

# **TIBCO iProcess<sup>®</sup> Engine (Oracle) for Windows**

(Consolidated with TIBCO iProcess<sup>®</sup> Objects  
Server and TIBCO iProcess<sup>®</sup> Director)

## **Release Notes**

*Software Release 11.6.1  
October 2017*

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# Preface

TIBCO iProcess<sup>®</sup> Engine provides the runtime execution environment for business processes developed using TIBCO Business Studio™, TIBCO iProcess<sup>®</sup> Workspace (Windows) and other TIBCO iProcess<sup>®</sup> Suite components.

## Topics

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- [Related Documentation, page vi](#)
- [Typographical Conventions, page viii](#)
- [Connecting with TIBCO Resources, page x](#)

## Related Documentation

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This section lists documentation resources you may find useful.

### TIBCO iProcess Engine Documentation

The following documents form the TIBCO iProcess Engine documentation set:

- *TIBCO iProcess Engine Installation* Read this manual for instructions on site preparation and installation.
- *TIBCO iProcess Engine Release Notes* Read the release notes for a list of new and changed features. This document also contains lists of known issues and closed issues for this release. The appropriate information for TIBCO iProcess Objects Director and TIBCO iProcess Objects Server release notes are integrated into appropriate TIBCO iProcess Engine release notes.
- **TIBCO iProcess Suite Documentation** This documentation set contains all the manuals for TIBCO iProcess Engine and other TIBCO products in TIBCO iProcess® Suite. The manuals for TIBCO iProcess Engine are as follows:
  - *TIBCO iProcess Engine Architecture Guide*
  - TIBCO iProcess Engine Administrator's Guides:
    - TIBCO iProcess Engine Administrator's Guide*
    - TIBCO iProcess Objects Director Administrator's Guide*
    - TIBCO iProcess Objects Server Administrator's Guide*
  - TIBCO iProcess Engine Database Administrator's Guides:
    - TIBCO iProcess Engine (DB2) Administrator's Guide*
    - TIBCO iProcess Engine (Oracle) Administrator's Guide*
    - TIBCO iProcess Engine (SQL) Administrator's Guide*
  - *TIBCO iProcess swutil and swbatch Reference Guide*
  - *TIBCO iProcess Engine System Messages Guide*
  - *TIBCO iProcess User Validation API User's Guide*
  - *LDAPCONF Utility User's Guide*

### Other TIBCO Product Documentation

You may find it useful to read the documentation for the following TIBCO products:

- TIBCO ActiveMatrix BusinessWorks™
- TIBCO Business Studio™
- TIBCO Enterprise Message Service™
- TIBCO Hawk®
- TIBCO Rendezvous®

# Typographical Conventions

The following typographical conventions are used in this manual.

Table 1 General Typographical Conventions


Convention	Use
<i>SWDIR</i>	<p>TIBCO iProcess Engine installs into a directory. This directory is referenced in documentation as <i>SWDIR</i>.</p> <p>For example, if <i>SWDIR</i> is set to C:\swserver\staffw_nod1 on a Windows server (on the C: drive), then the full path to the swutil command is C:\swserver\staffw_nod1\bin\swutil.</p>
code font	<p>Code font identifies commands, code examples, filenames, pathnames, and output displayed in a command window. For example:</p> <p>Use MyCommand to start the foo process.</p>
bold code font	<p>Bold code font is used in the following ways:</p> <ul style="list-style-type: none"><li>• In procedures, to indicate what a user types. For example: Type <b>admin</b>.</li><li>• In large code samples, to indicate the parts of the sample that are of particular interest.</li><li>• In command syntax, to indicate the default parameter for a command. For example, if no parameter is specified, MyCommand is enabled: MyCommand [<b>enable</b>   disable]</li></ul>
<i>italic font</i>	<p>Italic font is used in the following ways:</p> <ul style="list-style-type: none"><li>• To indicate a document title. For example: See <i>TIBCO ActiveMatrix BusinessWorks Concepts</i>.</li><li>• To introduce new terms. For example: A portal page may contain several portlets. <i>Portlets</i> are mini-applications that run in a portal.</li><li>• To indicate a variable in a command or code syntax that you must replace. For example: MyCommand <i>PathName</i></li></ul>
Key combinations	<p>Key name separated by a plus sign indicate keys pressed simultaneously. For example: Ctrl+C.</p> <p>Key names separated by a comma and space indicate keys pressed one after the other. For example: Esc, Ctrl+Q.</p>
	<p>The note icon indicates information that is of special interest or importance, for example, an additional action required only in certain circumstances.</p>

