the machines available in the Agent network for the particular path.
AMBW-30354	Memory leak issues were observed with bwagent, and the Admin UI took time to respond when loading the Application Archives and Applications page.
AMBW-29734	The bwadmin application returned the status as started for applications that were in the impaired or degraded state.
AMBW-29730	When an application took more than 60 seconds to start, a warning message stating that the Application did not start was displayed due to timeout exception. To configure the timeout value, set the timeout property, **`bw.agent.technology.requestTimeout`** in the `bwagent.ini` file and restart the agent.
AMBW-29602	The -csv option used to print the table content as a comma separated value table was not handled for domains, AppSpaces, AppNodes, Applications, and Archives.
AMBW-29531	Support has been added to set the bwagent timeout for an AppNode that takes a longer time to start. To configure the timeout value, set the timeout property **`bw.agent.technology.requestTimeout`** in the `bwagent.ini` file and restart the agent.

Key	Description
AMBW-28971	The Show App command now shows description of applications.
AMBW-28341	A new bwagent REST API for getting the component details is now available. The new API is http://<HOST>:8079/bw/v1/domains/<Domain Name>/appspaces/<Appspace Name>/applications/<Application Name>/<Application Version>/<appnode_name>/component/ <Component_name>.
AMBW-28257	During application stop, the stop application command in the bwagent became unresponsive.
AMBW-27600	An error was generated when pushing the `config.ini` file through the command line.
AMBW-27521	Memory leak issue was observed when statistics were enabled.
AMBW-26162	Issues were reported when the bwagent was configured with the Microsoft SQL Server. To configure the bwagent with MS SQL Server, set the values for Minimum Server Role and Database Role required for a user for a particular database using the following steps: In MS SQL Server Management Server, navigate to **Security** > **Logins** > **Right click on Login Properties** > **Server Roles** . The minimum server role required for a particular user is `public`. Under User Mapping, the minimum database role membership for the selected database for a user mapped to the login should be one of the following two combinations: 1) public and db_owner OR 2) public, db_datawriter, db_datareader, and db_ddladmin.
AMBW-26160	A `Null Pointer Exception` was displayed under the details heading intermittently when performing any action on the Application level 2 page.
AMBW-26129	The components of an Application did not stop when the Application was stopped.
AMBW-25547	After EMS failover, the bwagent could not start and displayed duplicate member error. For a specific scenario, refer AMBW-33203 in the known issues section.
AMBW-25529	Now same application with different versions can be deployed to the same AppSpace. You can now start or stop, deploy or undeploy any application version.
AMBW-23807	Obfuscated password is now supported when securing the BWagent REST API server.
AMBW-22512	A new command **`bwagent.exe startagent -nt`** has been added. You can not register the bwagent in the TEA UI when the bwagent is started using the `startagent -nt` option.

Release 6.4.2

Key	Description
AMBW-28338	The REST API response contained the response for the node instead of the response for the AppNode.
AMBW-28337	The REST URL without query parameters reported the status of the AppNode as Stopped. To check the status of the AppNode, the query parameter **`?status = true`** must be present in the REST URL.
AMBW-27761	The **`bwadmin show apps`** command took a long time to respond, when the command was run in an AppSpace.
AMBW-27638	The Admin Sample scripts were not working in ActiveMatrix BusinessWorks™ 6.4.x.
AMBW-27514	Uploading the same EAR file in different folders caused an error when you tried to create entities using bwagent (DB or EMS).
AMBW-27224	Non admin users could not download the `logback.xml` or the AppNode log file.
AMBW-26489	The svg diagram generated by bwadmin component was incorrect for local transaction group in TEA UI.
AMBW-25378	You could not run the bwagent API server with the **`nohup`** command.

Release 6.4.1

Key	Description
AMBW-27319	While enabling LDAP Authentication for bwagent REST API, the AppNode failed to communicate with the bwagent REST API and failed to report its status. Instead, the status of AppNode was shown displayed as stopped.
AMBW-22520	When an AppSpace and AppNode was stopped, the **`bwadmin start application`** and **`bwadmin -deploy -startondeploy`** commands incorrectly reported the application in the STARTED state.

Release 6.4.0

Key	Description
AMBW-26762	The AppSpace count was displayed incorrectly on the Domain summary page. The issue is now fixed, and only unique AppSpaces in a Domain are now counted.
AMBW-26475	Users were unable to upload EAR application files from TIBCO Business Studio, and a Null Pointer Exception was thrown. This has been fixed.

Key	Description
AMBW-26444	An EAR application file entry was missing from the bwagent database, from the table earfile for a deployed application, operations such as application view, delete, deploy and so on failed.
AMBW-26415	The error `'TIBCO-BW-ADMIN-500017: BW Agent is running, Stop the remote agent, delete all the files under domains folder,and re-try'` was thrown when the bwagent was registered to TIBCO® Enterprise Administrator (TEA). This has now been fixed.
AMBW-26299	The **Validate** button on the Admin UI has been enhanced, and now displays a tooltip indicating that this button validates the HTTP ports within the ActiveMatrix BusinessWorks scope only.

Release 6.3.5

Key	Description
AMBW-26236	When checking the AppNodes page from the Admin UI, information took a long time to display if the bwagent was configured to use an external database and TIBCO® Enterprise Messaging Server (EMS) for data persistence and transport. This has been fixed.
AMBW-26206	When checking the Domain Management page from the Admin UI, information took a long time to display if the bwagent was configured to use an external database and TIBCO® Enterprise Messaging Server (EMS) for data persistence and transport. This has been fixed.
AMBW-26152	When the last registered running bwagent went into the unreachable state in TIBCO® Enterprise Administrator (TEA), and the other bwagent was started, the second bwagent did not join the ActiveMatrix BusinessWorks™ network.
AMBW-25938	EAR files that contained binary shared modules failed to upload in TEA or from bwadmin.
AMBW-25609	An exception was thrown in the Admin UI when the process and activity statistics gathering feature was turned off.
AMBW-25541	When a user tried to modify a module property in application configuration using non-existent properties, the incorrect error message was displayed.
AMBW-25487	To specify another host name, set the **bw.agent.http.hostproperty** in the bwagent.ini file.
AMBW-25150, 21388	The REST Doc URL was not displayed when bwagent was started using the bwagent.sh script (execute %TIBCO_HOME%/bw/6.3/scripts/admin/bwagent.sh).
AMBW-25013	When users checked application archives details from the Admin UI, the **Uploaded By** field did not display the correct information. Instead, the field incorrectly showed `admin` as the user who uploaded the archive file when it was uploaded by a different user.

Key	Description
AMBW-24811	If two EAR files with the same name existed in two different folders, a Null Pointer Exception was thrown and users were unable to create new AppNodes.
AMBW-24808	When users enabled or disabled statistics collection from bwadmin CLI, the Admin UI did not display the new setting that was selected. The ON and OFF mode for statistics collection in the Admin UI was not updated even after selecting the **Refresh** button.
AMBW-24714	In a multi-agent network, when users edited configuration properties of the AppSpace of a bwagent that was down, error messages were not thrown. The screen froze with no response, and the updated value could be seen only when the page was refreshed.
AMBW-24703	The AppSpace config.ini properties were not updated correctly, and any AppNodes that were newly added were missing from the HAWK display UI.

Release 6.3.4

Key	Description
AMBW-25410	An exception was thrown in the Admin UI if the process and activity statistics gathering feature was turned off.
AMBW-24973	TIBCO Enterprise Administrator® (TEA) users who had been assigned the Administrator and Operator role did not have permission to view AppSpaces, bwagents, and other ActiveMatrix BusinessWorks™ artifacts.
AMBW-24924	A large number of producers and sessions were created through bwagent when it was configured to use an external database and TIBCO Enterprise Messaging System (EMS) for data persistence and transport.
AMBW-24694	If the bwagent was invoked using the REST API, the AppNode status did not reflect the correct state.
AMBW-24667	When configuring AppNode and AppSpace properties from the Admin UI, long property names were not displayed properly in the configuration tables.
AMBW-24631	The value of password was sent as a blank string instead of the actual password value, when a property of an application configuration in the Admin UI was edited using the **Edit** button.
AMBW-24158	Documentation was updated for configuring the location of the Domains folder.
AMBW-23879	EMS user permissions to authenticate non-admin users for bwagent were updated in the table "bwagent properties for Multi-Agent, Multi-Machine Environments using Database/EMS", in the Administration guide.
AMBW-23696	AppNode run time details were not always retrieved if users changed to the AppNode Graph view in the Admin UI.

Key	Description
AMBW-23516	bwadmin was slow to respond to a domain containing a large number of AppNodes.
AMBW-21855	The fields **Search by Category** and **Search Text**, in the Installed Product Description table, were not aligned properly in the Admin UI.

Release 6.3.3

Key	Description
AMBW-24629	While working in a Linux environment, the process and activity logging statistics were not written to an external database because the table names are case sensitive in MySQL.
AMBW-24541	If an application property returned a null value, a Null Pointer Exception was intermittently thrown.
AMBW-24487	Linux scripts for bwadmin was missing the diagramConfig column.
AMBW-24468	A typographical error in the `mashery.ini` file was corrected. **bw.mashery.cliendId** was changed to **bw.mashery.clientId**.
AMBW-24431	Linux scripts for bwadmin was missing the ActivityLoggingStats and ProcessInstanceLoggingStats tables.
AMBW-24332	Uploading the same EAR file and selecting the replace existing option did not replace the old profiles.
AMBW-24051	When bwagent was configured to use Oracle 11G and EMS for data transport and persistence, an error was thrown when users tried to create a domain.
AMBW-23733	A Null Pointer Exception was thrown when the bwagent REST API server was configured for one-way SSL.
AMBW-22960	A large number of producers and sessions were created through the bwagent when it was configured with an external database and TIBCO EMS.
AMBW-22786	Configuring an application using DB/EMS failed because the size of the columns, COMMANDPARAMS and EXECUTIONSTATUS in the table COMMANDHISTORY were not appropriate.
AMBW-21835	An overridden EAR file deployed successfully even when the option **Replace any existing version** was not selected.
AMBW-20975	Applications with long application profile names failed to successfully upload.

Release 6.3.2

Key	Description
AMBW-23601	Improved the performance of the bwadmin command **`show appspaces`**.

Key	Description
AMBW-22942	The application status was displayed incorrectly when viewing it from the bwadmin client and the Admin UI.
AMBW-22556	When the bwagent was configured to use EMS/DB for data persistence and transport, the command **`SELECT COUNT(commandId) FROM CommandHistory`** was executed multiple times.
AMBW-22054	The application status was **Impaired** if a module property in the EAR file was updated and redeployed again.
AMBW-21875	Enabled OSGI ports were visible in the Admin UI after they were removed from the **Node Update** screen. Additionally, the required changes after commenting the property `osgi.console=localhost:1122` on the node's config.ini file on the disk were not reflected in the **Update** screen in the Admin UI. The value of the OSGI ports were still visible in the Admin UI.
AMBW-21527	Executing the **`disableconsole`** command from the command line did not properly disable the OSGi console. The same issue occurred if users updated AppNode settings through the Admin UI and removed the OSGi host and port information.
AMBW-20493	Even if one application was running on multiple Appnodes, only one endpoint was listed under the **Endpoints** tab in the Admin UI.

Release 6.3.1

Key	Description
AMBW-21654	Prior to 6.2.2 HF-004, users required AppArchive permission to upload archive files and AppSpace permission to deploy an archive file. Now, users only require AppArchive permissions to upload and deploy archive files.
AMBW-21653	The field **diagramConfig** was not available in the Oracle, Postgres and MySQL database when the bash scripts under `<BW_HOME>\scripts\admin` were used.

Release 6.3.0

Key	Description
AMBW-20931	bwagent could not connect to the EMS server with authorization enabled with obfuscated passwords.
AMBW-20890	The command mentioned to create an AppNode using bwadmin did not work as documented.
AMBW-20885	If bwagent was configured to use an external database and EMS for transport and persistence, an exception error was thrown while updating the application module properties.

Key	Description
AMBW-20567	A large number of temporary queues were being created, but were not being cleaned up when bwagent was configured to use an external database and EMS for persistence and transport.
AMBW-20539	bwagent could not be configured to use SSL when connecting to an EMS server.
AMBW-20536	bwagent could not be started when the drivername was `oracle.jdbc.OracleDriver`.
AMBW-20318	After TIBCO ActiveMatrix BusinessWorks 6.2.2 Hotfix 1 was installed, the error `TIBCO-BW-TEAAGENT-500201: Domain [Domain_Name] is not present` was thrown when users tried to access an existing domain through the Admin UI.
AMBW-20159	The password parameter for EMS could not be updated in the `bwagent_db.json` file with the key `emsuserpassword`.
AMBW-19956	The bwadmin `config` command did not correctly update the **bw.agent.technology.as.remoteDiscoveryURL** field in the bwagent configuration file.
AMBW-19389	After upgrading from TIBCO ActiveMatrix BusinessWorks 6.2.1 to the newest version, AppNodes did not automatically start after restarting the AppSpace.
AMBW-19751	If a large ear file was uploaded, or if multiple large ear files were uploaded simultaneously through the Admin UI, the upload failed, and the error `java.lang. OutOfMemoryError: Java heap space` was thrown.
AMBW-19749	If the EMS server is restarted in DB/EMS mode, bwagent also needed to be restarted if it was configured to use an external database and EMS for persistence and transport.
AMBW-18567	When a user deployed an application with a modified profile file, the deploy command failed and an error was thrown.
AMBW-18448	The latest version of an application was not processed during the application startup, and the status was displayed as **Degraded** in the Admin UI.

Bindings

Release 6.5.0

Key	Description
AMBW-32812	The SOAP service sent incorrect fault response values to the client when the **Set Context** activity was used to set the fault response values.
AMBW-32747	When an invalid XML request was sent to a REST service, the 500 server error was displayed and the subsequent valid requests also started failing.
AMBW-32364	The Concrete WSDL file could not be retrieved at runtime for a SOAP service deployed through a web browser by using the URL.

Key	Description
AMBW-32079	TIBCO Business Studio displayed the `Null Pointer Exception` when generating concrete WSDLs. The `Null Pointer Exception` was also displayed when the abstract WSDL's inline schema was imported with blank namespaces, or the schema had resource files with no target namespaces.
AMBW-32030	In some cases, TIBCO Business Studio displayed the error, `WSDL import error` when concrete WSDL files were imported to another application.
AMBW-31528	The Invoke REST Reference displayed the error, `java.lang.IllegalArgumentException: prefix cannot be null when creating a QName` under heavy load of concurrent REST requests, or during load testing.
AMBW-31524	When creating a concrete WSDL, TIBCO Business Studio displayed the `Null Pointer Exception`, when schemas imported other schemas with no target namespace for a SOAP service.
AMBW-31509	The **Get Context** activity could not fetch Security Context Certificate values when the **Expose Security Context** check box was selected in the SOAP service binding.
AMBW-31397	The information added in the **Summary** field in TIBCO Business Studio did not appear in the Swagger file on deployment when the top-down process workflow was used.
AMBW-31349	When creating a concrete WSDL, TIBCO Business Studio displayed the `Null Pointer Exception`, when schemas included other schemas with no target namespace for a SOAP service.
AMBW-30596	Support to add the SOAP Actor attribute in the **Subject Provider** shared resource.
AMBW-30315	If the Client Acknowledge Mode was enabled for a SOAP over JMS service and the max session value was set to more than 1, when a service runtime exception occurred in the service all the JMS messages were recovered during session recovery causing multiple message delivery.
AMBW-30314	When the SOAP Service binding was configured to use JMS as the transport type, and Client Acknowledge Mode was enabled, the module property value set for the **Max Sessions** field was not honored at run time. This has been fixed, and now the sessions used at run time correctly reflect the value set on the **Max Sessions** field.
AMBW-30276	The sequence of elements of complexType were modified when an XSD was generated using Swagger file.

Key	Description
AMBW-30252	Swagger 2.0 definitions that had other files in related directories could not be imported to TIBCO ActiveMatrix BusinessWorks™. When you import the swagger file, first generate the XSD schema. Right click the swagger json file, and click **Refactor** > **Generate XSD Schema** to generate the XSD schema. Create the service using the top-down approach, and change the schema element in the **Input Editor** tab of the generated **Reply** activity.
AMBW-30240	The Swagger UI generated two responses when the response header parameter had the same name as the request header parameter in the REST service.
AMBW-30237	TIBCO Business Studio displayed an error when the response header parameter had the same name as the request header parameter in the REST service.
AMBW-30168	If the SOAP Service binding was configured to use JMS as the transport type, and Client Acknowledge Mode was enabled, and if a JMS message caused a service runtime exception to be generated in the SOAP Service process flow that contained a **Throw** activity, but no catch block handle, all subsequent JMS messages were also recovered during the session recovery. The correct behavior is to recover the JMS message that is currently processing and all subsequent messages to be processed, if the max session value for the JMS Connection in the service binding is 1.
AMBW-30139	TIBCO Business Studio displayed an error : `Null Pointer exception` when multiple form parameters were added in a REST Reference Binding created using the Request-Type: application/x-www-form-urlencoded and the POST operation.
AMBW-30122	In the scenario where the SOAP Service Binding was configured to use JMS as the transport type, and Acknowledge Mode was enabled, the module property value set for the **Max Sessions** field was not honored at runtime. This has been fixed, and now the sessions used at runtime correctly reflects the value set on the **Max Sessions** field.
AMBW-29913	When a module property was renamed, the changes did not reflect on the SOAP JMS Binding for the respective fields that used this property.
AMBW-29907	ActiveMatrix BusinessWorks™ generated `Unexpected EOF in attribute value` error when processing the SOAP response with the log level set as ERROR for SOAP binding logger, and if the SOAP response had MTOM attachments of large size.
AMBW-29845	TIBCO Business Studio displayed the error, `Failed to create DocumentBuilderFactory for parsing xml schema source` when trying to retrieve concrete WSDL at runtime by using the ?wsdl option for multilevel schema import.

Key	Description
AMBW-29732	Duplicate entries of XSD elements were generated in the concrete WSDL retrieved with ?wsdl option when multiple applications used the schema from the shared module, deployed to the same AppSpace.
AMBW-29687	When an XSD defined inside a WSDL was used in the REST service, the JSON validation error occurred when invoking the service.
AMBW-29660	When an abstract WSDL used for SOAP service binding had WSDL import artifacts, that is, the imported WSDL had inline schemas, they were not added during design time concrete WSDL generation.
AMBW-29659	Changes to the SOAPAction header on the SOAP service binding were not reflected in the Concrete WSDL if the WSDL retrieved at runtime used the <request URI>/?WSDL option.
AMBW-29581	TIBCO Business Studio displayed an error when the REST Reference was used to invoke a service that had path parameters not enclosed within path separators.
AMBW-29487	The non-inline WSDL schema was not embedded in the Concrete WSDL, if the WSDL was retrieved at runtime using the <request URI>/?WSDL option.
AMBW-27549	TIBCO Business Studio displayed XSD Schema validation error when validating conversion from the Swagger schema to the XSD schema.
AMBW-25279	The **Refactoring** option has been added for the REST service binding. Using this option, you can rename the binding and delete the binding or operation.
AMBW-22553	A `NullPointerException` is generated when using the Generate Concrete WSDL option to create a concrete WSDL for a SOAP Service binding. To avoid this error, create a new SOAP Service Binding, and generate the concrete WSDL using the same option.
AMBW-22246	When the Concrete WSDL was dragged and dropped over an empty process or reference area and the **Invoke Operation** option was selected, ActiveMatrix BusinessWorks did not pick the binding from the Concrete WSDL.
AMBW-22027	TIBCO Business Studio displayed the `Null Pointer Exception` when the schema element in the **Input Editor** of the **Reply** activity for operations of the REST service was changed.