Table 1 General Typographical Conventions (Cont'd)



Convention	Use
	The tip icon indicates an idea that could be useful, for example, a way to apply the information provided in the current section to achieve a specific result.
	The warning icon indicates the potential for a damaging situation, for example, data loss or corruption if certain steps are taken or not taken.

Table 2 Syntax Typographical Conventions

Convention	Use
[ ]	<p>An optional item in a command or code syntax.</p> <p>For example:</p> <p>MyCommand [optional_parameter] required_parameter</p>
	<p>A logical OR that separates multiple items of which only one may be chosen.</p> <p>For example, you can select only one of the following parameters:</p> <p>MyCommand para1   param2   param3</p>
{ }	<p>A logical group of items in a command. Other syntax notations may appear within each logical group.</p> <p>For example, the following command requires two parameters, which can be either the pair param1 and param2, or the pair param3 and param4.</p> <p>MyCommand {param1 param2}   {param3 param4}</p> <p>In the next example, the command requires two parameters. The first parameter can be either param1 or param2 and the second can be either param3 or param4:</p> <p>MyCommand {param1   param2} {param3   param4}</p> <p>In the next example, the command can accept either two or three parameters. The first parameter must be param1. You can optionally include param2 as the second parameter. And the last parameter is either param3 or param4.</p> <p>MyCommand param1 [param2] {param3   param4}</p>



## Connecting with TIBCO Resources

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### How to Join TIBCOCommunity

TIBCOCommunity is an online destination for TIBCO customers, partners, and resident experts. It is a place to share and access the collective experience of the TIBCO community. TIBCOCommunity offers forums, blogs, and access to a variety of resources. To register, go to <http://www.tibcommunity.com>.

### How to Access TIBCO Documentation

Documentation for this and other TIBCO products is available on the TIBCO Documentation site:

<https://docs.tibco.com>

Documentation on the TIBCO Documentation site is updated more frequently than any documentation that might be included with the product. To ensure that you are accessing the latest available help topics, please visit us at <https://docs.tibco.com>.

### How to Contact TIBCO Support

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

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

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

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

<https://support.tibco.com>

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

# Release Notes

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

## Topics

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- [Deprecated and Removed Features, page 11](#)
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## New Features

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This section lists features added since the version 11.4.0 of this product.

### Release 11.6.1

The following are new features in this release.

#### Support for Amazon Web Services (AWS)

From this release, TIBCO iProcess Engine is now supported on the cloud through Amazon Web Services (AWS).

See *TIBCO iProcess Engine for Cloud Configuration Guide* for more details.

### Release 11.6.0

The following are new features in this release.

#### Support for System Platform

From this release, Microsoft Windows 10 (64-bit) is supported.

#### Supported for Java Version

From this release, Java Standard Edition 8 is supported.

See *TIBCO iProcess Engine Installation guide* for details.

### Release 11.5.0

The following are new features in this release.

#### System Events Management ([IPE-3416](#))

The following new functions have been added to manage system events:

- **Enable System Events Logging**

When installing TIBCO iProcess Engine, you can use the **Enable System Event Logging** configuration option in the **Configuration** dialog to specify whether or not you want to log system events information.

See "Configuration Dialog" in *TIBCO iProcess Engine Installation* for more details about how to use this configuration option.

The following tables are created to store information about system events logging:

- `system_event`: the table is used to store basic information about system events.
- `system_event_conf`: the table is used to store system events configuration information.

- **Audit System Events**

You can use the `SYSTEM_EVENT_LOGGIN` process attribute to specify whether to audit system events after installing or upgrading to TIBCO iProcess Engine 11.5.0.