Release 6.4.2

Key	Description
AMBW-28522	The issue of degradation in response time with an increasing number of HTTP requests has been fixed.
AMBW-28435	Users could not retrieve a concrete WSDL from SOAP service deployed from an AIX server that was running IBM JRE.

Key	Description
AMBW-28373	Path parameters that are not immediately enclosed in forward slashes are supported. For example, the parameter **`authorName('{isbn}')`** in the resource service path **`/book/authorName('{isbn}')/`** is not directly contained by forward slashes, but will still pass successfully.
AMBW-27956	SOAP over JMS service randomly processed a few duplicate messages in case of manual acknowledgment mode.
AMBW-27714	The users can now select HTTP connector on REST service using module property.
AMBW-27181	If the SOAP header was part of the message part definition in the WSDL, and had a set of attributes associated with it, the attributes were not populated in SOAP message envelope.
AMBW-26443	Accept headers were duplicated when the **Invoke REST API** activity was used.
AMBW-22328	When using the Concrete WSDL Generation wizard to create a concrete WSDL, an error occured if you saved the WSDL to a disk location, as opposed to a workspace, and specified the root location of a storage drive. The error message was as follows: `Path must include project and resource name`
AMBW-21278	When a SOAP WSDL was generated for a service binding, the concrete WSDL could not include the schemas that were referred at nested level two, or more.

Release 6.4.1

Key	Description
AMBW-28428	SOAP responses with arrays were not getting validated.
AMBW-28140	The faultcode and faultMsg expressions were not populated in the SOAP envelope after they had been set in the fault context of a SOAP service binding.
AMBW-27907	The socket timeout specified in the **HTTP Client** Shared Resource of SOAP Reference Bindings was not honored.
AMBW-27571	When an REST application was restarted QTP threads for the **HTTP Connector** Shared Resource were not released.
AMBW-27529	From the **Transport Configuration** tab of a SOAP Reference Binding, users can select a shared resource for the HTTP client by clicking the ... icon to the right of **HTTP Client Name** field.
AMBW-25308	Validation errors were incorrectly thrown if a newly created REST service referenced multiple SOAP services. With this fix, errors are not thrown if a REST service references multiple SOAP services.

Key	Description
AMBW-25030	SOAP One Way Operation invocation with HTTP transport failed to raise an exception when the host did not accept the HTTP request initiated by the Reference Binding.

Release 6.4.0

Key	Description
AMBW-27133	Catch block was unable to catch the DefaultFaultElement for the **Invoke** activity SOAP Reference binding. This has been fixed.
AMBW-27102	Strict validation for **Accept headers** in REST Request is now turned off. A REST service can now be invoked externally without passing the **Accept headers**.
AMBW-26215	Importing projects created in ActiveMatrix BusinessWorks release 6.2.2 and adding custom faults did not update the external WSDL.
AMBW-26122	The **Invoke** activity failed with an error when an element in the input of the **Invoke** activity was coerced to another element from the WSDL.
AMBW-26118	If an element of the decimal type was used in a REST service, the element was converted to the exponential form, which resulted in a failed validation and a GenXDM exception was thrown.
AMBW-25293	If a WSDL imported other schemas, retrieving a concrete WSDL from the endpoint resulted in an error.
AMBW-25211	SOAP services with the In Only operation threw an error when invoked multiple times from SOAP Reference Binding using the **Invoke** activity.

Release 6.3.5

Key	Description
AMBW-25463	If the format is not explicitly specified in the Swagger file, Swagger to schema conversion changed the type integer to decimal in the schema. This has been fixed.
AMBW-25277	The REST Reference binding did not work if it referenced an **HTTP Client** Shared Resource that was configured to use a **Proxy Configuration** shared resource.

Release 6.3.4

Key	Description
AMBW-25225	When importing a project, a validation error was thrown on the REST Reference binding if the project contained an **HTTP Client** Shared Resource in a shared module.

Key	Description
AMBW-25151	The **Parse JSON** activity no longer throws a validation error when configured with elements which reference elements from other schemas using the import attribute.
AMBW-25126	A typo was fixed in the title of the REST Reference Wizard.
AMBW-25095	SOAP faults 1.2 generated by the ActiveMatrix BusinessWorks™ SOAP server did not display the **xml:lang** attribute.
AMBW-25004	Attribute values were not passed in an unbound SOAP header.
AMBW-24967	The SOAP Reference Binding exception "javax.jms.IllegalStateException: Illegal use of receive() from multiple threads" was thrown intermittently.
AMBW-24953	The REST Service binding became corrupted if users modified the Resource Service Path.
AMBW-24908	If a REST service was implemented in the Opaque mode, and XML was set as the response format, the response obtained was incorrect.
AMBW-24784	The JSON to XSD conversion mechanism assumed the object elements of an array as uniform.
AMBW-24577	After multiple successful calls, an exception was thrown on the REST Reference binding if authentication was enabled on the **HTTP Client** shared resource.
AMBW-24526	On importing projects created in earlier versions containing query parameters, users can now view and edit query parameters from the query parameters table.
AMBW-24441	REST Resources were not invoked correctly during run time if resource paths used a common prefix.
AMBW-23877	If a SOAP service used JMS for transport, and the SOAP action attribute for an operation contained, or began with, a leading slash character, the SOAP Service binding did not consume the JMS message.
AMBW-22177	The Swagger UI did not show the **application/xml** option if the service was configured with XML.
AMBW-21091	If REST resources were implemented as Opaque, the generated Swagger specification was incorrect.
AMBW-19163	The Swagger UI did not show the error code for bad requests such as client faults, invalid inputs, and so on.
AMBW-11795	Parameter templating was not supported for the **Invoke REST API** activity when it used a module property for the Resource Path. Module properties are now supported.

Release 6.3.3

Key	Description
AMBW-24395	REST References could not be created if a process was created within a Shared Module.
AMBW-23984	An **Invoke** activity, configured to send a SOAP over JMS message to a webservice using an asynchronous operation, did not throw an exception when the connection to the EMS server broke.
AMBW-23966	The body of the request message did not contain the namespace defined in the WSDL when the SOAP Binding style was of type **RPC/Literal**.
AMBW-22848	Users can now view the associated Swagger file as a link in the REST Service Binding.
AMBW-22747	When the Swagger file has a property of type **object** an equivalent XSD was not generated and an error was thrown.
AMBW-16039	Incorrect Swagger specification models were generated for REST services when using the pass through mechanism (Opaque mode).

Release 6.3.2

Key	Description
AMBW-23581	If a SOAP service binding was configured to use JMS as the transport type, and the **Acknowledge Mode** field was set to Client or TIBCO Explicit, unconfirmed messages were not redelivered.
AMBW-23309	The `404 Not Found` error was thrown for a REST Resource when multiple hierarchical REST Resources were deployed in the same application.
AMBW-22634	Swagger UI incorrectly used HTTP, instead of HTTPS, even if the **HTTP Connector Resource** used by the REST Service Binding was configured with HTTPS.
AMBW-22496	TIBCO ActiveMatrix BusinessWorks always published SOAP/JMS services response messages in the PERSISTENT mode, even if the request message has been published by the consumer in the NON_PERSISTENT mode.
AMBW-22495	Added an option to not confirm a message if an error is thrown in a process containing Service over JMS with TIBCO EMS Explicit Client ACK, or client ACK mode.
AMBW-22038	Swagger UI did not display the REST services if the operation response was configured to use **Simple Element** or **Simple Type**.
AMBW-21864	Renaming an implemented REST service binding operation from Business Studio did not work, and caused an exception to be thrown.
AMBW-21351	Query parameter types can now be edited in the REST binding. Query parameters are now defined for every REST operation instead of every service binding.
AMBW-21338	Swagger UI did not support fields for Basic Authentication.

Key	Description
AMBW-20990	The **Connection Header** field was not populated in a SOAP service request.
AMBW-20406	Users were unable to use an **Invoke** activity that had a reference inside an Event handler. The **Invoke** activity could reference to either a subprocess or an external service.
AMBW-19616	Changes were not saved when parameters in the Resource Service Path of a REST Service Binding were altered without pressing the Enter key.
AMBW-19194	The error `REST Service Binding configuration error` was thrown if unrelated REST bindings were deleted.

Release 6.3.1

Key	Description
AMBW-21786	The HTTP transport property header **Set-Cookie** was not available in SOAP Reference binding.
AMBW-21723	When the element used to configure the REST service was a long, float, or double type Number, incorrect datatypes were represented in the generated Swagger API document.
AMBW-21647	If an **Invoke** activity timed out in an application configured to use SOAP/JMS binding, JMS Resources were not released and a memory leak was observed.
AMBW-21422	If SOAP services contained complex unbound headers and multiple bindings, SOAP headers were duplicated in the request message, which caused run time fault generation.
AMBW-20757	The **Render JSON** activity incorrectly converted empty string values to Null values. Empty string values are now properly converted to empty string("").

Release 6.3.0

Key	Description
AMBW-20231	Adding a new REST Service removed the custom HTTP header from the REST schema.
AMBW-19998	If an external SOAP reference binding was configured to use a concrete WSDL from a shared module, an error was thrown when trying to start the process.
AMBW-19915	When a SOAP/JMS request reply application was running, temporary queues were not deleted after a response was successfully returned.
AMBW-19750	Due to an incomplete refactoring of the process service, binding validation errors were not displayed in Business Studio. After the service was run, an exception was thrown.

Key	Description
AMBW-19717	WSDLs from shared modules could not be used to configure an "Unbound Header" for a service in the application module.
AMBW-19695	When a **HTTP Client** resource was configured with the Apache Commons implementation library, the Basic Credential Mapping policy did not work for SOAP Reference Binding and HTTP Activities.
AMBW-19612	If the Concrete WSDL referred to a schema that contained a complex type and an element that were using the same name, only one of these was included in the Concrete WSDL.
AMBW-19139	Service Reply did not propagate the CorrelationId present in the Service Request.
AMBW-19099	The **Reply Fault** activity faulted with the exception `Reply activity was unable to send reply using partner link.`
AMBW-19089	SOAP Service binding now exposes the remote address header value in the request context.
AMBW-18784	The SOAP response from SOAP server (MFT) failed with the `Cannot find XML data type: {http://schemas.xmlsoap.org/soap/encoding/}string` error.
AMBW-18232	Response context did not display the response code.
AMBW-18170	If a SOAP request is not well formed, the validation exception can now be caught at the process level.

General

Release 6.5.0

Key	Description
AMBW-32826	XML output that used the XmlEncoder, including the render-xml() function, the custom XPath function, and the **Render XML** activity produced malformed output, where > was replaced by <. For e.g. <element> appeared as &lt;element&lt;
AMBW-32811	When multiple schemas shared the same target namespace and contained chameleon includes, the following error message was intermittently displayed: `Locked. Cannot add additional Schema.`
AMBW-32809	TIBCO Business Studio™ displayed the validation error when mapping to a choice element and the second option from the choice list was selected.
AMBW-32277	The bwagent displayed incorrect information about an AppNode's allocated and used heap memory in the Admin UI.
AMBW-32219	Design time errors were not displayed though the process file contained the wrong location for the WSDL import location.

Key	Description
AMBW-32073	The process color became blue when a REST Reference Binding was created using a JSON file.
AMBW-32001	The **Quick Fix** option did not work for reserializing design time and run time binding, and the warning `Runtime binding is not synchronized` was displayed.
AMBW-31913	The XSD element, DuplicateKeyException was not available in the internal fault types XSD schema. When the **Checkpoint** activity was created, the internal fault types XSD schema overrode the **Checkpoint** activity's fault type schema. The XSD element DuplicateKeyException was missing and the runtime error was displayed.
AMBW-31858	After migration, the port type pointed to incorrect WSDL locations though the serialization was correct.
AMBW-31766	Some job data was missing for a few projects when the projects were run in the debug mode.
AMBW-31651	When the XSD schema namespace ended with XML, the Eclipse Modelling Framework (EMF) generated a prefix which started with XML. This generated prefix was invalid and caused the EMF mode deserialization error.
AMBW-31646	TIBCO Business Studio could not display a schema in the currentElelment variable on the Input tab of the Iterate Group when the conditional statement's output referred to the same element defined in the schema.
AMBW-31518	Importing the XSD file from a shared module now directly adds the shared module in the dependency list.
AMBW-31401	TIBCO ActiveMatrix BusinessWorks™ failed to process the schemas and displayed the cache exception at runtime due to a chain of chameleon includes.
AMBW-31338	Closing and restarting TIBCO Business Studio caused the previously added components to disappear.
AMBW-31256	The debugger could not display the correct status of the process execution in the **Process Details** tab as the shared modules were released and were not dependent on the application module.
AMBW-31249	Activities in a process could not be renamed because incorrect comment syntax broke the third-party parser.
AMBW-31248	If the **Set Shared Variable** and the **Get Shared Variable** activities were used in a process, or multiple processes, of a shared module to retrieve a module shared variable, and if two applications were dependent on the same shared module, both of the applications referenced the same copy of the module shared variable. This has been fixed, and now each application uses a separate copy of the module shared variable.

Key	Description
AMBW-31247	Validation warnings were displayed if there was no coercion (xsd schema) specified when mapping the any element(*). Validation errors are now lowered to the warnings level when there is no coercion.
AMBW-31246	The Copy-of binding functionality did not carry information for the original element. The **Surround with..** option was not available with the Copy-of binding functionality.
AMBW-31140	TIBCO Business Studio displayed the error, render-xml exception: node cannot be null, when running projects with custom XPath functions.
AMBW-31108	The **Quick Fix** option is now available when an extra parameter binding is detected after projects are imported to the workspace.
AMBW-31093	TIBCO Business Studio displayed the error, `render-xml exception: node cannot be null`, when running projects with custom XPath functions.
AMBW-31072	ActiveMatrix BusinessWorks™ generated `VariableNotFound` exception intermittently when an activity was deleted and replaced by the other activity in an application. The error was also generated when certain BPEL activity extensions were created or deleted.
AMBW-31023	A quick fix is now available to enable validation warnings or errors for transitions with conditions where the XSLT is not set. With this quick fix, the XSLT is set using the design time expression language.
AMBW-31014	When a subprocess call failed due to any error, the subprocess created duplicate fields in the input of the subprocess call.
AMBW-30971	When module properties were added to the shared module and the application project was imported, the properties of the application were not updated after import. The following error was displayed: `Application configuration error. A set of module properties included in the BW application are not in sync with the module properties configured for the module. Re-include module in the application.` This has been fixed, and now TIBCO Business Studio includes or updates the missing properties of the application when the application is included in the workspace.
AMBW-30873	Some projects using Fault Context on the service or reference bindings failed.
AMBW-30848	The debug logs did not display the activities inside the processes, and the debugger failed to stop when an activity included a breakpoint. Due to the missing XPDLID attribute in the serialization of the activities, the projects were executed at the run time but were not displayed in the debugger.
AMBW-30815	ActiveMatrix BusinessWorks generated `Failed to read Process model from resource` error when starting an application.

Key	Description
AMBW-30814	When two ActiveMatrix BusinessWorks applications were dependent on the same shared module, one of the applications went into the impaired state.
AMBW-30775	A new option **Configure Contents** has been added in the **Problems** tab. Select this option to configure types of errors and warnings to enable CI/CD.
AMBW-30732	A radio button was displayed under the **API Explorer** tab in TIBCO Business Studio.
AMBW-30727	ActiveMatrix BusinessWorks did not display any error for incorrect XPath expression, and continued to execute infinitely when comparing to string types.
AMBW-30674	Application properties are now updated properly after selecting the red (X) button. The default value is updated correctly without selecting the **Save** button.
AMBW-30673	ActiveMatrix BusinessWorks did not evaluate XPath expression consistently in the XPath Builder and generated warnings for if-then-else statements.
AMBW-30634	TIBCO Business Studio was unresponsive after importing projects to the workspace and performing the building workspace action.
AMBW-30614	The bwdesign command line utility could not import binary shared module in the archived format.
AMBW-30589	Importing projects and updating the **JDBC** shared resource took a long time.
AMBW-30569	The bwenginedb command generated an error `Invalid object name 'PES_PROCESS_CHECKPOINT'` when running the application in the persistence mode ftgroup.
AMBW-30430	Two AppNodes were in the active state at the same time when the bwengine was configured in the `ftgroup` mode and TIBCO Enterprise Message Service was stopped for few minutes and restarted.
AMBW-30427	A new API getSerializedFaultData() has been added to get error or fault output from an activity audit event.
AMBW-30361	In ActiveMatrix BusinessWorks 6.x the **trackingInfo** element was not present under the **ProcessContext** element.
AMBW-30275	Schemas without namespaces were not resolved in the Iterate group.
AMBW-30191	If the schema for the **Reply** activity in a REST service was changed, the following error was generated at runtime: `PVM-XML-106032: Cannot find XML element.`
AMBW-30119	When extensions were used in the schema, then that element was duplicated and displayed validation errors.

Key	Description
AMBW-30114	The complex element could not be mapped to the anyelement datatype under two levels of choice of elements when one of the choices is a repeating anyelement.
AMBW-30100	Errors were displayed in TIBCO Business Studio when multiple applications used the same HTTP Connector, that was defined inside the Shared Module. The errors were displayed when the **Shared Across** check box was not selected.
AMBW-29997	ActiveMatrix BusinessWorks failed to process the schemas and displayed the cache exception at run time due to a chain of chameleon includes.
AMBW-29947	TIBCO Business Studio did not show any validation error even if there was an error in the XPath statement used in the activity.
AMBW-29932	TIBCO Business Studio took time to respond and was unresponsive when renaming WSDLs or schema folders.
AMBW-29919	When a type was coerced to the any element, a validation error was generated on the XPath expression over the transition.
AMBW-29916	TIBCO Business Studio displayed transition configuration error when coercions were applied on a transition.
AMBW-29882	Activities in the catch block of a group were not visible in the Output Activity list.
AMBW-29881	When projects were imported from an external location into a workspace without copying the project, projects were deleted and generated again from the application module. The regenerated projects were created under the workspace instead of the location from where the project was created, and a copy of the same application data was created.
AMBW-29860	When schemas had cyclic includes, model group conversion displayed the following assertion error: `Compositor argument cannot be null`.
AMBW-29838	When the build automatically option was turned off, the operation to copy and rename a process between modules ended with corrupted entries in module.bwm.
AMBW-29737	Any data entered in the **Sequence Key** field on the **Advanced** tab of the **JMS Receive Message** activity generated the `Variable Not Found` error.
AMBW-29714	ActiveMatrix BusinessWorks generated the `Invalid BWApplicationHandle` error and went in the start failed state when an application was restarted on the AppNode. The AppNode was in the passive state and then turned active when the initial active node was stopped.
AMBW-29603	When an **Invoke** activity received a fault response that was a declared fault, the **Rethrow** activity and the **Repeat on Error group** activity did not pass the fault response to the higher level catch.

Key	Description
AMBW-29591	Applications that had Activator Process and **Invoke** activity with binding or process references displayed different and unexpected behavior when executed in the FT with group mode.
AMBW-29585	Copying and pasting a calling process retained older references and displayed an error.
AMBW-29569	ActiveMatrix BusinessWorks generated warning for activator component when the **Engine Command** activity invoked **`StopApplication`** command. An error was displayed after restarting an application.
AMBW-29499	Adding a **Timer** activity to a subprocess did not generate validation errors.
AMBW-29497	When multiple commands were run in the script, bwdesign displayed the `ArrayIndexOutOfBound exception`.
AMBW-29495	Validation errors were reported in TIBCO Business Studio after importing projects created on ActiveMatrix BusinessWorks 6.4.1 or earlier versions.
AMBW-29492	Users can now turn the Build Automatically option ON or OFF from the `config.ini` file by setting the property **`bw.autobuild`** to `true` or `false`.
AMBW-29475	Assertion XPath mappings and absolute values could not be saved for unit testing purpose.
AMBW-29440	In some cases, automatic refactoring through TIBCO Business Studio led to extra parameter bindings in refactored XSLT files, which resulted in runtime errors. This has been fixed, and the correct input parameter bindings are now provided during the automatic refactoring process.
AMBW-29433	The **Engine Command** activity returned duplicate information for the **GetProcessInstanceInfo** command when **ProcessDefinitionName** was passed from the input schema.
AMBW-29360	An error was displayed when a shared resource was moved from an Application Module to Shared Module using the **Move** option.
AMBW-29354	In some cases, ActiveMatrix BusinessWorks generated errors at runtime when automatic refactoring led to the extra parameter bindings in refactored XSLT files through TIBCO Business Studio.
AMBW-29331	Logging a large validation exception resulted in the out of heap space condition.
AMBW-29312	Component configurations could not be seen after saving the project.
AMBW-29279	The intermittent cache error `Locked. Cannot add additional Schema` was displayed when multiple schemas shared the same targetnamespace and contained chameleon includes.

Key	Description
AMBW-29136	Files and folders were not removed when a new version of ActiveMatrix BusinessWorks was installed in the same *TIBCO_HOME* where a previous version was installed.
AMBW-29121	The bwdesign import command became unresponsive.
AMBW-29105	In certain scenarios, TIBCO Business Studio stopped responding when performing actions like cleaning all projects, adding a REST resource, adding SOAP or REST bindings to a resource, and automatic building of a workspace.
AMBW-29101	A runtime exception activity output data validation error occurred when the generated concrete WSDL had schemas that included other schemas with no target namespace.
AMBW-29083	Schemas without namespaces were not resolved in the **Iterate Group** and in the output of the **Start** activity in the direct sub process.
AMBW-29079	A `Null pointer exception` was displayed when a new process was added to an application module with an empty or missing `TIBCO.xml` file.
AMBW-28995	The error, `TIBCO-BW-FRWK-600026: Failed to start BW Module [factset.client.contact.crmfm.nbc.module:1.0.0.qualifier], <CausedBy> null <CausedBy> java.lang.NullPointerException` was displayed when module properties were referred from the Shared Module.
AMBW-28983	The **Apply** button was disabled in the Run Configuration and Debug Configuration dialog boxes when the initial configuration was changed.
AMBW-28549	The error, `No matching ns9:property` was reported when **Refactor** > **Repair BusinessWorks Projects** was used with the option, **Recover Activity IDs**. This is now fixed and the error is no longer reported. With this fix the **Recover Activity IDs** option in the Refactoring Wizard has been replaced with the **Quick Fix** option. To apply **Quick Fix**, perform the following steps: 1. Navigate to **Windows** > **Preference** > **BusinessWorks** > **Validation** and change the preference for **Recover Activity ID** and **Recreate Activity ID** from `Warning` to `Error`. 2. Right-click on the errors related to Recover Activity Id, Recreate Activity ID, and select the **Quick Fix** option.
AMBW-28406	When multiple commands were run in the script, bwdesign displayed the `ArrayIndexOutOfBound` exception.
AMBW-27711	A process was deselected in the Run Configuration and Debug Configuration dialog boxes when it was renamed.
AMBW-27710	The **Apply** button was disabled when new processes were added in the current application or project, and the **Select All** button was selected before running the application.

Key	Description
AMBW-27575	The automatic_mapper_if_surround functionality was not working for nillable optional to optional elements mapping.
AMBW-27521	The memory leak issue was observed.
AMBW-27503	TIBCO Business Studio was unresponsive when projects from the GIT repository were opened.
AMBW-27431	TIBCO Business Studio displayed an error when importing projects that had empty folders. The projects were exported using the **Studio Projects to Archive** option.
AMBW-26925	TIBCO Business Studio could not display attributes defined under complex element in the **Input Editor** tab of a **Mapper** activity.
AMBW-26725	In a transition coercions were not saved after they were added to mappings.
AMBW-26297	When a user stopped and started a running AppNode, the `NullPointerException` was logged intermittently in the `appnode.log` file.
AMBW-26180	Copying activities from one process to another process displayed errors.
AMBW-25791	The bwdesign command line utility became unresponsive and could not create EAR files.
AMBW-25629	After migration, TIBCO Business Studio displayed the validation error for violation of UPA (Unique Particle Attribution). **Workaround**: Clear the check box **Check full XML Schema Conformance** at **XML** > **XML Schema Files** > **Validation** on the Preferences dialog box to disable strict checking.
AMBW-25502	The mapping from a coercion to a variable list broke when clicked on any other activity.
AMBW-24717	When changing the color of a transition to a color other than the default black, the transition color changes but the text remains black. Sometimes the text color also changes but when the workspace was reopened, the workspace became black.
AMBW-24410	You can now export an application without a profile. At the runtime we can upload profile and run the application successfully.
AMBW-23858	ActiveMatrix BusinessWorks generated `Null Pointer Exception` when an AppNode was configured in FT mode, and then was restarted.
AMBW-22862	A button **Navigate to schema** was added to show what file or namespace is the selected Schema element of the Process Variable.
AMBW-20542	The out data validation stack trace in ActiveMatrix BusinessWorks 6.x did not specify the erroneous elements.

Key	Description
AMBW-20144	TIBCO Business Studio became unresponsive intermittently when a SOAP or REST binding was added to the process and a workspace was built.
AMBW-13197	Support has been added for a module property to configure **`DateTime`** property in the **Timer** activity.

Release 6.4.2

Key	Description
AMBW-28876	The **ParentProcessName** and **SubProcessName** fields were missing on the **Output** tab of the **Engine Command** activity.
AMBW-28767	When shared modules were imported without a copy of the project, mapping errors occurred because references to the original location of shared modules in the file system could not be resolved.
AMBW-28696	When an input schema contained an element with the attribute name **xmlString**, TIBCO ActiveMatrix BusinessWorks™ displayed the following error: `org.genxdm.exceptions.GenXDMException: Invalid attribute name: xmlString`.
AMBW-28609	During refactoring, extra spaces around the equal to (=) sign were introduced.
AMBW-28566	TIBCO Business Studio did not detect the invalid references that were generated when a process referenced the module property and displayed an error. This module property was defined in the another module and was renamed.
AMBW-28520	In case of an outage at the database level, a single AppNode application was activated in multiple AppNodes.
AMBW-28410	An error was displayed when the second argument provided for the command **`tlib:evaluate-xpath`** was of type variable.
AMBW-28408	Large XML documents with size larger than 1 MB that were stringified by the **Render XML** activity or the render-xml() Custom XPath function and then set as values of nodes in other XML trees could suffer significant performance delays during serialization of the containing XML tree.
AMBW-28407	ActiveMatrix BusinessWorks™ applications failed to start and the following error was displayed: `the filename or extension is too long`.
AMBW-28362	If an application module depended on a shared module and the shared module properties had group nested folders, then empty folders were displayed in the application module.
AMBW-28361	When a project was built after importing the project in the TIBCO Business Studio, the following error was displayed: `java.lang.NullPointerException`.

Key	Description
AMBW-28281	When iterate groups accumulate data that contains XML structures, the accumulated value is no longer repeatedly validated. This fix is to improve performance when validating outputs.
AMBW-28243	When bwagent was configured in the Enterprise mode and the application was executed from TIBCO Business Studio, the following error was displayed: `java.lang.NoClassDefFoundError: Could not initialize class com.tibco.bw.thor.management.client.Client`.
AMBW-28185	ActiveMatrix BusinessWorks stopped responding when an XSD element was selected in the REST binding operation.
AMBW-28184	The workspace was corrupted after installing a custom XPath function.
AMBW-28177	Warning messages were displayed when an application was executed in TIBCO Business Studio and governance was enabled.
AMBW-28041	An error was generated when slf4j JAR files were used in custom XPath functions and then exported as a plug-in.
AMBW-27954	Input binding information was duplicated in the process file when the input binding had identical design time and runtime versions.
AMBW-27929	When the **JDBC Connection** resource was used on a module property and the module property was then used on an activity, the resource was not recognized by the activity.
AMBW-27854	You could delete a dependency from the **Properties** view of the process, even if it was referenced in the process. An error message is now displayed when an user attempts to delete such dependencies.
AMBW-27853	Renaming the XSD elements led to mapping errors.
AMBW-27823	Debugging the application failed when a new column was added to a table and the SQL Statement was modified in the **JDBC Query** activity.
AMBW-27750	The Shell Script files (.sh) that start with the `#!/bin/sh` could not be identified correctly and led to the content in these files to be decrypted.
AMBW-27554	When changes were made to the `Swagger.json` file, the corresponding changes were not made in the schema for the implemented process.
AMBW-27540	A memory leak occurred when QTP threads were not released after a REST application was stopped.
AMBW-27525	When a REST service was created from an existing XSD schema that had the XSD element with minLength and maxLength restrictions, the generated Swagger file did not contain the equivalent minLength and maxLength restrictions for the XSD element.

Key	Description
AMBW-27518	An extra Java package entry with an icon that was visible but unavailable under the parent package of the newly created Java package in the **Project Explorer** view in TIBCO Business Studio.
AMBW-27494	When the dependency of shared modules using Java was added and later removed, the dependency could not be referenced when attempting to add it again in a dialog box.
AMBW-27445	Success and error transitions that were set up after a JMS transaction and were copied and pasted within the same process were not serialized correctly in a process file. As a result, both the transitions started simultaneously at runtime after the JMS transaction was completed. This error was not displayed in TIBCO Business Studio.
AMBW-27252	If the **Copy projects into workspace** check box was selected on the Import Projects wizard , and the selected project had **Call Process** activities with the wrong process name, while importing the project, TIBCO Business Studio did not display a validation error.
AMBW-27180	The input and output variables and process namespace map in the **Start** activity and the **End** activity were not correctly configured and serialized when the activities were configured with XSD elements with empty target namespaces.
AMBW-27177	Namespaces for the downstream activities changed when the JMS Connection shared resource pointed to another shared resource.
AMBW-27164	The `system:validate` command of bwdesign utility did not display an error when the XSD schema had errors.
AMBW-27124	When two services were configured to use inline schemas with the same namespace, an error occured when these services were called by a process.
AMBW-27059	When there were two **Invoke** activities present in the process and the corresponding timeout values were set to the two different module properties, when the second **Invoke** activity was selected just after selection of first **Invoke** activity, the timeout value of the second module property was incorrectly set to the timeout value of the first module property.
AMBW-26948	Schema location attributes with an extra space within the quotes were not trimmed.
AMBW-26938	Changes made in one activity of a process led to creation of duplicate activity schema root elements in another activity.
AMBW-26819	TIBCO Business Studio did not show any validation error even when an error was reported in the XPath statement used in the activity.
AMBW-26736	After setting up a conversation between two operations, the output payload was incorrectly displayed instead of the input payload.

Key	Description
AMBW-26219	Deleting a module property caused the entire hierarchy to collapse. This issue has now been fixed, and you can drag module properties to groups, by using the module property editor.
AMBW-26218	References from shared modules for service sub processes, references from shared modules and application modules for direct sub processes were not displayed.
AMBW-26017	When changing a module property type to another type, the original value is preserved when the value is compatible with the new type.
AMBW-25943	Module property of type Long did not support negative values.
AMBW-25805	The current element in Iteration groups did not display the attributes for it's assigned schema. It displayed only the simple and complex elements. Now the current element displays all the attributes and group of attributes that come from the schema in addition to the simple and complex elements.
AMBW-25773	When a section of a module property was selected, the focus of the selection did not switch to the currently selected property, and continued to display the previously selected property.
AMBW-25232	When users performed a Refactor and Repair action on the module, the Advanced Timeout settings in the **Invoke** activity were reset to **Default Timeout**.
AMBW-24447	An error occurred when copying activities with process variable from one process to another processes.
AMBW-24185	Concrete WSDL was not created when you right-clicked on the `Service Descriptor` folder.
AMBW-22854	Process properties were not displayed in the Process view when a process was opened. By default, the process properties tab should be populated when a process is opened.
AMBW-22657	When users deleted an operation from a SOAP reference binding, the corresponding WSDL file was not updated. Instead, schema elements and WSDL messages for the deleted operation were still present in the WSDL file.
AMBW-21838	When using a SOAP service binding, users could not correctly rename the service operation. Also, the refresh action did not run implicitly.

Key	Description
AMBW-21800	ActiveMatrix BusinessWorks did not support trivial cyclic dependency where reference binding pointed back to the same process. Nontrivial cyclic dependencies were not supported when the first process pointed to the second process, the second process pointed to the next and the last process pointed back to the first process. There was no error displayed in TIBCO Business Studio to indicate cyclic dependency. Now an error is generated for trivial cyclic dependency. Error regarding nontrivial dependency is not generated. To determine whether the application is in impaired state, refer to ActiveMatrix BusinessWorks Engine logs at runtime.
AMBW-13673	The schema was not populated in the **Input Editor** and the **Output Editor** when there were no target namespaces in the schema.

Release 6.4.1

Key	Description
AMBW-28245	Additional checks have been added to enable preceding-siblings of repeated elements to be validated.
AMBW-28095	Property flowlimit was not working as expected when used with a **Call Process** activity, where the spawn option was not selected.
AMBW-28055	WSDL interface failed to resolve correctly if multiple WSDLs shared the same targetnamespace, and a SOAP invoke was created with the reference type **Binding Reference**.
AMBW-28006	The Timeout value from the **Invoke** activity was reset to default on performing some design time activities or tasks that were not related to the **Invoke** activity.
AMBW-27930	ActiveMatrix BusinessWorks™ stopped responding when the page threshold value was set to a finite value.
AMBW-27755	The **Quick Fix** feature failed to resolve all `XSLT out of Sync` errors in a project if the resolution process was interrupted. For example, if an `XSLT out of Sync` error could not be fixed, the resolution process was halted, and the remaining errors would not get resolved. With this fix, the error is not resolved, but the resolution process is not interrupted, and the **Quick Fix** features moves onto fixing the next error.
AMBW-27594	If a group was configured to reset activity outputs for each iteration of the loop, that contained an **Invoke** activity for a sub process that throws an exception, the reset would not happen and the output of the previous successful iteration would remain.
AMBW-27531	The model for selecting a substitution group has been updated. With this fix, users can drop an element on the left side to choose the member of the group to use.

Key	Description
AMBW-27528	When users right-clicked on a regular folder to access the **Special Folders** option, the option was not available in the menu preventing users from being able to convert a regular folder to a special folder. This has been fixed, and the **Special Folders** option now displays properly in the menu.
AMBW-27466	If a custom XPath function used a relative XPath, function did not properly resolve, and an error was thrown. This has been fixed, and relative XPaths are now successfully passed.
AMBW-27411	Mapping coercions incorrectly led to process corruption.
AMBW-26487	An error is now generated if elements are repeated in the `If` and `When` bindings.
AMBW-24467	Documentation for the property **`bw.mashery.config.file= ../config/mashery.ini`** was corrected in the Publishing APIs to TIBCO Mashery topic of the *Administration* guide.
AMBW-23768	When an application was deployed with a custom JNDI factory, its InitialLdapContext was not initialized.
AMBW-22215	The shared module, their WSDLs, and shared variables were not resolved when the application was dependent on the shared module.

'

Release 6.4.0

Key	Description
AMBW-27226	The module property, `BW.ACTIVITY.NAME` was unavailable in a spawned subprocess.
AMBW-27013	The $_error was missing in some activities.
AMBW-26949	TIBCO Business Studio™ became unresponsive when trying to reinclude a shared module.
AMBW-26924	Conversations added to an event handler for a process could not be deleted, and the `java.lang.NullPointerException` error was thrown.
AMBW-26884	The debug log threw exceptions if the debug message text was formatted.
AMBW-26842	Coercion threw an error in TIBCO Business Studio if the coerced output of the **Parse XML** was mapped to the **Log** activity.
AMBW-26730	TIBCO Business Studio became unresponsive during refactoring, when a set of projects or shared modules were deleted from a workspace.

Key	Description
AMBW-26693	Test connection now works fine with module properties specified in the **Identity Provider** Shared Resource for the **LDAP Authentication** Shared Resource.
AMBW-26642	TIBCO Business Studio hung while creating a new process in projects with conflicting namespace schemas.
AMBW-26626	When upgrading from ActiveMatrix BusinessWorks release 6.3.x, if the `datastore` or `group` mode was used, the error `PVM-MODEL-100306: PVM-MODEL-100306 (No message; locale=default)` was thrown on startup.
AMBW-26594	The feature to reset variables in an iteration that was added in the ActiveMatrix BusinessWorks release 6.3.5, did not work for the message output of the **Invoke** activity.
AMBW-26408	Starting an application while the AppNode it was deployed to was starting, caused a deadlock. This has been fixed, and the application can start after the AppNode has been started.
AMBW-26323	The error, `Unable to obtain WSDL Interface details from the GenXDM WSDL Module` was thrown when the application was started, when the WSDL included documentation elements.
AMBW-26321	Serialization of import locations across modules is now supported.
AMBW-26311	Modified the unique name generation scheme in schema cache to avoid collisions in complex and simple type names.
AMBW-26301	Shutting down an AppNode with running applications shuts down the OSGI layer, without stopping the AppNode. This prevented connecting to the OSGI console and debugging it.
AMBW-26294	The `group` and `datastore` persistence mode caused HTTP and JMS issues inside an application when the activities, **Wait For HTTP Request** or **Wait for JMS Request** were used inside a subprocess.
AMBW-26285	Variables were not available for the input binding, for activities inside a **Catch** or **CatchAll** block. The variables are now available inside the **Catch** or the **Catch All** block, and validation errors from migrated projects are now resolved.
AMBW-26264	Now **Rethrow** is not allowed in the process outside a **Catch** or **CatchAll** block. Restrictions have also been placed on the creation of the **Start**, **End** and **Compensate** activities in a process.
AMBW-26179	The SSL client in the **JMS Connection** Shared Resource failed if a module property was used in the **Key Alias Name** and **Key Alias Password** field, but ran successfully only when a literal value was used. In this release, the SSL client accepts module properties and literal values.