See "Activity Monitoring and Work Queue Delta Configuration" in *TIBCO iProcess Engine Administrator's Guide* for more details.

- **Publish System Events**

You can use the `PUBLISH_SYS_EVENT_METHOD` process attribute to specify whether or not you want to publish system events. Before publishing a system event, ensure that the system event has been audited.

You can publish a system event by using Windows Event Viewer, TIBCO Hawk Agent, or the IAPJMS process.

- If you choose to publish a system event using TIBCO Hawk Agent, you can use the `SE_WORKER_PORTNO` process attribute to specify a port number of the socket that is used for communications between the processes that audit the system events and the "worker" process. The "worker" process finally sends the events information to TIBCO Hawk Agent.
- If you choose to publish a system event using the IAPJMS process, you can use the `SEJMS_TOPICNAME` attribute to specify the JMS topic name for the JMS destination that is used to publish the system event.

See "Activity Monitoring and Work Queue Delta Configuration" in *TIBCO iProcess Engine Administrator's Guide* for more details.

- **Query System Events Information**

You can use the `plist -e` command to query information about a single or multiple system events.

See "System Event Information" in *TIBCO iProcess Engine Administrator's Guide* for more details.

- **Turn Off System Events**

You can delete information about a single or multiple system events or clear information about system events ahead of a specified date from the iProcess database using the `swadm delete_system_event` command.

See "Removing System Events Information from the iProcess Database" in *TIBCO iProcess Engine Administrator's Guide* for more details.

- **Import and Export System Events Configuration**

You can import a system event configuration file into TIBCO iProcess Engine by using the `swutil IMPEVENTCONF` command and export configuration information of a system event from TIBCO iProcess Engine to a command line by using the `swutil EXPEVENTCONF` command.

See *TIBCO iProcess swutil and swbatch Reference Guide* for more details about how to use these commands.

## **Optimize SQL Statements Execution (IPE-3455)**

You can use the `sqloptim` file, which is located in the `SWDIR/etc` directory, to optimize SQL statements execution in the database.

See "`SWDIR/etc/sqloptim`" in *TIBCO iProcess Engine Administrator's Guide* for more details.

## **Reduce Login Time (IPE-3468)**

The average time for a user to log in to a TIBCO iProcess Engine node is now identical no matter how many user groups and users have been created in this TIBCO iProcess Engine node if other system conditions remain unchanged.

For example, the average time for the user to log in to an iProcess Engine node with 500 users registered is the same as the average time for the user to log in to the same iProcess Engine node with 15000 users registered if other system conditions remain the same.

## **Unlock Work Items (IPE-3472)**

You can use the `MN_UNLOCKER` process attribute to specify which iProcess users can have permission to unlock work items.

See "Process Management Configuration" in *TIBCO iProcess Engine Administrator's Guide* for more details.

## **WRITELOG Function Introduced ( IPE-3473)**

You can use the `WRITELOG` function to write messages to a log file to trace and debug iProcess scripts issues.

See "Log Functions" in *TIBCO iProcess Expressions and Functions Reference Guide* for more details.

## Define the Maximum Size of Log Files (IPE-3476)

You can use the `maxsize` parameter in the `DEBUG` process attribute to define the maximum size of log files, except the `sw_error`, `sw_warn`, `SWEntObjSvXX.log`, and `spodirectorXX.log` files.

When the log files reach the maximum size, if the `onfull` parameter in the `DEBUG` process is set to `save`, the log files are archived.

The default value of the `maxsize` parameter is 20 GB, and the default value of the `onfull` parameter is `save`.

See "Monitoring Log files" in *TIBCO iProcess Engine Administrator's Guide* for more details.

## Define the Maximum Size of the `sw_warn` and `sw_error` Log Files (IPE-3477)

You can use the `WARN_ERROR_LOG_SIZE` process attribute to define the maximum size of the `sw_warn` and `sw_error` log files. The default value of the `WARN_ERROR_LOG_SIZE` process attribute is 2 GB.

See *TIBCO iProcess Engine Administrator's Guide* for more details.