Key	Description
AMBW-26024	The **boolean()** function threw an error when a required element was missing in an activity, but the function runs successfully during run time. Now, the error has been switched to warning, as the boolean value works in run time.
AMBW-26114	TIBCO Business Studio hung when working with projects associated with the SVN repository.
AMBW-26003	Removing or renaming the Activator process now updates the activator configuration section of the application module.
AMBW-26001	The fix improves the loading time for the debug launch configuration.
AMBW-25997	A new preference option has been added to persist the **Build Automatically** option.
AMBW-25880	**Debugger Job Data** displayed wrong results for an XML schema input composed of any type element and string element.
AMBW-25777	When adding a new XSD element in the schema editor, when a user entered a name that was different from the default name, Eclipse initiated an XSD element rename refactoring.
AMBW-25543	The **Generate Schema from JSON Payload** utility failed when the payload included NULL values. Now the wizard displays a list of the attributes that were changed from the NULL value to string, when parsing the payload.
AMBW-25499	References to shared resources were not entirely removed when they were deleted using the Process Editor. This has been fixed, and unused processes no longer linger in the project after they are deleted.
AMBW-25318	A pre-defined element reference could not be added to a schema from the schema editor in TIBCO Business Studio. This has now been fixed. Set the element reference for the schema from the **Properties** view.
AMBW-25265	Managed Fault Tolerance did not work properly if servers are in different time zones.
AMBW-24944	Empty sequences with attributes were populated with an error node. This has now been fixed, and now populating the child of a node when the node is an empty sequence, is prevented.
AMBW-24888	On Microsoft Windows 7, when creating a new subprocess, the **Custom** option which is found under the Interface Mechanism field on the wizard, was not displayed when the display scaling was set to 125%.
AMBW-23945	When users add a description to a module property, the same description was incorrectly applied to the other module properties in the project. This has been fixed, and module properties now maintain individual descriptions.

Key	Description
AMBW-23931	After renaming an operation, new operation names appear in all other activities and references referring to the service or the operation.
AMBW-22882	When a user created a process from a WSDL that included a Shared Module, the process was created in the first Application Module that contained a process folder. This has now been fixed, and when the process folder is missing, a new dialog appears with the list of projects using which you can select a process folder from a different project or cancel the operation.
AMBW-22673	When a custom XPath function was created and the concerned class was renamed using the standard refactoring mechanism, that is, the custom XPath function, was not found under the list of functions.
AMBW-21518	In the process of creating new applications, when a new service was invoked, the WSDL prefix and WSDL operation name was saved, by default. This has now been fixed, and the service details will be saved only when the check box **Remember service details** is selected.
AMBW-21075	When adding a new XSD element in the Eclipse XSD Schema Editor, if user entered a name different from the default name, Eclipse initiated a XSD element rename refactoring, which caused an unrelated activity and updated the input binding incorrectly.
AMBW-19473	From the Component editor, multiple processes can be selected at the same time and added as components for the Application Module.
AMBW-17151/ AMBW-26259	After making minor changes and saving a process that contained the EMF generated prefix XML, some errors were thrown. The errors were generated because the XML prefix violated XML specifications.
AMBW-15756	The error, `such error marker is not valid`, was reported in the **Problems View** when removing a module dependency from an Application Module.
AMBW-11853	A process that contained an XSLT with a substitution, threw a validation exception at run time, unless the process was explicitly importing the XML Schema.

Release 6.3.5

Key	Description
AMBW-26150	TIBCO Business Studio hung when the Salesforce object type was selected for coercion on substitution.
AMBW-26148	A Null Pointer Exception was thrown when a sub process was called by an application that was running on an AppNode configured to use `ftgroup` mode.
AMBW-26119	Starting an application, while the AppNode it was deployed to was starting, caused a deadlock. This has been fixed, and the application can start after the AppNode has been started.

Key	Description
AMBW-26034	The sequence key did not work in the group mode when the key was set to a value. The error `Caused by: java.lang.NullPointerException: null error` was thrown.
AMBW-25935	When multiple applications used the same application module or shared module, and the application module or shared module contained a Shared Resource that was referenced by these applications, the application failed to start if the status of the Shared Resource was **Degraded**.
AMBW-25918	TIBCO Business Studio™ would hang when users removed shared modules from the **Application Includes** page, which can be accessed from the **Project Explorer** view by fully expanding the application and double-clicking **Includes** under **Package Unit**.
AMBW-25786	The bwinstall TIBCO EMS driver failed when the installation contained only the run time environment.
AMBW-25785, AMBW-25754	An exception was thrown at run time, if binary shared modules contained encrypted process files. This has been fixed, and the encrypted process files can now be parsed successfully at runtime.
AMBW-25771	When Shared Module with **JNDI Configuration** shared resource is used in multiple applications that are deployed to the same AppSpace, configuration update for the **JNDI Configuration** shared resource in one application causes issues in the other application.
AMBW-25718	Fixed an implementation bug in the handling of grouping in XSLT.
AMBW-25679	Mappings are maintained when copying and pasting a **Call Process** activity from one process to another.
AMBW-25660	When attempting to reference the attribute in schemas containing attribute definitions, the TIBCO Business Studio mapping tool created a copy of the attribute and generated the following error: `Activity configuration error. The activity [Mapper] has input configuration error. Rename to about.`
AMBW-25659	Added a new section to the *Installation* guide that contains instructions on how to install and link TIBCO Enterprise Message Service™ client libraries from the TIBCO Enterprise Message Service™ installation. Refer to the section "Integrating with TIBCO Enterprise Message Service™" in the *Installation* guide for more details.
AMBW-25643	Applications that had a **JMS Queue Receiver** activity did not work correctly if the engine was configured to use the `ftgroup` mode.
AMBW-25622	When an application with a **Sleep** activity was terminated in the debugging mode, the application was not terminated.
AMBW-25579	If the engine is configured for fault tolerance, and the AppNode failed to start after failover, the application running on the AppNode was impaired.

Key	Description
AMBW-25571	The stackoverflow issue caused by circular dependency between shared modules has been fixed.
AMBW-25525	The **$_error** field for error transitions was not populated in the parent process when an error was found in the called process.
AMBW-25486	When copying and pasting a process in the same package, TIBCO Business Studio incorrectly allowed users to rename the new process to use the name of an already existing process. Now, TIBCO Business Studio notifies users if a process with the same name already exists in the package.
AMBW-25424	Module properties are now supported in the **Key** field on the **Receive Notification** activity.
AMBW-25397	Schema variables were not getting resolved if WSDL and XSD files used the same target namespace. To avoid this issue, ensure WSDL and XSD files use different target namespaces
AMBW-25376	The process property in the **Notify Configuration** shared resource can now be configured to use module properties.
AMBW-24247	The variable list in an **Iterate** group was incorrectly reset when the **JDBC** activity inside the group was refreshed.
AMBW-25351	A Null Pointer Exception was intermittently displayed in a migrated project when a service was added to a component in the Module Descriptor.
AMBW-23571	Updated the documentation for the "Load Balancing an Application Using an AppSpace" sample in the *TIBCO ActiveMatrix BusinessWorks™ Samples* guide to inform the users that to use the load balancing setup without fault tolerance you do not require the database. For the **JMS Receive Message** activity, load balancing is done by setting the flow limit. For the **HTTP Receiver** activity, load balancing is done at the external load balancer level.
AMBW-23940	Changing the com.tibco.pvm package logging level to DEBUG changed the fault response if an invalid SOAP request was sent.
AMBW-22281	When the input was a complex schema a service sub process could not be started from the TIBCO Business Studio process launcher.
AMBW-21735	Editing the sorting option in **Statement** tab now gives the correct command on the XSLT level.
AMBW-20732	Elements in Iterate groups did not display attributes for the assigned schema. Only the simple and complex elements were displayed.
AMBW-16594	Empty module properties, that have `String` set as the data type, are allowed, irrespective of whether they are used by an activity configuration. Empty process properties are not allowed. A validation error is generated for empty process properties, irregardless of whether they are used by an activity configuration.

Release 6.3.4

Key	Description
AMBW-25515	Fixed memory leaks that occurred when subprocesses completed with a fault.
AMBW-25482	When users deleted shared modules, and re-imported the project, the **Call Process** activity did not maintain the name of the subprocess it formerly referenced.
AMBW-25481	The **Recover Activity IDs** check box was re-enabled in the Repair BusinessWorks Projects wizard. Selecting this check box allows the Repair tool to recover the xpdl ID of the activity, or recreate the xpdl ID if it is missing. To access this check box, launch the Repair BusinessWorks Projects wizard by right-clicking on the project and selecting **Refactor > Repair BusinessWorks Projects....**From the wizard, select the **Recover Activity IDs** check box. Follow instructions in the wizard and click **Finish** to repair the project.
AMBW-25188	The **ProcessStack** field in **FaultDetails** or **ErrorReport** has been fixed to show the full stack trace for direct subprocesses.
AMBW-25089	Improvements made to indexing and XSD parsing reduced the amount of time it took to import and validate large migrated projects.
AMBW-25027	A typo was fixed in the JDBC driver connector JAR files name.
AMBW-25003	The description for the **timeout** field was updated to "Specifies the waiting period for a message in milliseconds" in the "Get JMS Queue Message" topic from the *TIBCO ActiveMatrix BusinessWorks™ Bindings and Palettes Reference* guide.
AMBW-24934	Coercion did not work when coercing multiple elements to the same type.
AMBW-24826	Changes made to module properties from the **Module Property** editor and from the **Navigator View** in the TIBCO Business Studio were not always saved.
AMBW-24814	If the engine was configured for the fault tolerance mode, and was using the MySQL 5.6 database, the CREATION and EXPIRATION time entries were not correct for pending messages pushed by the **Notify** activity.
AMBW-24704	When generating the EAR file from TIBCO Business Studio™, a Null Pointer Exception error was thrown if TIBCO ActiveMatrix BusinessWorks™ Plug-in for ActiveSpaces® and TIBCO ActiveMatrix BusinessWorks™ Plug-in for EDI were installed.
AMBW-24645	Oracle database permissions were updated in the "Configuring bwagent for Oracle and TIBCO FTL" and "Configuring bwagent for Oracle and TIBCO Enterprise Message Service" Administration guide topics.
AMBW-24606	Duplicates of subprocesses and the **Start** activity were incorrectly shown in the process launcher view.

Key	Description
AMBW-24244	The `bwdesign` command, ignored the `-name` parameter in the non-interactive mode. The EAR file was created with the same name as the project that was being exported.
AMBW-24163	After migration, the command variable element was not present in the **Data Source** tab, for mapping.
AMBW-24113	Adding coercion to multiple Activity Data sources did not work. Coercion added to the first element was successful, but was lost when it was added to second element.
AMBW-24101	After migration, TIBCO Business Studio™ was unresponsive indefinitely when a folder was moved to the process directory.
AMBW-23859	A database lock exception was intermittently observed in the managed fault tolerance mode, in the AppSpace when MySQL and SQL servers were used.
AMBW-23747	When the bwadmin bwenginedb command was used, an error was thrown, and users were not able to view database related information if the engine was configured with database.
AMBW-23443	The example provided in the tooltip for the **Resource Service Path** field in the REST Service Window was improved.
AMBW-22855	When editing properties from the Properties Editor in TIBCO Business Studio, the values of properties that were changed to strings were not preserved.
AMBW-22511	The ActiveMatrix BusinessWorks product version was updated to the most recent version when viewing product details in TIBCO Business Studio.
AMBW-22197	The `Null Pointer Exception` was displayed, and the bwdesign export command failed to generate the EAR file if the project name and the application name were not the same.
AMBW-22062	In some cases, the timeout value for the **Invoke** activity was not saved properly if it was changed multiple times.
AMBW-21822	Installing ActiveMatrix BusinessWorks would prompt the user to install Java 6 on Mac OS X.
AMBW-21804	Process properties that were defined on an activity were deleted if the activity was removed from the process.
AMBW-21522	If a **Surround with ForEach** group was applied to an element that was currently part of a **For Each** group, the **current-group() Xpath** function did not display under the **Data Source** tab.
AMBW-21500	A process cannot be created in a shared module by selecting **Overview > Create BusinessWorks Process**.
AMBW-21200	Iterate groups did not accept values from schemas without a target namespace.

Key	Description
AMBW-21134	When a process file was moved from one folder to another folder, two threads were concurrently triggered, which caused deadlock.
AMBW-20392	Updated documentation for " Configuring Database for the Engine" in the Administration guide to inform users that a different database instance should be used for each AppSpace, and to do this with a single database, a tablespace or schema would need to be created for each AppSpace.
AMBW-15804	When using the bwdesign utility an error was thrown while exporting a large EAR file because the export process did not wait for the EAR file to finish generating. This corrupted the EAR file, and the file could not be decompressed after it was exported.

Release 6.3.3

Key	Description
AMBW-24604	If no component process was selected, the Debugger did not validate process selection.
AMBW-24463	TIBCO ActiveMatrix BusinessWorks™ incorrectly tried to look up namespaces on the network when loading a schema from a shared module that contained a target namespace corresponding to a network host, for example, ns.tibco.com.
AMBW-24408	When debugging a direct sub process, the process launcher loaded the incorrect schema element as the input element of the request message.
AMBW-24393	Calling the parent process failed after executing the **Activator Process** for **OnStartup** containing a **Call Process** activity.
AMBW-24310	While working in the Process Launcher view, users could not enter input for direct sub processes.
AMBW-24059	Imported projects took a long time to open in TIBCO Business Studio™ because externally located documents were not getting resolved.
AMBW-23857	If a message failed on the SOAP Reference Binding, the Java ClassCastException error message was thrown instead of the ActiveMatrix BusinessWorks error code and message.
AMBW-23699	When a **Call Process** activity called a direct subprocess, that was defined in the Shared Module, and the Shared Module was restarted, a Null Pointer Exception was thrown.
AMBW-23582	Recovery of check-pointed jobs failed when using Managed Fault Tolerance with Oracle database.
AMBW-23540	The issue of column names appearing twice on the tabs in the **Module Properties** editor has been fixed.
AMBW-22852	Module properties, that were part of a property group, can now be selected when configuring an activity.

Key	Description
AMBW-22273	The **Invoke** activity timeout attribute can be set to module property of type String or Integer, by selecting the required type in the drop down option added in the **Activity Timeout** field.
AMBW-22268	TIBCO ActiveMatrix BusinessWorks now supports RAC on Oracle 12C for bwengine.
AMBW-21885	The **Migrate BW Projects...** menu option in Business Studio was incorrectly shown under the Import wizard menu.
AMBW-21451	Joining a conversation failed when the persistence mode was set to group.
AMBW-20502	Removing an unused schema from a project did not remove the dependency of schema from the process.
AMBW-18366	The `No Schema with target namespace found in the module` errors were thrown when users migrated ActiveMatrix BusinessWorks 5.x projects to ActiveMatrix BusinessWorks 6.x.
AMBW-17807	When working in Mac OS X, the xpath expression was properly updated for the **Sequence Key** field after users selected **OK** in the xpath builder editor.

Release 6.3.2

Key	Description
AMBW-23806	The cache did not properly resolve schemas when the bwdesign **`export`** command was used for complex projects.
AMBW-23207	If an array type was used in the JSON Request Body for the REST Service Binding, an incorrect Swagger was generated under the **Service Descriptors** folder.
AMBW-23127	For some nested schema imports Business Studio did not manage the shared components properly.
AMBW-22681	The resource tree locked exception was thrown while refreshing an internal repository file when running the bwdesign tool.
AMBW-22676	Infinite recursion, that occurs if nested coercion contains cyclic schema types, is now prevented.
AMBW-22660	Database locks were not detected when the engine was started.
AMBW-22658	A NullPointerException was reported when a **Group** contained the **Reply** activity.
AMBW-22497	When importing dependent schemas, schema references were not always properly resolved when the application was started.

Key	Description
AMBW-22494	The AppNode status hung if an application used JDK 1.7, or later versions of the software, and allowed unsynchronized access from multiple threads.
AMBW-22055	The **`enablestats`** command for `processinstance` failed in TIBCO ActiveMatrix BusinessWorks™ 6.3.0.
AMBW-22053	A **Shared Module** was not added as dependency after a **Module Property**, which was pointing to a **Shared Resource** from a **Shared Module**, was referenced in the **Application Module**.
AMBW-22037	Users could not create new projects in TIBCO Business Studio if the region and language format in their operating system was set to Thailand.
AMBW-21898	Custom plugins could not be installed in Business Studio.
AMBW-21803	When configuring **Authentication** and **Confidentiality** for the **HTTP Client** Shared Resource, an incorrect label displayed when users hovered over the **...** icon.
AMBW-21713	The **dbconnectionurl** property value was corrected in the Administration guide topic "Database with TIBCO Enterprise Message Service Configuration for bwagent".
AMBW-21677	The XML model miscalculated prefixes when ancestor nodes contained two different prefix mappings for the same namespace and the current Appnode remapped one of those prefixes.
AMBW-21402	When the engine persistence mode was configured for `datastore` mode, the duplicate key detection feature did not work with the PostgreSQL database.
AMBW-21167	TIBCO Business Studio was unable to send the first EMS message to the EMS server after restarting. However, the subsequent messages were successfully sent to the EMS server.
AMBW-21115	When users right-clicked on a module property in TIBCO Business Studio, the menu incorrectly displayed duplicate options, and some options did not work.
AMBW-21083	TIBCO Business Studio failed to add the necessary xslt parameter when a parameter reference followed an asterisk **(*)** in an xpath.
AMBW-20977	When the **Create New Process Property** button was used, while creating a new process property for a process starter, the error, `llegalStateException: Cannot activate read/write transaction in read-only transaction context` was thrown.
AMBW-20900	The error `java.lang.reflect.InvocationTargetException` was intermittently thrown in TIBCO Business Studio if users had configured an application module to use a **shared module** contained within another **shared module**.
AMBW-20725	After creating a new process and launching it in the Debugger, an exception was thrown.

Key	Description
AMBW-20720	When elements of data type `any` were coerced, their sibling elements were also coerced.
AMBW-20530	TIBCO Business Studio did not support text content in XSLT files. In the **Mapper** activity, after mapping a text variable for the first time if you move to another tab, the text node disappeared from the UI.
AMBW-20368	Activities that the user had set to be hidden in TIBCO Business Studio were incorrectly displayed in the Palettes pane if the user created a new process.
AMBW-20297	When the **`bwdesign import`** utility was executed from the command line, and the job failed, an errorlevel of 0 was incorrectly returned.
AMBW-19982	Migrating large projects took a long time to complete.
AMBW-19768	If an activity did not include a transition to the next activity, and the activity was renamed, the name change was not reflected in the XPATH expression of the next activity.
AMBW-19718	From TIBCO Business Studio, processes were not successfully copied and pasted to the Components folder.
AMBW-19530	Nested inner loop accumulation did not reset on entry of each inner loop. On subsequent iterations of the inner loop, the accumulation variable of the inner loop contained accumulation values from the previous inner loop iterations.
AMBW-18516	While mapping a repeating element in the design time, the corresponding runtime XSLT was not generated properly. It missed one of the `xsl:param` element in the runtime XSLT.
AMBW-18219	An exception was thrown, and users were unable to connect to bwagent configured for SSL from the Business Studio Deployment Servers View.
AMBW-18079	Inline schemas that lacked a **targetNamespace** attribute, threw the Null Pointer Exception, when used in a project.
AMBW-17968	The value of the module property was not displayed in the combo box when they were selected on the **Shared Resource**.
AMBW-17550	When data was mapped from one mapper to another mapper, the schema that was produced incorrectly contained unused namespaces.
AMBW-15154	Large TIBCO ActiveMatrix BusinessWorks 5.x projects took a long time to migrate to TIBCO ActiveMatrix BusinessWorks 6.x. After fixing errors in the migrated project and saving the project in the workspace took a long time to build.

Release 6.3.1

Key	Description
AMBW-21937	When an application was deployed from TIBCO Business Studio using the Deployment servers option, deployment failed with an exception.
AMBW-21871	Applications did not start properly when Managed Fault Tolerance was configured at the AppSpace level to use an external database and TIBCO Enterprise Messaging Service for data persistence and transport. This has been fixed. To recreate the database, use the updated database scripts at `<TIBCO_HOME>\bw\6.3\config\dbscripts\engine`. For example, if you are using an Oracle database, execute the updated database scripts at `<TIBCO_HOME>\bw\6.3\config\dbscripts\engine\oracle`.
AMBW-21870	Corrected a race condition that under certain circumstances could cause a false validation failure in the **Parse XML** activity.
AMBW-21868	When sending email with attachment failed, the **Send Mail** activity did not release the lock on the file that was specified as the attachment.
AMBW-21847	Duplicate references forced the cache to require schema locations where they were not needed. So, duplicate references to documents in the document cache are no longer created.
AMBW-21806	Duplicate references forced the cache to require schema location attributes where they were not needed. So, duplicate references to documents in the document cache are no longer created.
AMBW-21649	Managed fault tolerance did not work if a schema used in an application process did not have a targetnamespace. This has been fixed. To recreate the database, use the updated database scripts at `<TIBCO_HOME>\bw\6.3\config\dbscripts\engine`. For example, if you are using an Oracle database, execute the updated database scripts at `<TIBCO_HOME>\bw\6.3\config\dbscripts\engine\oracle`.
AMBW-21646	Failed to update the bundle when modifying a running application in TIBCO Business Studio.
AMBW-21587	Nested Coercions did not work in the Mapper.
AMBW-21583	Documents which depend upon an imported document's included document's components are now properly resolving those references. WSDL documents with annotation and documentation elements are now also properly parsed.
AMBW-21577	When BusinessWorks applications used schemas with no target namespace, the following error was thrown: `no xsd for this imported location`
AMBW-21189	The **Invoke** activity can now be used with the **Accumulate Output** feature for groups. Users can now select **Invoke** as output activity if it has just one **Message->PartName->XSDElement** as its output.
AMBW-20698	TIBCO ActiveMatrix BusinessWorks applications failed to start properly after a process was modified and saved while the Debugger was running.

Key	Description
AMBW-20434	The bwagent registration URL provided in documentation was incorrect. It has been updated to http://<*TEA_HOST*>:8777/tea/.
AMBW-7649	Error Transitions from an event source and group box are now supported

Release 6.3.0

Key	Description
AMBW-21352	When large project containing modifications was saved, the entire project was rebuilt.
AMBW-21347	For large projects, TIBCO Business Studio hangs at "Building Workspace" when creating error markers.
AMBW-21256	Exceptions thrown by conditions on transitions were not handled by the **CatchAll** activity and threw the `ClassCastException`.
AMBW-20851	The process launcher did not show the input request for all sub processes and showed the incorrect input while adding a new sub process.
AMBW-20758	If an importing schema contained a targetNamespace that did not exist in a formerly imported schema, the application failed and threw the following error: `No xsd for this imported location`
AMBW-20699	A memory leak was observed when the XSLT processor processed schemas with import statements.
AMBW-20590	If a WSDL contained nested schemas, an exception was thrown and the application failed to start.
AMBW-20500	An exception was thrown when the XSD and WSDL schemas were not resolved during design-time validation.
AMBW-20459	When BusinessWorks applications used schemas with no target namespace, the following error was thrown: `no xsd for this imported location`
AMBW-20453	The Issue of using XSD Include with chameleon schema has been resolved.
AMBW-20410	When the engine used the HTTP protocol to look up a namespace, there was a significant delay when applications were started.
AMBW-20374	For certain complex hierarchies of schema types, for example, circular type references within a chain of schema types' content models, type references were not resolved properly.
AMBW-20298	Running BusinessWorks Studio on Windows 8.1 threw the following error on startup: `com.tibco.bw.tpcl.org.hyperic.sigar, Missing native code match sigar-x86-winnt.dll`.

Key	Description
AMBW-20296	The custom fault data from nested sub-process invocation was not directly propagated to the main process.
AMBW-20266	TIBCO Business Studio did not display complex items with an asterisk **(*)** icon when the `maxOccurs` attribute was set to a finite number.
AMBW-20201	The element of a WSDL was being referred by incorrectly using the `<include>` tag in the BusinessWorks process file.
AMBW-20148	A `NULL pointer exception` was reported repeatedly at design time. The error was thrown when the existing schema from the input editor of an activity was replaced, and the new schema mapping was configured.
AMBW-20009	When TIBCO Business Studio used the HTTP protocol to look up a namespace, there was a significant delay when applications were started.
AMBW-19992	A memory leak was observed when the engine mode set to Memory mode and the application was redeployed multiple times.
AMBW-19982	Migrating large projects from ActiveMatrix BusinessWorks 5.x to ActiveMatrix BusinessWorks 6.x took a long time to complete.
AMBW-19968	When a nested iterative group's variable list mapped with complex elements the error `Adding definition failed for process` was thrown.
AMBW-19932	Given a scenario a shared resource referenced another shared resource in a shared module, and that shared module was included in multiple applications running on the same AppNode, lifecycling any of the applications changed the state of other applications to be **Impaired**.
AMBW-19870	The application intermittently failed to start and its status changed to **Impaired** after the AppSpace was stopped and the application was undeployed and re-deployed.
AMBW-19863	Iterate group did not include the referred schema and threw the following error: `java.lang.Exception: Unresolved reference`
AMBW-19859	TIBCO Business Studio hung when a large project was migrated in TIBCO Business Studio, and when the project was built in the workspace.
AMBW-19858	TIBCO Business Studio is now able to build a project with complex sets of schemas and does not show the StackOverflow error.
AMBW-19844	Exceptions were observed in the log when a new WSS Provider policy was created in TIBCO Business Studio.
AMBW-19834	Process files that were created in TIBCO ActiveMatrix BusinessWorks 6.2.1 and contained errors could not be opened in ActiveMatrix BusinessWorks 6.2.2.
AMBW-19810	The ActiveMatrix BusinessWorks 6 schema resolver failed to properly resolve referenced components when using the Swift plug-in.

Key	Description
AMBW-19685	When a user created a new Service in an existing process using an existing XSD, the XSD was incorrectly modified.
AMBW-19677	The attribute fields **`modifiedOn`** and **`modifiedBy`** were updated after a change was made to a process file. This behavior caused conflicts during file synchronization when working with a revision control system.
AMBW-19664	When the option **Refactor > Rename XSD Schema namespace** was used to modify the namespace of the XSD file, an exception was thrown.
AMBW-19654	If an **Invoke** activity had an ActivityContext element, but the PartnerLink of the **Invoke** activity did not have a context parameter, the serialization of the **Invoke** activity threw an exception, and the process could not be saved.
AMBW-19634	The bwdesign utility was unresponsive after generating EAR files for the projects.
AMBW-19607	On Microsoft Windows 7, the AppNode would not start and the error `java.util.zip.ZipException: Exception in opening zip file: was` thrown if the *TIBCO_HOME* directory name contained a space.
AMBW-19590	Shared module dependencies were not automatically added to the **Dependencies** section if a shared resource was being used in the shared application module.
AMBW-19557	Group accumulate failed when the same target namespace was found in multiple schemas.
AMBW-19503	The CatchAll block did not handle exceptions or errors thrown by incorrect expressions on transitions.
AMBW-19478	An option to add multiple coercions for an abstract element was not available in ActiveMatrix BusinessWorks 6.x.
AMBW-19412	Using the user defined prefix to access the WSDL elements instead of the default tns element caused errors during runtime.
AMBW-19407	The SOAP Reference Binding was not properly updated if the **HTTP Client** shared resource was renamed, deleted, or removed.
AMBW-19379	If the location of module properties for a deployed application was updated, and the AppNode that the application was running on was restarted and redeployed, the application failed.
AMBW-19325	Starting a simple process containing a very complicated schema threw the error, `Failed to resolve Schema java.lang.AssertionError: provider cannot be null.`
AMBW-19199	When using a group, job data could not be viewed in the debug mode.
AMBW-19106	With the current implementation it was not possible to retrieve the statistics for individual activities or processes.

Key	Description
AMBW-19041	The `Stale Transition Warning` message continued to be displayed even after cleaning and re-factoring the project.
AMBW-18954	When a new process property was created from the **General** tab, an error message incorrectly displayed.
AMBW-18982	In TIBCO Business Studio, module property names and their values were truncated in the **Module Property Selection** drop-down menu if they contained more than 64 characters. The number of characters that display in the **Module Property Selection** drop-down menu was increased to 128.
AMBW-18901	Error transitions are now available for all activities and groups in Business Studio.
AMBW-18900	In Linux, the parameter type could not be selected from the drop-down menu when it was being configured in the properties view of a REST Service Binding.
AMBW-18898	TIBCO Business Studio no longer displays error `Selected schema element's target namespace cannot be empty!` if the namespace in the target XSD was not declared.
AMBW-18706	Migrated projects did not have the System Module properties.
AMBW-18586	Job data was missing from the Job Data view in the main process when the calling subprocess reached to breakpoint in the debug mode.
AMBW-18566	After a project was migrated from ActiveMatrix BusinessWorks 5.x to ActiveMatrix BusinessWorks 6.x, the XML attribute in the process was missing if the attribute in the **Call Process** activity used a constant value.
AMBW-18565	The migration tool threw an error if all the WSDL services in the project were not implemented.
AMBW-18464	After migrating a project from ActiveMatrix BusinessWorks 5.x to ActiveMatrix BusinessWorks 6.x, a literal string with a value of "true" was translated to a boolean function true().
AMBW-18448	If an application is redeployed, and the latest version of an application is not processed during the application start up, the status displays as **Degraded** in the Admin UI.
AMBW-18305	When **JDBC** activity output changed, an iteration element did not update with the new changes.
AMBW-18271	Activity timeout in the **Invoke** activity did not support Module Properties.
AMBW-18092	When the **Copy-Contents-Of** option was selected during mapping, the error `PVM-XML-106018: Expression Creation Error: '<?xml version="1.0" encoding="UTF-8"?>` was thrown at runtime.
AMBW-18005	The Activity output configuration error was displayed when the **Invoke** activity was renamed or a dummy change was done to the name.

Key	Description
AMBW-17870	The following error was shown in TIBCO Business Studio when the EXISTS() XPath function was used with the activity output to check if the activity was executed: `Effective boolean value of a required component is always true`
AMBW-17082	Changing the reference in a process to use a new port type did not clean up the old references inside the process.
AMBW-17033	JAXWSInterop sample (**binding** > **soap** > **http** > **JAXWSInterop**) generated 'Activity [JavaInvoke] fault' when deployed in Admin.
AMBW-15253	The schema parser, when checking for cycles in model groups, did not properly exclude the contents of element particles.
AMBW-13932	If a global variable name and the iteration group's **Iteration Element** field name was the same, the migration tool generated a unique name for the iteration element.
AMBW-12263	When a user defined a fault context variable at the Port Type level, that context did not work at run time. Operations might define multiple faults, so it was difficult to determine the fault that should be used for each operation.

Migration

Release 6.5.0

Key	Description
AMBW-32993	After migration, the elements for Accumulate Output of the **Iterate** group were not visible.
AMBW-32816	The $Error_<activityName> was not migrated in the **Catch** block correctly.
AMBW-32808	A few mappers were migrated as empty activities.
AMBW-32807	The mapping repair mechanism applied to activities during migration resulted in the argument cannot be null exception. Also, when the service definition was migrated, the message that was defined in the imported WSDL was not handled correctly.
AMBW-32377	After migration, unused process properties were created in the processes.
AMBW-32374	A few processes migrated as empty scopes and the error `Argument cannot be null` was displayed when trying to open those processes. This occurred when the schemas were not available for some of the activities in those processes.
AMBW-32241	TIBCO Business Studio™ displayed the `Null pointer exception` when accessing the service context, post migration.
AMBW-32171	A few processes migrated as empty scopes.

Key	Description
AMBW-32169	After migration mappings in the main process were broken.
AMBW-32162	Processes representing Operations migrated as empty processes.
AMBW-32064	Migrated projects failed to start at runtime due to the missing schema.
AMBW-32062	After migrating a project, runtime failed with the error, `cvc-complex-type.3.1: The attribute, 'ref', is not valid with respect to its attribute use. src-element.`
AMBW-32041	After migrating and running the project, the subprocess output was missing from the job data.
AMBW-32035	After migration, the **Output** activity field for the **Iterate** group was not populated.
AMBW-31965	After migration, the XPath expression from the **Invoke** activity was not resolved .
AMBW-31961	After migration, a few processes displayed the process inline schema namespace collision error.
AMBW-31905	After migration, the output of the **Invoke** activity present inside the group was not available outside the group. The output was unavailable outside the group because the **Global Scope** check box was not selected.
AMBW-31899	After successfully validating a project, when a process was deleted and then migrated again, the project displayed errors in other processes.
AMBW-31896	Selective migration failed for the service agent process when the process was migrated using the command line.
AMBW-31880	The unresolved type validation error occurred due to the invalid namespace in the output element of **Call Process** activity.
AMBW-31875	The **Get Context** and **Set Context** activities migrated twice.
AMBW-31859	After migration, the output of the **Invoke** activity was not visible.
AMBW-31857	After migration, duplicate datasources were observed in the transition from the **Invoke** activity.
AMBW-31823	The service implementation process was not migrated correctly when the service agent process name included a period (.).
AMBW-31609	During migration, process loading failed with the out of memory issue leading to the Java heap space error.
AMBW-31551	Mappings in the **End** activity were not migrated.
AMBW-31548	Projects containing global properties within Java global instance shared resource can now be migrated.

Key	Description
AMBW-31355	Due to the missing name attribute in a process, the `argument cannot be null` error was displayed when the process was opened after migration.
AMBW-31097	Elements in the context binding were missing after migration.
AMBW-31096	The component was deleted after the project was saved because the Name attribute in the process was missing after migration.
AMBW-31095	Operation contexts were not migrated.
AMBW-31060	User defined faults were not visible in the catch all block for migrated projects.
AMBW-31048	Some processes failed to open after migration due to the missing namespace declaration within the process's definition element.
AMBW-31002	Service Agent migration failed as the corresponding context schema migrated incorrectly.
AMBW-31001	After migration, a process failed to open and displayed the `argument cannot be null` error.
AMBW-30983	Contents of the Schema file were empty after migration. This issue was caused due to the UTF-16LE charset present in the Schema file.
AMBW-30982	The Custom ErrorSchema was not available in the **End** activity of the main process block after migration.
AMBW-30977	The choice option was not visible for the **Start**, **Render XML**, **Parse XML** activities post migration.
AMBW-30974	The **Get Context** activity migrated as a null activity.
AMBW-30948	During migration, multiple schemas could not be migrated separately. A single XSD file was created for multiple processes.
AMBW-30859	The service process migrated as empty which led to the component process under the module descriptor for the service process not getting created.
AMBW-30831	When a TIBCO ActiveMatrix BusinessWorks™ 5.x project was configured using SSL, the corresponding JMS connection was not created after migration.
AMBW-30587	During migration, when a WSDL inline schema was referred as input or output for direct call processes and for service migration, the location evaluated for adding the import in a process model failed with the `Null Pointer exception`. Migration failed, and the null pointer exception occured as locations with .xsd qualifiers were incompatible with the URI formation guidelines.
AMBW-30559	Few processes failed to migrate correctly and displayed the `argument cannot be null` error, when opened in TIBCO Business Studio.

Key	Description
AMBW-30406	The service agent failed to convert to the service process and binding creation failed as the service agent used the input header from the WSDL instead of the port WSDL.
AMBW-30403	Shared variables corresponding to Context Resource did not contain the required headers and the expected structure of the headers was not displayed correctly in the **Output** field for the **Get Context** activity after migration.
AMBW-30401	After migration, the Output Signatures for the **Get Context** and **Set Context** activities were not displayed correctly due to the **type** field for the Job Shared Variable coming blank.
AMBW-30385	Fault element was not displayed in the error variable of the **Call Process** activity after migration.
AMBW-30278	Input mappings for the **Generate Error** activity were missing after migration.
AMBW-30154	After migration, SOAP services were not implemented correctly. Once the migration process was complete, the migration log displayed the error message, `The Invoke activity has its input specified as a WSDL message only, for now`, and the SOAP service implementation migrated as empty.
AMBW-30146	After migration,the default host in the **HTTP Client** shared resource was mapped to https://localhost instead of localhost.
AMBW-30144	Processes with the **Start** and **End** activities where schemas pointed directly to a WSDL Inline Schema element were migrated incorrectly.
AMBW-30143	When a process containing activities from TIBCO ActiveSpaces was opened after migration, the following error message was generated: `The argument cannot be null`.
AMBW-29918	External schemas were not generated post migration when a ActiveMatrix BusinessWorks™ 5.x project contained inline schemas with WSDL references.
AMBW-29850	Migrating ActiveMatrix BusinessWorks 5.x project to ActiveMatrix BusinessWorks 6.x failed with the error `java.lang.StackOverflowError`.
AMBW-29849	The **Encoding** field on the **General** tab of the **File Poller** activity displayed a warning when projects were migrated from ActiveMatrix BusinessWorks 5.x to ActiveMatrix BusinessWorks 6.x.
AMBW-29831	There were naming errors in the Activator process after migration because the name of the **Call Process** activity used in the Activator process was not according to the NC naming standard.
AMBW-29648	When an application containing data format with elements from a schema was migrated, the migration generated data format would not populate the elements resulting in errors in the application.
AMBW-29646	The `Argument cannot be null` error for migration scenarios has been fixed.

Key	Description
AMBW-29447	Though mappings were correct, the activities failed to recognize the output element. There were no input configuration errors but errors like `Activity has input configuration error. No Matching response` were displayed. This led to the Argument cannot be null error when trying to open the faulty processes post migration.
AMBW-29438	Within an if condition, when the value assigned for false was zero, the XML node was not rendered after migration.
AMBW-29425	The custom data type used in the input parameter of the **JDBC Call Procedure** activity migrated as a string.
AMBW-29277	Migration failed for some processes and displayed the `Argument Cannot be Null` error.
AMBW-28923	Processes did not migrate, and displayed the `argument cannot be null exception` when the processes were opened.
AMBW-28342	ActiveMatrix BusinessWorks 5.x sub-processes configured with dynamic override migrated as empty sub-processes.
AMBW-27626	Migration failed for the date-Time translation.
AMBW-27605	Data was not passed from the main process to the subprocess, and the process failed after migration.
AMBW-27324	Due to the `stackoverflow` error displayed during migration, a few processes did not migrate correctly.
AMBW-27254	The function true migrated as true() when this function was used in the XPath of an activity but did not migrate as true when the function was used on a transition.
AMBW-27107	The **Activity Error Variable** field was not selected after migration, and the error messages of the group activities were not reflected outside the group.
AMBW-26985	Expression fields were not migrated because the root element was not recognized by the migration tool.
AMBW-26873	After migration, the external XSDs displayed the error `src-resolve: Cannot resolve the name element name' to a 'element declaration' component.`
AMBW-26629	Migrated ActiveMatrix BusinessWorks 6.x projects displayed design time errors when the sub-process referred to a WSDL inline schema.
AMBW-26620	After migration, downstream mappings were broken as the SecurityContext element was not available at the output from the **HTTP Receiver** activity for mapping.
AMBW-26430	When a process variable was defined without a schema or inline element reference, mapping errors were displayed after migration.

Key	Description
AMBW-25258	After Migration, when one of the elements from the $_processContext was mapped, the mapping broke since the element was not available.
AMBW-23174	Links between the process service descriptor or WSDL and the process broke after migration.
AMBW-22999	Selecting the option **Add Complex Type Variable** allowed users to select only the global element. Selecting Schema type (complex types, WSDL messages) was not supported.
AMBW-20170	After migration, validation errors occurred when an XML element from an XSD schema, without a target namespace could not be resolved.