## Work Items Are Unique to Users (IPE-3480)

Add `requestid` as the unique identifier for each work item so that each work item can only be locked by one user.

## Change Field Data Type (IPE-3513)

The Long Raw data type in the `pm_objects`, `proc_defn`, and `user_setting` tables in the database has been changed to BLOB.

From TIBCO iProcess Engine 11.5.0, all the new case memo data is stored in the `nmemo` and `pack_nmemo` tables and the data type is BLOB.

You can migrate the old case memo data from the `memo` and `pack_memo` tables to the `nmemo` and `pack_nmemo` tables in one of the following ways:

- Using the **Migrate live cases** or **Migrate all cases** option in the **Upgrade or New Install** Dialog when upgrading TIBCO iProcess Engine to 11.5. See *TIBCO iProcess Engine for Windows Installation* for more details.
- Using the `swutil MIGRATEMEMOS ALL_CASES|LIVE_CASES|casenumrange` command after upgrading TIBCO iProcess Engine to 11.5. See "Migrating Old Case Memo Data" in *TIBCO iProcess swutil and swbatch Reference Guide* for more details.



It might take a long time to complete the migration procedure. The time consumption depends on the volume of the memos in the `pack_memo` and `memo` tables.

## Delayed Release Has Been Enhanced (IPE-3536)

The following features have been introduced to enhance the delayed release function:

- Add the SW\_DELAYED\_RELEASE\_ERR stored procedure in the iProcess database. TIBCO iProcess BusinessWorks Connector can trigger the SW\_DELAYED\_RELEASE\_ERR stored procedure to call and send the error message to the BG process if the iProcess Complete Delayed Release activity fails to complete delayed release of an EAI BusinessWorks step.

See "Delayed Release" in *TIBCO iProcess BusinessWorks Connector User's Guide* for more details.

- Add the following system-define message in audit trail to trace the error message when performing delayed release of an EAI BusinessWorks step has failed:

088 *StepDescription* EAI delayed-release failed (error code (failure\_count, BG\_action) : error message)

See "Understanding Audit Trails" in *TIBCO iProcess Engine Administrator's Guide* for more details.

## Support for Database

In this release, you can use Oracle client 12.1.0.1 to access Oracle 11g and 12c.

## Release 11.4.1

The following are new features in this release.

### Set Case Priority for Deadlines (IPE-3224)

You can set the priority for case deadlines. The FORCE\_DEADLINE\_PRIORITY and USE\_PRIORITY\_DEADLINE process attributes have been added to help set deadline priority.

See *TIBCO iProcess Engine Administrator's Guide* for more information about the process attributes. See *TIBCO iProcess Modeler Advanced Design* for more information about rules of case deadline priority setting.

### Check the Time for Acquiring a User's Mutex (IPE-3280)

You can define the maximum amount of time (in milliseconds) that an iProcess Objects Server process should take to acquire for a user's mutex by using the SPO\_USERMUTEX\_WAITTIME process attribute. If the time for acquiring a user's mutex is longer than the time you set in the process attribute, an error is logged in the sw\_warn file.

See *TIBCO iProcess Engine Administrator's Guide* for more information.

## Function for Calculating the Default Number of Message Processing Threads (IPE-3282)

You can calculate the default number of message processing threads by using the defined function.

See *TIBCO iProcess Objects Server Administrator's Guide* for more information.

## Remove the Orphaned Work Items (IPE-3290)

Add the `swutil CHECKITEM` and `swutil CLEANITEM` commands to check and to remove the work items in a work queue that is cached by the WIS process, if the work items do not have matching records in the `outstanding_addr` table.

See *TIBCO iProcess swutil and swbatch Reference Guide* for more information.

## Track the Time for Dequeuing a Message from an Mbox Set (IPE-3296)

The duration of dequeuing a message from an Mbox set is tracked and an error message is logged in the `sw_warn` file if the duration is equal to or over the time that is defined in the newly added `MBSET_DEQUEUE_TIMEOUT` process attribute.

See *TIBCO iProcess Engine Administrator's Guide* for more information.