Release 6.4.2

Key	Description
AMBW-28571	The **JDBC Call Procedure** activity was not migrated correctly.
AMBW-28298	The caller process did not receive the resultset from the subprocess after migration.
AMBW-28287	Activities in all the fault handlers for a given subprocess were assigned the same name after migration.
AMBW-27953	The schema was not available for the iteration element in the Iteration group.
AMBW-27504	The migration tool did not migrate the global variables that were referred to in a group's condition.
AMBW-27492	Some Active Enterprise schemas were not migrated consistently when migrating the design time libraries.
AMBW-27222	When (|) symbols were replaced with the word "or" in the XPath, conditions returned the value true without evaluating the condition.
AMBW-26087	When migrating SSL projects with mutual authentication, the **Identity Store Provider** value was not selected correctly.
AMBW-20010	The **Set Context** activity was migrated as an empty activity and the mappings were not resolved.

Release 6.4.1

Key	Description
AMBW-28282	Unnecessary HTTP client process properties were created after migrating processes with multiple HTTP client activities.
AMBW-27921	During selective migration, dependent processes were not selected after clicking the **Select Linked Processes** button.

Key	Description
AMBW-27800	A Null Pointer Exception error was thrown when migrating the **Process Name Dynamic Override** expression for a **Call Process** activity. The error was thrown due to the XPath expression provided in the **Process Name Dynamic Override** field.
AMBW-27794	Some of the TIBCO ActiveMatrix BusinessWorks™ 5.x processes were sometimes migrated as empty processes.
AMBW-27685	Processes from the Design Time Library were incorrectly displayed during selective migration of the ActiveMatrix BusinessWorks™ 5.x project even if the Design Time Library had already been migrated as a shared module in the same workspace.
AMBW-27603	The Repeat on Error loop was executed and the error loop retried though errors were not reported.
AMBW-27507	For a few main processes, the links to their subprocesses present in the shared modules were not functional. Double clicking the main process, or clicking the **Go to Direct Subprocess** icon failed to call the subprocesses.
AMBW-27432	If a migrated subprocess had a Catch block, data from activities in the Catch block could not be mapped to the **End** activity in the subprocess. Now, data from activities in the Catch block can be mapped to the input of the **End** activity.
AMBW-27430	The **Destination Queue** field, found under the **Input** tab of the **JMS Queue Requestor** activity was not migrated.
AMBW-27240	The **Destination Queue** field in the **Input** tab of the **JMS Queue Sender** activity was mapped with a When-Otherwise clause. After migrating the ActiveMatrix BusinessWorks project to ActiveMatrix BusinessWorks 6.x, the mapping was lost.
AMBW-27010	Existing processes could not be selected while migrating projects selectively.

Release 6.4.0

Key	Description
AMBW-27206	When the WSDL reference was configured in the Input editor the **Mapper** activity migrated as an empty activity.
AMBW-26432	Mappings in the **Call Process** activity which were invoked from Service Process broke if the **Call Process** activity had a WSDL schema reference.

Release 6.3.4

Key	Description
AMBW-20896	XPath comments are now converted to the ActiveMatrix BusinessWorks 6.x. format when migrated from ActiveMatrix BusinessWorks 5.x.

Key	Description
AMBW-18591	The migration tool migrated all the global properties as process properties for every process, regardless of whether they were used by the process or not.
AMBW-16406	When you migrated a project using the command line, the output schema in the migrated project was missing.

Release 6.3.3

Key	Description
AMBW-24274	Schemas with different encoding are now supported in migration.
AMBW-24220	Selecting and migrating dependent processes is now supported. Click the **Select Linked Processes** button, to migrate all the dependent processes under the main process.
AMBW-23580	There was an issue with refreshing the Data Format Shared Resource, on the **Parse** activity. The Shared Resource refreshed only on un-mapping and re-mapping the data format.
AMBW-21089	When an ActiveMatrix BusinessWorks 5.x project containing an HTTP Shared Resource with a space in its name was migrated to ActiveMatrix BusinessWorks 6.x, the HTTP Shared Resource is not correctly mapped in the Transport configuration of Soap Binding.
AMBW-18569	Input and output data that was set on TIBCO Rendezvous® activities was not migrated properly.
AMBW-18511	XPath functions with prefixes were not migrated correctly to ActiveMatrix BusinessWorks 6.x.

Release 6.3.2

Key	Description
AMBW-22531	Processes that were created in ActiveMatrix BusinessWorks 5.x , and contained an **Iterate** group, did not successfully migrate to ActiveMatrix BusinessWorks 6.x.
AMBW-21900	When an attribute was mapped from another attribute, the attribute value was missing after the projects were migrated from ActiveMatrix BusinessWorks 5.x to ActiveMatrix BusinessWorks 6.x.
AMBW-20164	If an application, that contains a process using the **Call Process** activity, is not properly migrated from ActiveMatrix BusinessWorks 5.x to ActiveMatrix BusinessWorks 6.x. if output details have not been set on the **Call Process** activity.
AMBW-18512	Shared variables that were defined using a schema reference were not correctly migrated from ActiveMatrix BusinessWorks 5.x to ActiveMatrix BusinessWorks 6.x.
AMBW-18473	Mapping of the process `$start/root` to a process variable migrated incorrectly.

Key	Description
AMBW-18095	If an iteration element from an **Iterate** group was used as an input, the mapping broke after the project was migrated.
AMBW-17825	Mapping for a repeating element was not properly migrating from ActiveMatrix BusinessWorks 5.x to ActiveMatrix BusinessWorks 6.x.
AMBW-20038	ActiveMatrix BusinessWorks 5.x projects did not migrate properly if they used XSD files that did not use UTF-8 for encoding.

Release 6.3.1

Key	Description
AMBW-20791	While projects were migrated, schemas were not loaded properly and faced encoding issues.

Release 6.3.0

Key	Description
AMBW-20762	When migrating a ActiveMatrix BusinessWorks 5.x project with **Java Palette** activities to ActiveMatrix BusinessWorks 6.x, the migration wizard reported that the project being migrated is a java project.
AMBW-20726	Migration was not successful in ActiveMatrix BusinessWorks 6.3.0 when the project contained a global variable of the password type.
AMBW-20034	SSL enabled JMS Connection references were lost after migration.
AMBW-19933	JMS Queue Requestor activities from ActiveMatrix BusinessWorks 5.x with message type set to `XML text` were not migrated correctly in ActiveMatrix BusinessWorks 6.x.
AMBW-19861	An internal error occurred, and migration was aborted when large projects were trying to be migrated from ActiveMatrix BusinessWorks 5.x to ActiveMatrix BusinessWorks 6.x.
AMBW-19559	After migration, projects in ActiveMatrix BusinessWorks 6.x failed at runtime as an additional import namespace with an invalid schemaLocation was added in the inline schema file.
AMBW-19180	While migrating **JMS Queue Sender** activities from ActiveMatrix BusinessWorks 5.x to ActiveMatrix BusinessWorks 6.x, projects with message type Map and Stream were not migrated correctly, and became empty activities in ActiveMatrix BusinessWorks 6.x.
AMBW-18706	System module properties were missing from migrated projects.
AMBW-18594	After migration, coerced activity inputs are migrated correctly.

Key	Description
AMBW-18565	The migration tool did not implement all the WSDL services in a project.
AMBW-18472	Duplicate output transitions were created after using the migration script for ActiveMatrix BusinessWorks 5.x projects.
AMBW-18293	For migrated ActiveMatrix BusinessWorks 5.x processes, the **`<bpel:import>`** element did not contain the namespace attribute for schema or WSDL references that did not have target namespace.
AMBW-15253	An error was encountered after migration if the schema has an import statement that cannot be resolved and one for a namespace, that was never used in the process.

Palettes

Release 6.5.0

FTP Palette	
Key	Description
AMBW-32911	The **FTP Put** activity was transferring data in ASCII format even when binary transfer mode was selected and the **Overwrite Existing File** option was not selected.

HTTP Palette	
Key	Description
AMBW-31211	The httpVersion, statusCode, and reasonPhrase data elements of the statusLine data element were not populated in the fault output of the **Send HTTP Request** activity when the HTTP server returned the 500 HTTP response.
AMBW-29915	When the **Send HTTP Request** activity's input headers type definition was changed, an error was generated due to unresolved MIME schema component.
AMBW-29138	The **Send HTTP Request** activity could not save the file obtained from the server response to the disk.
AMBW-27590	The HTTP request failed when the Content-disposition header in **Send HTTP Request** activity was unable to process multi-part MIME attachments according to the specifications for HTTP Components library.
AMBW-27506	The connections at the **HTTP Client** shared resource were active even after the HTTP server closed the connections. Notification was not sent to the **HTTP Client** shared resource after the timeout period.
AMBW-27290	When the **Write To File** check box was selected on the **Advanced** tab of the **Send HTTP Request** activity, and the size of the content sent by the server was large, TIBCO Business Studio™ displayed the out of memory error.

HTTP Palette	
Key	**Description**
AMBW-24812	Contents of large MIME attachments in the HTTP Requests are now written directly to the disk without accumulating in a memory, when the **Write To File** check box is selected in **HTTP Receiver** or **Wait for HTTP Request** activities.
AMBW-21261	The **statusLine** element was empty in the **Fault** tab of **Send HTTP Request** activity when the `HttpServerException` was caught and the HTTP server responded with the error code 5xx.

General Activities Palette	
Key	**Description**
AMBW-30723	The second element was renamed incorrectly when the same coercion was applied on two sibling elements.
AMBW-30632	TIBCO ActiveMatrix BusinessWorks™ generated an error when the expression referred to a variable name not defined in the static context was mapped to a copy content.

JAVA Palette	
Key	**Description**
AMBW-30077	The **XML To JAVA** activity did not show a schema in the **Input** tab when it was linked to another activity.
AMBW-29456	When users refreshed the **XML To Java** activity before generating a schema, the schema with errors was produced, and validation errors were displayed. This has been fixed, and the correct schema is created after refreshing the activity.
AMBW-29419	When the CustomerProfile class in a newly added **Java To XML** activity was selected or reloaded in one process, the **Java To XML** activity in other processes failed to display the output in the **Output** tab.
AMBW-26871	Incorrect schemas were generated when composition was used in two Java classes, and both the Java classes were used in the **Java To XML** activities in the same application module.

JAVA Palette

Key	Description
AMBW-32203	The **Java To XML** activity failed and displayed the `Activity output data validation` error due to incorrect annox generation of the arrays of type string (non-primitive) and 2D array of type class. For projects created or modified in TIBCO ActiveMatrix BusinessWorks™ 6.4.2_HF-003, go to the Navigator explorer and delete the `.annoxfiles` folder and the `.ann.xml` files from the `bin` folder or from the project's workspace. Also, delete the existing auto generated schemas from the `schemas` folder and reload the respective class to generate new schemas. If the schemas are not deleted, it leads to duplicate schemas and the project fails due to the issues with validation.

JDBC Palette

Key	Description
AMBW-32891	The **JDBC Call Procedure** activity was not serializing the sqlState node if a `JDBSQLException` was generated. This has been fixed, and the node is now successfully serialized.
AMBW-32759	ActiveMatrix BusinessWorks™ generated errors when the **JDBC Connection** shared resource using custom JDBC driver could not create new connection. This happened due to the TeraData database aborted the session in use.
AMBW-31516	The `String index out of range: -1` error was generated with the Microsoft SQL data direct driver, when it was used with the server instance name instead of a port number in a JDBC shared resource.
AMBW-30889	**ResultSets Use Schema** was unable to fetch the metadata for the resultset from the stored procedure when the schema name was set to a module property in the **JDBC Call Procedure** activity.
AMBW-30694	The **JDBC Call Procedure** activity timed out when calling a stored procedure that had an object type input parameter, and if one of the fields of input parameters was empty.
AMBW-30619	If an SQL stored procedure had OUT parameters and was returning resultsets, ActiveMatrix BusinessWorks 6.x could not process the resultsets.
AMBW-30615	All whitespaces were removed from UnresolvedResultSets when the **Interpret Invalid XML Chars** check box on the **Advanced** tab of the **JDBC Call Procedure** activity was selected.
AMBW-30242	If there was a space in the column name in the Oracle stored procedure, the following error message was generated: `Invalid column name`.
AMBW-30166	When users called a stored procedure that returned multiple results, the UnresolvedResultsets variable was not populated with results from the database.

JDBC Palette	
Key	**Description**
AMBW-30117	When a called stored procedure returned a select statement containing the "at symbol" (@), the UnresolvedResultsets variable was not populated with results from the database.
AMBW-29662	An invalid unwrap error occurred for certain **JDBC Call Procedure** scenarios.
AMBW-26926	When configuring a **JDBC Connection** shared resource to connect to a DB2 server, the error `The encryptionMethod or autheticationMethod specified is not supported by the DB2 server you are connection to` was generated if the AutheticationMethod option was used.
AMBW-24035	Activities from the JDBC Palette displayed a `JDBC Timeout Exception` when the query loads were too large for the connection pool to handle.
AMBW-22945	The **JDBC Query** output schema was not updated in the process when the iteration group was present in the same process.

JMS Palette	
Key	**Description**
AMBW-32877	The **JMS Receive Message** activity was unable to reconnect after restarting IBM MQ 8 server.
AMBW-32837	The **JMS Receive Message** activity failed to receive messages from IBM MQ 8 server if the messages contained empty properties.
AMBW-32825	The Process Property with a value as a Module Property could not be set in the **Message Selector** field on the **Advanced** tab of the **JMS Receive Message** activity.
AMBW-32369	The module property is now supported for the **Delivery Delay (msec)** field on the **Advanced** tab of the **JMS Send Message** activity.
AMBW-31933	The **JMS Receive Message** activity with Client Acknowledge Mode displayed incorrect receiver count on the queue in the FTgroup mode when the EMS server was restarted.
AMBW-31649	ActiveMatrix BusinessWorks failed to make SSL connection to the EMS 8.4 server as the EMS client did not support SHA256 cipher.
AMBW-31202	The dynamic property of the boolean data type was replaced with the string data type for the **JMS Receive Message** activity.
AMBW-29628	The **JMS Send Message** activity was unable to reconnect after restarting IBM MQ 8 server.
AMBW-29558	Runtime memory leak was observed when running long-time stability test for **JMS Receive Message** activity.

JMS Palette	
Key	**Description**
AMBW-28017	The bwengine was unresponsive and displayed the `javax.jms.IllegalStateException: Consumer is closed` exception under heavy load or during load testing. The bwengine was unresponsive because the **JMS Receive Message** activity failed to respond.
AMBW-26750	ActiveMatrix BusinessWorks 6.x could not be connected to the JBOSS 7.x or higher version application server due to unsupported JNP protocols.
AMBW-24989	The **Process Property** having value as **Module Property** could not be set in the **Message Selector** field on the **Advanced** tab of the **JMS Receive Message** activity.

Parse Palette	
Key	**Description**
AMBW-32381	The out data validation stack trace in ActiveMatrix BusinessWorks 6.x did not specify the erroneous elements.
AMBW-30580	TIBCO Business Studio displayed `File [null] cannot be opened using encoding method [ASCII]` error when the **Parse Data** activity got an empty file or null data as a string input.

REST and JSON Palette	
Key	**Description**
AMBW-32937	The **Use Null For Empty Value** option for the **Parse JSON** activity and the REST Service Binding failed for specific scenarios.
AMBW-31344	The **Parse JSON** activity could not parse unicode characters. This has been fixed now. From TIBCO Business Studio, pass the following property in the VM arguments to enable unicode conversion: **`-Dcom.tibco.plugin.restjson.escape.unicodeInText=true`**.
AMBW-30574	During the XML element to JSON conversion, the leading and trailing spaces were trimmed.

XML Palette	
Key	**Description**
AMBW-32835	Messages with duplicate prolog could not be parsed in the **Parse Xml** activity. To avoid producing an XML declaration in the **Transform Xml** activity output, the following property must be added in the AppNode or AppSpace `config.ini` file: **`bw.palette.xml.transform.omitXMLDeclaration=true`** From TIBCO Business Studio™, add the VM argument **`-D bw.palette.xml.transform.omitXMLDeclaration=true`**. If the property is not present or has a value `false`, it produces an XML declaration in the **Transform Xml** activity output.
AMBW-30686	The **Transform XML** activity did not return values for elements where the XSLT file had conditions and where the input XML attribute was blank or nil. For example <ws:Amount /> or <ws:Amount xsi:nil="true" />.
AMBW-31537	When using the **XML Transform** activity, the `EmptyStackException` error was displayed during XSLT transformation.
AMBW-29415	The **Transform Xml** activity now shows the XML declaration in the XML output.
AMBW-28657	The `XMLParseException` was generated when the **Format using default namespace** check box on the **General** tab of the **Render Xml** activity was selected.

Release 6.4.2

JAVA Palette	
Key	**Description**
AMBW-26555	When a class that was extended from the Exception class was used in the **JAVA To XML** activity, an incorrect schema was generated after clicking on **Reload**.

JDBC Palette	
Key	**Description**
AMBW-28698	Stored procedure parameters signature was not displayed when the user used data direct drivers with the **Package** field selected.
AMBW-28393	When the **JDBC Call Procedure** activity returned multiple levels of nested objects and some of the objects contained null values, the activity did not display all the output parameters.
AMBW-28225	When the option to override the SQL statement was enabled on the **JDBC Query** activity, and the activity failed, the exception `null` was thrown.

JDBC Palette	
Key	**Description**
AMBW-27932	When the Oracle stored procedure returned an object type of type number as the output parameter, the **JDBC Call Procedure** activity set the decimal part of the input value to zero.
AMBW-27566	An error was displayed on the **Input** tab of the **JDBC Call Procedure** activity when some of the parameters contained the hash character (#), which was retrieved from the database queries.
AMBW-27035	The **SQL Direct** activity did not return the resultset of the subsequent queries when multiple queries were executed in a single statement.

JMS Palette	
Key	**Description**
AMBW-29103	The property defined in the **DynamicProperties** field of the **Input** tab of the **JMS Send Message** activity was not published as a part of the JMS header.
AMBW-27413	When a module property was used in the **Expected Remote Hostname** field of the SSL Client Configuration resource, TIBCO ActiveMatrix BusinessWorks™ ignored the value in this field and established connections with remote host name.

HTTP Palette	
Key	**Description**
AMBW-25136	Users could not access the security context content for **HTTP Reciever** activity even when the **Expose Security Context** check box was selected.

Release 6.4.1

JDBC Palette	
Key	**Description**
AMBW-28384	If a **JDBC Query** activity was inside a transaction group, and the **Process in Subsets** option was enabled for the activity, an error was thrown when the subset of the last record was reached after the first iteration.
AMBW-28030	When the **Process in subsets** option was selected, and the last subset was reached in the first loop, the **JDBC Query** activity did not release the connection to the database.
AMBW-27477	If the **JDBC Call Procedure** activity processed a result set, and a nested object in the output was set to null, a NullPointer Exception was incorrectly thrown at runtime.

General Activities Palette	
Key	**Description**
AMBW-27564	TIBCO Business Studio™ frequently stopped responding on the Windows operating system while building the workspace.

JMS Palette	
Key	**Description**
AMBW-28416	When a module property was used for the **Expected Remote Hostname** field, ActiveMatrix BusinessWorks™ ignored the value that was set and established connections with the remote host name.
AMBW-28343	JMS activities did not receive messages in the expected sequence.
AMBW-27990	For SSL connections, the JMS activities tried to connect to the TIBCO Enterprise Messaging Service (EMS) TCP URL instead of connecting to the SSL URL.
AMBW-27891	Under high load, the **Get JMS Queue Message** activity inside a JMS Transaction block failed with the `ConcurrentModificationException` at runtime.
AMBW-27524	The **Expected Remote Hostname** only checked the hostname specified in the CN value. With the fix, hostnames provided in the Subject Alternate Names (SANs) are also verified.
AMBW-26169	JMS dynamic property now supports boolean, double, integer, int, decimal, float, byte, long, and short data types.
AMBW-25934	A session leak was observed when the **JMS Send Message** activity was used inside a JMS transaction.

Release 6.4.0

HTTP Palette	
Key	**Description**
AMBW-26423	Requests were sent to the wrong port when the **HTTP Send Request** activity was under high load.

JDBC Palette	
Key	**Description**
AMBW-26752	When a timestamp value was inserted in an Oracle database, millisecond values were truncated to 000.
AMBW-26530	When the **Process in Subsets** option was selected in the **JDBC Query** activity, JDBC connections did not close.

JDBC Palette	
Key	**Description**
AMBW-26390	Data direct oracle driver of the JDBC Connection Shared Resource now supports the **LoadBalancing Connection** property.

REST and JSON Palette	
Key	**Description**
AMBW-26410	When schemas were created from the **Parse JSON** activity, the XSD did not contain the attribute `elementFormDefault="qualified"`. The activity failed with the error `JSONParserException`. This has now been fixed. Now when a schema is created from the **Parse JSON** activity, it works successfully at runtime.
AMBW-26409	The **ParseJSON** activity threw an error when parsing a schema which used a type that was imported from a different XSD. This has been fixed now.
AMBW-26392	Decimal values are now not converted to the exponential form and conversions go through. An exception to this would be when zero (0) is present before the decimal point and 6 or more zeroes are present after the decimal point before a non-zero number. In this scenarion, the result is in the exponential form, for example, 0.000000*XX where X is a number other than zero (0).
AMBW-20729	When configuring the **Invoke REST API** activity, path or query parameters were not parsed correctly when a module property was used for the **Resource Path**.

JMS Palette	
Key	**Description**
AMBW-27101	The **Connection Factory SSL** password did not work when a module property was used. A run time error was thrown.
AMBW-27037	Even if the polling interval on the **JMS Receive Message** activity is set to seconds, internally ActiveMatrix BusinessWorks treated the timeout value in milliseconds.

FTL Palette	
Key	**Description**
AMBW-25642	When the applications started, a duplicate FTP connection opened for each **FTL DIR** activity.

Mail Palette	
Key	**Description**
AMBW-25542	Relative path keystore certificate can be configured to SSL enabled SMTP resource.

Release 6.3.5

JDBC Palette	
Key	**Description**
AMBW-26164	The **JDBC Query** activity threw a `Closed Connection` error if the **Query Subset** option inside a Local Transaction activity was used.
AMBW-25778	Upsert mode did not work if users had configured the **JDBC Update** activity for the TIBCO Oracle Data Driver, and the activity was set to use a prepared statement.
AMBW-25713	The **Login Timeout** field in **JDBC Connection** shared resource displayed **msecs** value instead of secs.
AMBW-25678	Schema output was not refreshed in the stored procedure if the **ResultSet Use Schema** check box was selected.
AMBW-25097	Toggling between **JDBC Query** activities that were in the same process caused issues when users selected the **SQL** button from the **Statement** tab to build a SQL statement.
AMBW-23265	DB2 is now supported with DataDirect drivers.
AMBW-22145	The **SQL Direct**, **JDBC Call Procedure** and the **JDBC Query** activities timed out at the default value of three minutes when the results from the database were not received within that period of time, not honoring the timeout value set by the user.
AMBW-24348	JDBC activities did not parse the datetime columns when the GMT was set to **ServerTimeZone**.
AMBW-22098	The **JDBC Call Procedure** activity ignored the value set in the **Timeout** field.

REST and JSON Palette	
Key	**Description**
AMBW-25987	Special symbols like Euro (€) did not parse correctly in JSON text, in the Generic mode.

FTL Palette

Key	Description
AMBW-24673	The **FTL Subscriber** activity allows the user to specify its durable name to allow it to dynamically create a durable listener.

Release 6.3.4

JAVA Palette

Key	Description
AMBW-21453	Module properties were not supported in the **key** field for the **Receive Notification** activity.

JDBC Palette

Key	Description
AMBW-25466	Instructions for setting up custom drivers for run time were updated to let users know that the plugins folder is automatically generated after you export the JAR file.
AMBW-25415	If existing connections become stale, ActiveMatrix BusinessWorks™ failed to re-create the connection.
AMBW-24966	The data types BLOB and DATE did not work when they were embedded as a Oracle table type. DATE was interpreted as xsd:date and BLOB threw a format conversion error.
AMBW-23384	ActiveMatrix BusinessWorks was unable to use functions that return the data type BIGINT if DataDirect drivers were used.
AMBW-23383	ActiveMatrix BusinessWorks was unable to retrieve smallint values from the Postgres database if DataDirect drivers were used.
AMBW-22526	The **JDBC Update** activity failed to execute when the option, **Insert if record does not exist** was used with SQL Server 2012 or 2014.

XML Palette

Key	Description
AMBW-24900	The **Render XML** activity failed to validate XML messages if one of the elements had a value supplied using a module property.

Release 6.3.3

HTTP Palette	
Key	**Description**
AMBW-24623	When a header was repeated in a HTTP fault response, the **Send HTTP Request** activity failed with the error, `java.lang.ClassCastException: [Ljava.lang.String; cannot be cast to java.lang.String`.
AMBW-23318	An exception was thrown, and the application failed to start, if the **Send HTTP Request** activity in an application process tried connecting to a remote, and secured, REST service configured to use a proxy server.
AMBW-12732	Dynamic Headers for **HTTP Send Request** activity were partially migrated. After migration, the user had to re-map these missing dynamic header fields by using original ActiveMatrix BusinessWorks 5.x mappings in reference.

JDBC Palette	
Key	**Description**
AMBW-24791	If a JDBC connection was marked as invalid after creation, the active connection count was not decremented, which prevented new connections from being created if the max connections value was reached.
AMBW-24446	The internal lock was not released when a database connection was not successful. This caused the thread to freeze and the thread did not continue the expected execution.
AMBW-24138	Activities from the JDBC Palette threw a JDBC Timeout Exception if the query loads too large for the connection pool could handle.

Java Palette	
Key	**Description**
AMBW-24008	Improvements have been made to the performance of the **Java to XML** activity.

JMS Palette	
Key	**Description**
AMBW-24033	The JMS Application Properties editor did not set the cardinality of the element.
AMBW-24032	When configuring the security settings of the **JMS Connection** Shared Resource, a NullPointer Exception occurred if the user name and password in the **JNDI Resource** were not set.
AMBW-23955	An error was thrown if the **JMS Receiver** activity received a message that was configured to use application properties, but did not contain any application properties.

JMS Palette	
Key	**Description**
AMBW-22662	If the **JMS Connection** Shared Resource was configured with a Keystore Shared Resource, the **JMS Connection** Shared Resource failed to initialize when a module property was used for the **Keystore URL** field.
AMBW-22488	The **JMS Receiver** and **Get JMS Queue Message** activities threw a validation error if the JMS client sent a message with JMSXGroupID and JMSXGroupSeq header properties.
AMBW-21866	Attempts to reconnect to the **JMS Request Reply** activity failed after the EMS server was restarted.
AMBW-20889	JMS test connection failed when a module property was used to configure **Keystore URL** field.
AMBW-16250	The **JMS Request Reply** activity threw a warning if the **Reply To Destination** field was specified on the **Input** tab instead of the **Advanced** tab of the activity.
AMBW-10770	An exception was not thrown if messages sent to the WebSphere MQ queue were more than value specified by the MaxQDepth property.

Mail Palette	
Key	**Description**
AMBW-24217	The text body content is now sent in byte array.

Parse Palette	
Key	**Description**
AMBW-12473	The **Parse Data** activity threw a `NullPointerExeption` for the XSD namespace collision scenario.

REST and JSON Palette	
Key	**Description**
AMBW-24282	The parse exception was thrown when a JSON string, with decimal value restricted to 6 fractional digits was parsed to an XML activity. The **Parse JSON** activity converted large numbers into scientific form which was not validated against the decimal type. This also caused rounding off numbers when roundtripped, for example, when JSON is translated to XML, which is then translated back to JSON.
AMBW-18651	Descriptive error messages are now thrown when **Parse JSON** and **Render JSON** activities fail.

XML Palette	
Key	**Description**
AMBW-24089	When a complex element was selected in the **Select Schema Element** declaration window for CDATA section, CDATA was not applied to the child elements of the complex element.

Basic Activities Palette	
Key	**Description**
AMBW-24171	The error `IndexOutOfBoundsException` was thrown when **Critical Section** groups were used.

Release 6.3.2

HTTP Palette	
Key	**Description**
AMBW-22518	ActiveMatrix BusinessWorks 6.3.1 HTTP client did not support for TLSv1.2 GCM ciphers offered in Java 8.
AMBW-20924	The **Authentication** check box for the **HTTP Client** Shared Resource was reset after the check-box was cleared.
AMBW-19092	The **Send HTTP Request** activity was unable to handle Chinese characters in the `filename` attribute of the content disposition header in the mimepart.
AMBW-19048	Logging the time stamp for sending a HTTP request and receiving the HTTP response in the **Send HTTP Request** activity was not supported in Business Studio.
AMBW-19075	The HTTP server did not recognize requests containing multiple Accept or Content-Type elements in the header.

JDBC Palette	
Key	**Description**
AMBW-22120	JDBC activities did not free temporary tablespace when working with Oracle LOB data.
AMBW-21860	An error was thrown if the output data type parameter in the **JDBC Call Procedure** activity was set to `Null`, or left empty.

JMS Palette	
Key	**Description**
AMBW-23031	The **JMS Send Message** activity with JNDI connection failed to send messages in the EMS Fault Tolerance with SSL mode.
AMBW-22588	The **JMS Receiver** activity incorrectly continued to create jobs even after the EMS Server was terminated.
AMBW-22500	Runtime XML serialization mishandled redeclaration of the default namespace mapping to the null namespace.
AMBW-22499	A session leak has been fixed on the **JMS Connection** Shared Resource.
AMBW-22498	The **JMS Receiver** activity threw an `out of memory` exception when the one of the applications using the shared resource was stopped.
AMBW-22481	When the **JMS Receiver** activity received messages of type XML Text, and the messages did not conform to the schema, the session was blocked and no additional messages were received.
AMBW-21167	The **JMS Send** activity was unable to send the first message to the EMS server after restarting. Subsequent messages however, were successfully sent to the server.
AMBW-21140	Applications deployed in one AppNode stopped consuming JMS inbound messages under load.
AMBW-21124	The **JMS Connection** Shared Resource test connection failed to connect to the EMS server if mutual authentication was enabled in ActiveMatrix BusinessWorks 6.x.
AMBW-19105	TIBCO Business Studio now supports JBOSS as a JMS provider.
AMBW-18646	TIBCO Business Studio now supports IBM Websphere MQ as a JMS provider.
AMBW-18213	An unclear error message was displayed when a message was not successfully deserialized.

Mail Palette	
Key	**Description**
AMBW-20804	The **SendMail** activity sent an empty PDF file when the selected attachment format type was **BinaryContent**.

Release 6.3.1

FTL Palette	
Key	Description
AMBW-18945	Users were unable to connect to or access FTL applications through the **FTL Realm Server Connection** Shared Resource in Business Studio. ActiveMatrix BusinessWorks 6.3.1 now comes bundled with FTL 4.3.0 client libraries.

General Activities Palette	
Key	Description
AMBW-21374	Web services that accepted a multi-part request were not successfully invoked if one of the request part was set to null **("")**.

JDBC Palette	
Key	Description
AMBW-21878	When an Oracle stored procedure used an Oracle Struct with a **DATE** type field inside, the **JDBC Call Procedure** activity failed with an output validation error.

Parse Palette	
Key	Description
AMBW-21873	The Parse Data activity performance slowed down if placed in a repeat loop. To avoid this, use filename as input for parsing with the Parse Data activity.

Shared Resources Palette	
Key	Description
AMBW-21648	If an **Invoke** activity timed out in an application configured to use SOAP/HTTP binding, HTTP Resources were not released and a memory leak was observed.

Release 6.3.0

FTP Palette	
Key	Description
AMBW-19462	A plain TCP connection was created despite the FTP connection being configured with SSL. Now, when an FTP Connection is configured with SSL, a secure connection is created, and the process executes successfully.
AMBW-12997	Process Property of type Password mapped to the Input schema parameter returned an encrypted password value at runtime and caused activity connection failure. This has been fixed and it returns a decrypted password and executes the process successfully.

General Activities Palette	
Key	**Description**
AMBW-19760	The **Timer** activity did not adjust the time interval for Daylights Savings Time. This has been fixed.
AMBW-19011	The **Activator Process** for **OnStartup** did not work as expected, and other starter processes began in parallel.

HTTP Palette	
Key	**Description**
AMBW-19650	The Update SSL sample project SecuredRequestResponse exposed the private keys at both the client end and server end.
AMBW-19440	The documentation for the HTTP Palette incorrectly stated that the dynamic header is an additional header parameter to add runtime headers to the outgoing HTTP messages.
AMBW-18705	Logging all attempts of HTTP access and requests is now supported.

JDBC Palette	
Key	**Description**
AMBW-20251	The **JDBCUpdate** activity was wrongly committing changes to the database when the batch update option was used, the activity was inside a transaction group, and the transaction failed.
AMBW-19820	The **JDBC Update** activity truncated the millisecond part when using a parameter of TIMESTAMP data type.
AMBW-19639	The **JDBC Call Procedure** activity failed to fetch results when an output parameter was used at the same time there was a cursor as return type.
AMBW-19247	A `JDBCConnectionNotFound` fault was incorrectly thrown when a login time exception occurred.
AMBW-19082	The **JDBC Update** activity incorrectly listed all stored procedures for selection after **catalog** was specified as a filter.
AMBW-18183	The **Schema** field and **Catalog or Package** field could not be configured to use a Process Property or a Module Property.

JMS Palette	
Key	**Description**
AMBW-20696	When an application contained multiple JMS Receiver activities, and the connection to the EMS server was reset, some JMS Receiver activities did not reconnect and start receiving messages.
AMBW-20566	When a JMS request reply activity was executing, the exception "Invalid temporary destination" was intermittently thrown.
AMBW-20494	In ActiveMatrix BusinessWorks 6.x, a stack overflow error was thrown at runtime if the **JMS Receiver** activity was using XSD elements from TIBCO Collaborative Information Manager™.
AMBW-20365	While using durable subscribers, each time a JMS connection is made to the JMS Server, a new durable subscriber is created, and using a manually specified client ID resolved the issue.
AMBW-20312	Cyclic includes in XSD files caused a stack overflow.
AMBW-20289	The **JMS Send Message** activity in a transaction group failed to send a message to TIBCO Enterprise Messaging Service (EMS) but did not throw any exception.
AMBW-19975	After the TIBCO Enterprise Messaging Service (EMS) server was restarted, the **Get JMS** activity threw the error `javax.jms.IllegalStateException: Trying to Reconnect to JMS Server`, and messages were not being processed until ActiveMatrix BusinessWorks 6.x was restarted.
AMBW-19752	TIBCO Business Studio now supports XSD's with cylical dependencies. When XSD's containing cycles are imported, a StackOverflow error does not occur.
AMBW-19630	An ambiguous error message was thrown at runtime if the activities, JMS Connection and JMS were not configured in sync.
AMBW-19334	The values for JMSProperties element were not being populated in the output of **JMS Receiver** and **GetJMSQueueMessage** activities.
AMBW-17324	JMS test connection failed when the URL field in KeystoreProviderResource was set using module property.

JAVA Palette	
Key	**Description**
AMBW-18391	If generic Java class of type <E> was selected for the Java class such as `java.util.Collection<E>`, then the **Input** tab for that Java activity showed no data.

JAVA Palette

Key	Description
AMBW-12687	Using a two-dimensional Array as an input parameter to Java Method, throws the following exception at design time in the **Java Invoke** activity: `Unable to obtain information for the method [analyze2DArray] from the class [test2DArray].NoSuchMethodException occurred.primitives.test2DArray.analyze2DArray([Z)`

REST and JSON Palette

Key	Description
AMBW-20231	Adding a new REST Service removed the custom HTTP header from the REST schema.
AMBW-20151	Design Time validations were not available for REST/JSON activities, for unsupported schema type.

Rendezvous Palette

Key	Description
AMBW-21245	Summary: RV activities in sub-processes with xmlCompliantFieldNames or xmlFormat enabled fail after migration. Workaround: New projects will work after migration. For old projects the RV activities with these properties enabled should be deleted and re-created.
AMBW-20030	When a WaitforRVMessage activity joined a conversation using a schema for the key where `elementFormDefault = qualified`, the process failed at runtime.
AMBW-19997	RV activities in sub-processes with xmlCompliantFieldNames or xmlFormat enabled failed while parsing the process file.
AMBW-19848	RV messages were not properly constructed in ActiveMatrix BusinessWorks 6.x if the type of element was simple type.
AMBW-17918	For XML format RV messages, the **RV Subscriber** activity adds a namespace when messages are received without a namespace to support interoperability between ActiveMatrix BusinessWorks 5.x and ActiveMatrix BusinessWorks 6.x.
AMBW-12042	RV subscriber activity did not subscribe the message if output schema created by XSD schema editor was used. It worked fine if the output schema created Rendezvous activity input or output editor was used.

XML Palette	
Key	**Description**
AMBW-12999	For Schemas with mixed content, Render XML adds an extra new line to the output after each string.

Policies

Release 6.5.0

Key	Description
AMBW-32920	The security policy was not enforced when it was applied to Shared Modules in the application.
AMBW-32146	LDAP connections exceeded max connections setting.
AMBW-31978	The non standard tags in SubjectDN were not displayed correctly in the **Expose Security Context** field.
AMBW-29986	An application went to the Start Failed state on restart of an application when there was an unused Keystore Provider resource available in the application EAR.
AMBW-29733	New requests were not authenticated or processed once the number of requests were equal to LDAP pool size. Now any number of requests are authenticated across LDAP.
AMBW-29608	When unused KeystoreProviderResource was present in the project, sometimes wrong keystore got wired to the SSL server resource. This resulted in the HTTP SSL server resource to fail.
AMBW-22196	The user name is now logged for the users when authentication fails.

Release 6.4.1

Key	Description
AMBW-23768	When an application is deployed with a custom JNDI factory, the application's InitialLdapContext was not initialized. Now a check for OSGI BundleReference has been added to ensure that the InitialLdapContext is properly initialized.

Release 6.3.5

Key	Description
AMBW-22045	The security header in the response has been removed after the signature has been verified, and the error message `Must Understand check failed for header` is no longer thrown if the response header is signed.

Key	Description
AMBW-19792	If an WSS Consumer policy was configured to verify decryption, but not configured for authentication, an error message was incorrectly logged instead of a debug message.

Release 6.3.2

Key	Description
AMBW-22810	A memory leak was observed if the governance agent property on the AppSpace was enabled.
AMBW-22768	Users were not able to encrypt a SOAP message using AES-GCM (AES/GCM/NoPadding).