## Track the Time for Processing an EAI Step (IPE-3297)

The duration of processing an EAI step is tracked and an error message is logged in the `sw_warn` file if the duration is equal to or over the time that is defined in the `EAI_STEP_TIMEOUT` process attribute, which is newly added.

See *TIBCO iProcess Engine Administrator's Guide* for more information.

## Add the MEMSET Debug String for Debugging iProcess Engine Server Processes (IPE-3298)

If the debugging is disabled for an iProcess Engine server process, the MEMSET debug string will be applied to record the debug information.

See *TIBCO iProcess Engine System Message Guide* for more information.

## Case Counting Performance Improvements (IPE-3300)

The case counting performance has been improved by resetting the default value of the `CCOUNT_CACHE_REFRESH` process attribute to 0. In such cases, the cached list of cases currently on the system will not be refreshed and the case counting will not be performed.

See *TIBCO iProcess Engine Administrator's Guide* for more information.



## Exact Timestamps for Instructions in Audit Trail (IPE-3369)

In previous releases, the timestamps used in the `audit_trail` table recorded when the actual Release actions of the instruction are carried out.

The timestamps in the `audit_trail` table now can either record when the user does a specified operation or record when BG or RPCBG processes an instruction.

See *TIBCO iProcess Engine Administrator's Guide* for more information.

## Oracle 12c Database Server Support

Add support to Oracle 12c database server.

See *TIBCO iProcess Engine Installation* for more information.

## Release 11.4.0

The following are new features in this release.

### Define how many of the Latest Versions of Procedure Definition to be Cached (IPE-2975)

To define how many of the latest versions of procedure definitions are to be cached by the iProcess Objects Server processes, you can use the `RESTART_SPO_CACHE_PROC` process attribute when restarting or quick starting iProcess Engine, and use the `SPO_CACHE_PROC` process attribute when the iProcess Objects Server process starts normally.

See *TIBCO iProcess Engine Administrator's Guide* for more information.

### Enable Quick Start Mode (IPE-2976)

You can quick start iProcess Engine server processes with quick start mode by running the following command:

```
swstart -q
```

See *TIBCO iProcess Engine Administrator's Guide* for more information.

### Define the Minimum Size of a Work Queue to Cache on a Restart (IPE-2990)

You can control the minimum size of a queue to be cached by a WIS process by using the `RESTART_WIS_CACHE_THRESHOLD` process attribute when quick starting or restarting iProcess Engine.

The `RESTART_WIS_CACHE_THRESHOLD` attribute will be used only for restart and quick start.

See *TIBCO iProcess Engine Administrator's Guide* and *TIBCO iProcess Engine Installation* for more information.

## Procedure Level Events (IPE-3016)

Procedure level events are introduced with the following functionalities:

- You can define an event, which is triggered just before or after performing the purge, close, resurrect, suspend, or resume action, from the Events tab of the Properties dialog. The Event tab contains the following procedure level events: OnBeforePurge, OnBeforeClose, OnAfterClose, OnBeforeResurrect, OnAfterResurrect, OnBeforeSuspend, OnAfterSuspend, OnBeforeResume, and OnAfterResume. See *TIBCO iProcess Modeler Procedure Management* for more information on the Event tab.
- You can use the `CancelProcEvent` expression to cancel the purge, close, resurrect, suspend, or resume action that is set in the `OnBeforeEvent` procedure level events. See *TIBCO iProcess Expressions and Functions Reference Guide* for more information.
- You can use `swutil` and `swbatch` utilities to purge or close cases without triggering events. See *TIBCO iProcess swutil and swbatch Reference Guide* for more information.
- The `SW_PURGE_WITHOUT_EVENT` and `SW_CLOSE_WITHOUT_EVENT` SSOLite command procedures are added to purge or close cases without triggering events. See the appropriate *TIBCO iProcess Engine (Database) Administrator's Guide* for more information.
- The definition of procedure events is stored in the `proc_event` table, and the information of cases that are interrupted by triggered events when processing the purge, close, resurrect, suspend, or resume operation is stored in the `case_event` table. The case information is recorded in the `case_event` table only when the BG process is handling the delayed release EAI steps, which are defined in the triggered event. See the appropriate *TIBCO iProcess Engine (Database) Administrator's Guide* for more information.

## Set Auto-Purge and Deadlines for Cases (IPE-3019)

You can configure delay auto-purge and deadline for cases in TIBCO iProcess Engine. The information of the auto-purge delay is recorded in the `proc_index` table.

You can create a case deadline for a case to trigger an event after a specified time period, as well as update and delete a case deadline. The definitions of the case deadlines are recorded in the `proc_deadline` table. When a case is started, the information of the case deadline is saved in the `case_deadline_event` table.

See *TIBCO iProcess Modeler Procedure Management* for more information on the configuration of delay auto-purge and case deadlines, `proc_index`, `proc_deadline`, and `case_deadline_event` tables.

See *TIBCO iProcess Engine (Database) Administrator's Guide* for more information on the `proc_index` table.

See *TIBCO iProcess Expressions and Functions Reference Guide* for more information on the `CreateCaseDeadline`, `UpdateCaseDeadline`, and `DeleteCaseDeadline` functions.

## Switch On or Off the Retry Function for Configured Oracle RAC (IPE-3032)

You can control whether to enable the retry function by using the `RETRY_OFF_FOR_RAC` attribute. The retry function retrieves work items from the `staffo` database table for the configured Oracle RAC.

See *TIBCO iProcess Engine Administrator's Guide* for more information.

## Test the Event Mechanism Manually (IPE-3052)

You can test the event mechanism manually by using the following command:

```
swadm evloopback
```

When Process Sentinel starts, a `START` event is issued, or a `SHUTDOWN` event is issued, the event mechanism is tested automatically.

See *TIBCO iProcess Engine Administrator's Guide* for more information.

## Additional IP Addresses Support (IPE-3055)

IPv6 addresses are supported on Windows and Linux systems.

See *TIBCO iProcess Engine Installation Guide* for more information on the configuration.



When communicating with TIBCO iProcess Technology Plug-ins with an IPv6 address, you need to note that TIBCO iProcess Technology Plug-ins only supports inbound communication at runtime with IPv6 addresses.

- If you want to use an IPv6 address for inbound communication at design time, you must upgrade TIBCO iProcess Server Objects to a version that is higher than 11.4.0 after installing TIBCO BusinessWorks iProcess Plug-in, and make sure the upgraded version supports IPv6. Contact TIBCO Support for details of versions of TIBCO iProcess Server Objects that support IPv6.
- If you use TIBCO iProcess Server Objects as the protocol for inbound communication, make sure the Auto Config Date Format check box is unchecked in the Advanced tab of the iProcess Connection activity.

## Deprecated and Removed Features

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This section describes any features that have been deprecated or removed since the version 11.4.0 of this product.

For deprecated features, if relevant, useful alternative to the deprecated features are listed. Any use of a deprecated feature should be discontinued as it may be removed in a future release. You should avoid becoming dependent on deprecated features and become familiar with the suggested alternative features.

### Release 11.6.1

#### Deprecated Features

The following features are deprecated in this release:

- TIBCO iProcess Objects (COM)
- TIBCO iProcess Objects (Java)

### Release 11.6.0

#### Deprecated Features

The following features are deprecated in this release:

- TIBCO iProcess Client (ASP) and TIBCO iProcess Client (JSP) are deprecated and might be removed from a future release. You can use TIBCO iProcess Workspace (Browser) as an alternative client interface for TIBCO iProcess Suite.
- TIBCO iProcess Objects (C++) is deprecated and might be removed in a future release. You can use TIBCO iProcess Server Objects as an alternative interface for your iProcess applications.

#### Removed Features

No features are removed in this release.

### Release 11.5.0

#### Deprecated Features

No features are deprecated in this release.

**Removed Features**

From this release, Microsoft Windows Server 2003 is no longer supported.

**Release 11.4.1****Deprecated Features**

From this release, the support for Microsoft Windows Server 2003 is deprecated.

**Removed Features**

From this release, Microsoft Windows XP is no longer supported.