Release 6.3.0

Key	Description
AMBW-22810	A memory leak was observed in the **HTTP Connector** shared resource as the option to set the HTTP session timeout was unavailable.
AMBW-22768	TIBCO Business Studio™ did not support encrypting messages using AES-GCM - AES,GCM,NoPadding. Messages are encrypted based on the algorithm of the algorithm suite specified which does not include the algorithm http://www.w3.org/2009/ xmlenc11#aes128-gcm.
AMBW-19814	If the name of an **Identity Provider** resource contained non-ASCII characters, an exception was thrown when the project was run in the **Debugger**.
AMBW-19666	If module properties used by a policy were updated, the changes did not take effect when the application was stopped and then restarted or redeployed.
AMBW-19378	The Basic Credential Mapping policy was not supported on SOAP Reference Binding.

Known Issues

The following known issues have been identified in this release of TIBCO ActiveMatrix BusinessWorks™.

The known issues are grouped by components:

- Administration
- Bindings
- General
- Migration
- Palettes
- Policies

Administration

Key	Description
AMBW-33203	**Summary**: After EMS failover, where EMS is configured using json file; if the bwagent is restarted after restarting the failed EMS server, the bwagent can not start, and displays `Duplicate member error`. **Workaround**: In the `bwagent.ini` file, reverse the EMS URL. Basically, the active EMS server should be the first one in the URL and then restart the bwagent.
AMBW-32929	**Summary**: Process monitoring statistics will not be populated if checkpoint has been used in the process. **Workaround**: None
AMBW-32922	**Summary**: On Process Monitoring page, Job filter displays results for records on the current page only. **Workaround**: None
AMBW-32905	**Summary**: When Process Monitoring or statistics collection is not enabled in the `bwagent.ini` file and you try to undeploy an application with the checkbox selected **Remove Process Monitoring related historical data of selected apps from DB**, an exception is displayed in the Admin UI. There is no functional impact. **Workaround**: None.
AMBW-32904	**Summary**: Sometimes all the transitions are not highlighted and input/output data is not seen for activities when process monitoring is enabled using UDP transport **Workaround**: Use FTL transport for Process Monitoring.

Key	Description
AMBW-32903	**Summary**: When process monitoring is enabled and the AppNode is restarted then input or output activity will not be present for newly created process instances. **Workaround**: Navigate to the application level 2 or AppNode level 2, enable process monitoring again and restart application
AMBW-32594	**Summary**: On the Process Monitoring page, the Datetime value in the MM/DD/YYYY format for filtering jobs does not work. **Workaround**: Use the datetime value as displayed in the database
AMBW-32071	**Summary**: Failed to Upload Large EAR file larger than 10MB with MariaDB. **Workaround**: Use any other database.
AMBW-32057	**Summary**: Agent Count is getting increased for AppSpace after restoring Domain. **Workaround**: None
AMBW-32032	**Summary:** Errors are displayed when two agents with different networks are used with the same TEA server. **Workaround**: Use separate TEA servers for multiple agents with different networks.
AMBW-31832	**Summary**: In the process diagram view of Process Monitoring, if a constructor block includes a catch block, then it is not highlighted after its execution. **Workaround**: None
AMBW-31831	**Summary**: In Process Monitoring, sometimes, because of uid issue references are not highlighted and input or output data might not displayed. **Workaround**: Remove all uid related warnings from TIBCO Business Studio™. Create an EAR file. Deploy the EAR file, and then enable process monitoring.
AMBW-31710	**Summary**: If application is deployed on a stopped AppNode, the message `Appnode is stopped` is appended to the application description. **Workaround**: None
AMBW-31600	**Summary**: When an application is running and AppNode is restarted, the job id is duplicated and two jobs with same id is present under process monitoring. **Workaround**: None
AMBW-31493	**Summary**: User is getting considered as Role in file based authorization. **Workaround**: None

Key	Description
AMBW-31447	**Summary**: The Same EAR file is uploaded in different folders without using the replace option in AS Enterprise Mode. **Workaround**: None
AMBW-30759	**Summary**: Failed to get AppNode Config.ini file's property details by REST API. **Workaround**: None.
AMBW-30398	**Summary**: Unable to register BWAgent from the command line on some machines. **Workaround**: None.
AMBW-29846	**Summary**: Process diagrams are not visible on the Admin UI when the project name has a period (.) between the numbers. **Workaround**: Remove the number from the process package name, regenerate the EAR file, and re-deploy it.
AMBW-29725	**Summary**: The Internal Server Error is displayed intermittently in logs when there is a change in the network. **Workaround**: None
AMBW-29632	**Summary**: Process diagram is not shown in TEA when the TIBCO ActiveMatrix BusinessWorks™ process package name contains number. For example com.tibco.bw.service.SIXXXZZZ.1.0 **Workaround**: None
AMBW-29235	**Summary:** When application components are started or stopped multiple times from the Admin UI, the `TIBCO-BW-TEAAGENT-500506: Failed to get components for Application` error is sometimes displayed. **Workaround**: Refresh the entire page or navigate to different tab, for example, the AppNodes or AppSpaces page and then go back to the **Components** Tab.
AMBW-28244	**Summary**: Admin UI showing wrong information under **Installation** tab after upgrade. **Workaround**: None.
AMBW-27654	**Summary**: Identity-Truststore is not created for the SSL Client post migration. **Workaround** After migrating the SSL enabled service , it will create the SSL client resource. In SSL client resource, provide the keystore provider resource in Keystore Provider as Trust Store. Provide the Keystore only. This will import all the certificates required for SSL enabled services in ActiveMatrix BusinessWorks™ 6x.

Key	Description
AMBW-27440	**Summary**: In the DBEMS mode when you upgrade from ActiveMatrix BusinessWorks 6.3.1 to ActiveMatrix BusinessWorks 6.4.0 and restore Domain, the error, `ERROR: null value in column "commandid" violates not-null constraint`, is thrown. **Workaround**: After upgrade, drop the old commandhistory table and run the new ActiveMatrix BusinessWorks 6.4.0 bundled script to create the commandhistory table and then restore the domain.
AMBW-27163	**Summary**: The Unregister command to unregister an agent from a given domain does not work. **Workaround**: None.
AMBW-26286	**Summary**: Unable to upload large sized EAR files (~10 MB) when the DB2 database is used for the DBEMS or DBFTL mode. **Workaround**: None.
AMBW-25889	**Summary**: From the command line, users can enable the OSGi and create a new AppNode on the same OSGi port. **Workaround**: Use the Admin UI to enable the OSGi port.
AMBW-17562	**Summary**: The OSGi configuration properties have been aligned between the debug environment launched from within TIBCO Business Studio and the AppNode that is launched in an installation. However, a difference in behavior of the **`osgi.compatibility.bootdelegation`** property in both the environments has been observed. **Workaround**: None.

Bindings

Key	Description
AMBW-32951	**Summary**: A SOAP service responding with mustUnderstand attribute as `true` is ignored irrespective of selecting or deselecting the **Ignore mustUnderstand** check box on the SOAP Reference binding. This behavior does not affect the client and server communication. **Workaround**: None
AMBW-32912	**Summary**: On validating a concrete WSDL in TIBCO Business Studio™, the `cvc-elt.1: Cannot find the declaration of element 'wsdl:definitions` error is displayed. **Workaround**: Delete an error from the **Problems** tab.
AMBW-32760	**Summary**: On creating SOAP Reference Binding with the concrete WSDL generated at run time with multilevel schema imports, the java.lang.NullPointerException is displayed when clicking the reference binding. **Workaround**: None

Key	Description
AMBW-29098	**Summary**: When creating a concrete WSDL by right-clicking on the **Service Descriptor** folder, the following error is generated at design time: `WSDL import error`. **Workaround**: None
AMBW-27870	**Summary**: On importing WSDL with RPC Encoded style, a validation error is generated at design time since the underlying schema with namespace http://schemas.xmlsoap.org/soap/encoding/ is not generated. **Workaround**: To remove the validation error and create the SOAP Reference Binding, download the encoding schema with the said namespace and ensure that schema is a part of the application module or the shared module.
AMBW-27435	**Summary**: When module properties used from a shared module project were renamed, the changes made were not reflected at the SOAP binding level. **Workaround**: Select the updated module property from the drop down in the SOAP binding.
AMBW-26806	**Summary**: When a REST service with a schema that uses a type which was imported from another XSD is invoked in a REST Reference Binding, it fails with the ServiceRuntimeException. **Workaround**: None
AMBW-23104	**Summary**: When the WSDL uses multiple parts in the Request body of an operation, a design time validation error occurs on the generated SOAP reference binding. The application works fine at run time. **Workaround**: None
AMBW-22981	**Summary**: When the REST Service which is implemented with GET Operation with Response as String, then the content-type of the response is changed from application/json to text/plain. **Workaround**: Use XSD Element in Response instead of String.
AMBW-21363	**Summary**: REST Call failed on run-time under non-UTF8 locale environment. **Workaround**: Set the default encoding of the AppNode to UTF-8 by adding "-Dfile.encoding=UTF-8" to java.extended.properties of "bw/6.3/config/bwappnode-an. tra_template".
AMBW-13607	**Summary**: REST Doc UI is not supported on Firefox browser. **Workaround**: Use other browsers for the Doc UI.
AMBW-13572	**Summary**: For some use cases, REST Doc UI does not show the correct error code in case of Internal Server errors on the Server side. **Workaround**: Check the raw message that contains the correct error code.
AMBW-13485	**Summary**: REST Doc UI does not support browsers like Internet Explorer. **Workaround**: Use Chrome browsers for the Doc UI.

Key	Description
AMBW-8982	**Summary**: Changing the **Resource** name in the REST service **Bindings** tab, does not update the **Resource Service** Path. **Workaround**: None

General

Key	Description
AMBW-32878	**Summary**: Exceptions are seen when generating the `manifest.json` file from the existing EAR on a Linux platform. **Workaround**: Though exceptions are displayed on the terminal, the `manifest.json` file will be generated successfully.
AMBW-32872	**Summary**: The Components are Active or Passive on both the AppNodes with FTGroup persistence mode when the property **`bw.engine.use.weighted.node=true`** with same default weights at both AppNodes, for example, 50. **Workaround**: Use different weight for both AppNodes with the property bw.engine.use.weighted.node=true at AppSpace. The AppNode with the higher weight will become the leader.
AMBW-32793	**Summary**: <trace-without-root-span> is seen instead of trace name when enabled open tracing from Admin UI. **Workaround**: Enable OpenTracing using property in `config.ini` file.
AMBW-32792	**Summary**: Serialization of an attribute '$bx_rootSpan' failed' for **Checkpoint** activity. **Workaround**: None.
AMBW-32761	**Summary**: The user will not be able to create the references for the custom operations like Merge, Update, Trace etc. using the drag and drop swagger file approach. **Workaround**: Users can create the references for the custom operations using the REST Reference wizard.
AMBW-32542	**Summary**: OpenTracing should support spawned process as following span to main process and inline process to be child span of main process. **Workaround**: None
AMBW-31897	**Summary**: The Process In-line schema namespace collision error is displayed when creating a sample. **Workaround**: None
AMBW-28941	**Summary**: Ungrouping nested groups created inside a catch block of a group may not ungroup as expected. **Workaround**: None

Key	Description
AMBW-28780	**Summary**: While generating EAR for the sample `tibco.bw.sample.core.conversation.CrossProcessConversation`, the following exception occurs in TIBCO Business Studio `java.lang.NullPointerException`. **Workaround**: None
AMBW-28663	**Summary**: The `tibco.bw.sample.policy.samlcredentialmapping.SoapHttpBinding` sample fails intermittently with the error: `com.tibco.governance.agent.action.ActionException`. **Workaround**: None
AMBW-28448	**Summary**: Current element of the Iterate group is not removed after ungrouping. **Workaround**: The user needs to remove current element manually after ungrouping the Iterate group.
AMBW-28378	**Summary**: When a Process Property is renamed , the change is not reflected in the activity and an error is displayed. **Workaround**: None
AMBW-28319	**Summary**: WSDL interface fails to resolve correctly if multiple WSDLs share the same target namespace and the SOAP invoke is created with an external binding reference. **Workaround**: Instead of an external reference binding, use binding reference.
AMBW-28285	**Summary** : In a shared module and shared module-application module combination, multiple WSDLs with the same target namespace are not supported at design time and run time. **Workaround**: None
AMBW-28264	**Summary**: When groups with the On Catch, Catch All and the OnEvent faults are created inside a constructor or a proxy operation, the activities inside them are lost after ungrouping. **Workaround**: None
AMBW-27253	**Summary**: The **Identity Provider** field in the WSSConsumer Policy resource does not support module properties. **Workaround**: None
AMBW-25073	**Summary:** The option to test connections, for example JMS or sFTP, in a shared resource that has a profile is not supported in TIBCO Business Studio. **Workaround:** Specify the server configuration details as literal value or module properties.

Key	Description
AMBW-24508	**Summary**: TIBCO-THOR-FRWK-CMN-500001:Error while renaming bundle file to final location: - error could be due to low disk space. **Workaround**: None.
AMBW-19789	**Summary**: Embedded policies are not enforced on the AIX platform, and the exception `NoClassDefFoundError` is logged in the AppNode log when you start the AppNode. **Workaround**: None
AMBW-19746	**Summary**: When you initialize the module shared variable of XSD type with the select value option to point the XML instance, application fails to start at run time. **Workaround**: Enforce the default encoding of AppNode JVM to UTF-8 by adding `-Dfile.encoding=UTF-8` in the `bwappnode.tra` file.
AMBW-19540	**Summary**: When a project contain abstract and concrete WSDL using same target namespace, a validation error is thrown. **Workaround**: None
AMBW-18459	**Summary**: The ability to reference from a standalone (external) schema to an inline schema is not supported. If your project contains such a reference, a validation error is thrown. **Workaround**: Externalize the WSDL-inline schema and change the import statements to reference the newly created (external) schema.
AMBW-17998	**Summary**: The EAR file generated using **`bwdesign`** utility does not support non-ASCII characters. **Workaround**: None
AMBW-16256	**Summary**: The first attempt to change the data type of an Operator's input or output schema element fails and the change is not committed. Subsequent attempts complete without any failure. **Workaround**: To commit the change, you must press the return key after every change.
AMBW-14861	**Summary**: Unable to enter an XPath expression on a transition using the XPath Builder. This issue is observed on Mac OS only. **Workaround**: Enter the XPath expression directly in the **Properties** tab > **Expression** field for the transition without using the XPath Builder.
AMBW-13823	**Summary**: Directory browser dialog in BW Context Sensitive Help preference setting page does not consistently popup on Mac OS X 10.9.2 **Workaround**: Copy and paste the directory path into the configuration field instead of using directory browser to pick it.

Key	Description
AMBW-12490	**Summary**: Under certain circumstances, substitution types do not resolve properly in the mapper. The mapper shows errors for them. **Workaround**: Try closing and reopening the project. If that does not solve the issue, try closing and reopening Eclipse. If the errors still persist, perform a project clean (that is, go to the **Project** menu and click **Clean...**).
AMBW-11624	**Summary**: TIBCO Business Studio hangs when opening SQL Builder if the database details on the JDBC shared resource are changed from PostgreSQL to MySQL after a query has been created using SQL builder. **Workaround**: None
AMBW-11534	**Summary**: TIBCO Business Studio crashes occasionally on Windows 2012 R2 platform when switching workspace from **File** > **Switch Workspace**. **Workaround**: Retry by switching the workspace.

Migration

Key	Description
AMBW-27312	**Summary**: Mappings are incorrectly migrated when projects referencing DTLs in different workspace other than same DTL location are migrated using the command line. **Workaround**: None
AMBW-14547	**Summary**: When you migrate an TIBCO ActiveMatrix BusinessWorks 5.x project containing in-built functions in the **JDBC Query** activity, an Invalid Column name error is thrown in the **JDBC Query** activity. **Workaround**: Use an Alias instead of the in-built functions in the ActiveMatrix BusinessWorks 5.x project.
AMBW-14295	**Summary**: After migration, the output of project with Rest and JSON activities does not match with the input of the other activities in the migrated project. **Workaround**: None
AMBW-13683	**Summary**: Shared resource module property references in the migrated TIBCO ActiveMatrix BusinessWorks 5.x projects do not show up correctly on non-Windows platforms. **Workaround**: Close and reopen the project.

Key	Description
AMBW-9969	**Summary**: ActiveMatrix BusinessWorks 5.x projects with SOAP headers configuration in SOAP activities are not properly migrated to ActiveMatrix BusinessWorks 6.x. **Workaround**: SOAP functionality in ActiveMatrix BusinessWorks 6.x is achieved through SOAP Binding where its detail configuration is outside of ActiveMatrix BusinessWorks Process. The SOAP headers definition are defined at the Binding configuration and configured as generic context parameters for the Process. In the Process, you can use the **Get Context** activity (from Basic Palette) to retrieve and process the headers as context data. You can do this manually to complete the migrated project.

Palettes

JAVA Palette	
Key	**Description**
AMBW-13526	**Summary**: In **Java To XML** activity, the **Output** tab is not populated correctly, if Java class contains nested object references in different classes. **Workaround**: None

JDBC Palette	
Key	**Description**
AMBW-23464	**Summary**: The Oracle DataDirect driver does not support cursor datatype. **Workaround**: Use native drivers instead of DataDirect drivers.
AMBW-23260	**Summary**: MySQL Community Edition is not supported for Data Direct drivers **Workaround**: Use native drivers instead of DataDirect drivers.
AMBW-23193	**Summary**: When using DataDirect drivers with a JDBC Shared Resource, that is linked to a JDBC process, the SQL Builder Wizard does not work correctly. **Workaround**: Use native drivers.
AMBW-20130	**Summary**: The login timeout value is not effective when connecting to a Windows OS database. The **JDBC Query** activity fails with the error,`JDBCConnectionNotFoundException` at runtime without honoring the **Login Timeout** value specified in the **JDBC Connection** Shared Resource. **Workaround**: None
AMBW-14624	**Summary**: The **Set Explicit Nil** check box for Objects and Collections in **JDBC Call Procedure** activity is disabled. **Workaround**: None

JDBC Palette	
Key	**Description**
AMBW-14547	**Summary**: When you migrate an TIBCO ActiveMatrix BusinessWorks™ 5.x project containing in-built functions in the **JDBC Query** activity, an invalid column name error is thrown in the **JDBC Query** activity. **Workaround**: Use an Alias instead of the in-built functions in the ActiveMatrix BusinessWorks™ 5.x project.
AMBW-11667	**Summary**: Using any in-built function in **JDBC Query** activity without "Alias" fails to execute the application and throws an `Invalid Column name` error at run time. **Workaround**: Use "Alias" to work with any in-built function in **JDBC Query** activity.
AMBW-11624	**Summary**: TIBCO Business Studio™ hangs when opening SQL Builder if the database details on the JDBC shared resource are changed from PostgreSQL to MySQL after a query has been created using SQL builder. **Workaround**: None
AMBW-8855	**Summary**: The localized error messages of JDBC connection are not displayed correctly in TIBCO Business Studio. **Workaround**: None

XML Palette	
Key	**Description**
AMBW-14292	**Summary**: **Parse XML** activity displays blank ErrorCode and ErrorMessage for activity output data validation error. **Workaround**: None

Policy

Key	Description
AMBW-32827	**Summary**: FIPS 140-2 is not supported **Workaround**: None.
AMBW-19513	**Summary**: If a SOAP binding is not configured with Transport, the **Add New Policy** icon should be disabled, the **Policy** field should not be displayed in the tree view, and a NULL pointer exception is thrown if you try to add a policy on the binding. **Workaround**: None