**Release 11.4.0**

No features are deprecated and removed in this release.

## Compatibility

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In addition to other versions of TIBCO iProcess® Suite components, the following TIBCO products have been successfully tested for compatibility with version 11.6.0 of TIBCO iProcess Engine.

Product	Version(s)
TIBCO iProcess® Decisions Server Plug-in	Version 10.3.0.01
TIBCO iProcess® Web Services Server Plug-in	Version 11.3.0
TIBCO iProcess® Technology Plug-ins	Version 11.6.1
TIBCO iProcess® Server Objects	Version 11.4.1

If you have any queries regarding product compatibility with this version of the iProcess Engine, contact TIBCO Support for further assistance.

## Change History

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The following JIRA issues and Modification Requests (MRs) have been implemented since version 11.4.0 of TIBCO iProcess Engine.

### Release 11.6.1

Defect #	Description
IPE-4138	When a case data was set by TIBCO iProcess Objects Server, the numeric value got changed to decimal value.
IPE-4128	An orphaned item is left in the queue until WIS restart.
IPE-4097	If there were any trailing spaces for input values in text and memo fields, the TIBCO iProcess Objects Server deleted these spaces automatically.
IPE-3969 (Parent JIRA IPE-3968)	When an additional user was added to the groupusers/iPrGroupUsers in Active Directory, the output and the LDAP server synchronization returned unreliable data.
IPE-3903	TIBCO iProcess Engine had returned an error when connecting to the TIBCO iProcess Objects Server if the hostname was longer than 64 characters.
IPE-3897 (Parent JIRA IPE-3899)	The Work Item Server (WIS) had a problem with sorting work item lists that contained both very low and very high CASENUMs.
IPE-3895	When upgrading TIBCO iProcess Engine, the upgrade failed when migrating process definition data (proc-defn).
IPE-3894	If you performed a swutil PROC RELEASE, and chose to migrate all cases (-m ALL) when there was no released version of the procedure, the cases were not migrated.

Defect #	Description
IPE-3893 (Parent JIRA IPE-3879)	<p>The <i>swutil USERINFO</i> - command failed to remove a user from a group. For example, for a user <i>Usr00001</i> and group <i>Grp00002</i>, the command and corresponding error is as follows:</p> <p><b>Command:</b> <i>swutil USERINFO - M-Usr00001,Grp00002</i></p> <p><b>Error:</b> <i>Line 1: User Usr00001 is not a member of group Grp00002; line ignored</i></p> <p><i>^Z</i></p> <p><i>0 lines successfully processed</i></p>
IPE-3891	TIBCO iProcess Engine did not import queues if there were leading spaces, trailing spaces, and control characters such as Carriage Return/Line Feed.
IPE-3890	The Work Queue Server crashed if there were leading spaces in the queue names.
IPE-3868 (Parent JIRA IPE-3876)	<p>If you shut down TIBCO iProcess Engine and migrated cases to a new PROC RELEASE using <i>swutil</i>, the <i>pstafffc</i> file crashed. The <i>pstafffc01.log</i> file listed the following errors:</p> <p><i>[P=06576][T=01668]160517212511.370102:O001: slist_add (): failed to reallocate object list (70, 4)</i></p> <p><i>[P=06576][T=01668]160517212511.370383:C001: lselect_casenum : Failed to add case number to slist</i></p> <p><i>[P=06576][T=01668]160517212511.370699:O001: slist_add (): failed to reallocate object list (70, 4)</i></p> <p><i>[P=06576][T=01668]160517212511.371000:C001: lselect_casenum : Failed to add case number to slist</i></p>
IPE-3866 (Parent JIRA IPE-3836)	The silent installer crashed when upgrading TIBCO iProcess Engine from 11.4.1 to 11.4.1.10.2.
IPE-3864 (Parent JIRA IPE-3831)	The RPCBG crashed when TIBCO iProcess Engine was shut down.
IPE-3863 (Parent JIRA IPE-3857)	Cases that were suspended displayed as active in the work queues.



Defect #	Description
IPE-3862 (Parent JIRA IPE-3828)	SQL statement 36 cannot execute successfully when the case number is 2500009010.
IPE-3856 (Parent JIRA IPE-3858)	The SSOLITE Stored Procedure SW_UNPACKRELEASEID did not get the procedure information using case number, even when the procedure's version was in delayreleaseid.
IPE-3851	If you tried purging cases with a million sub-cases, the background process returned a memory error.
IPE-3846 (Parent JIRA IPE-3848, IPE-3850, IPE-3854)	If you used the wrong password when you logged in to TIBCO iProcess Workspace (Browser) the first time, and then used the correct password to log in, the following error occasionally occurred: <i>client connection refused; too many clients</i>
IPE-3845	The TIBCO iProcess Engine admin user was not notified when sw_error and sw_warn logs were created.
IPE-3838	When upgrading from TIBCO iProcess Engine 11.5 to 11.6, with "Upgrade files only" selected, the installation failed.
IPE-3833 (Parent JIRA IPE-3920)	The sentinel could not be started by using the swstart -p command, when UTF-8 was enabled and UTF-8 database was used.
IPE-3825	The EAI Database (EAIDB) could not build the parameter mapping in case of a numeric input parameter, and an integer value above the default maximum.
IPE-3824	The features of the SE_WORKER_PORTNO parameter could not be disabled when required.
IPE-3821	The move_server command failed when executed from secondary servers.
IPE-3799	The database scripts failed when upgrading TIBCO iProcess Engine to version 11.5.
IPE-3674	When a queue was created with a space in the queue name, the swutil CLEANITEM command failed.
IPE-3670	When you started TIBCO iProcess Engine, it logged the message <i>set param.sticky_sal to 1</i> despite manually setting up STICKY_SAL initially.

Defect #	Description
IPE-3669	The TIBCO iProcess Objects Server crashed when getting the memo data.
IPE-3659	When a background process debug string of ALL=255 was enabled, changing the IAPJMS_SIMPLETOPIC flag value in TIBCO iProcess Engine from 1 to 0 and back to 1 caused all background processes with debug enabled to crash.
IPE-3598	The TIBCO iProcess Objects Server's memory allocation increased rapidly and the server crashed when it was scanned for vulnerabilities by a third-party software.
IPE-3360 (Parent JIRA IPE-4069)	The sw_casenum was not available in the first steps of the initial (init) script.
IPE-3275	The default configuration for EAI_MAIL caused the the background process (BG) sockets to close and duplicate background processes.
IPE-2782	The Work Item Server (WIS) crashed when publishing the work queue delta message.
IPE-2750	Post upgrade from TIBCO Process Engine version 9.0 to TIBCO iProcess Engine version 11.1, a case could not be closed through the SSOLITE.SW_CLOSE case procedure.
IPE-2680	The TIBCO iProcess Objects server set a hard-coded value (7) to the umask.
IPE-2556	The swentobjsv crashed if it received an LV message when the DB_ENABLED configuration parameter was set to 0.
IPE-2374	When trying to fetch the SAL session handle, if the number of SAL sessions went beyond 0xFFFF, the attempt to fetch the handle failed.
IPE-2333	TIBCO iProcess Engine could not be started due to lack of available AQ ports in the aq_port_range table.
IPE-2240	Some Work Item Server (WIS) filter expressions for a range of numerics did not work. For example: <ul style="list-style-type: none"> <li>NUM2=[50/60/70] - Failed with a SAL System Error</li> <li>NUM2=[50] - Failed with SAL System Error</li> <li>NUM2=["50" - "100"] - Did not return an error but fails to return items as the "100" appears to get truncated as the field length is only 2,0</li> </ul>
IPE-2222	When multiple cases were released, some or all deltas did not have the CDQP data.

Defect #	Description
IPE-2049	If an anonymous user tried to attempt a LQ (list user queue) of a user's queue to which they did not have access, the thread hanged in the "acquire_user" stage.
IPE-2005	When the user started a new case, the undelivered work items for the case were not displayed in the Outstanding tab.
IPE-1965	When upgrading TIBCO iProcess Engine, with the IPEINSTALL user being different from the IPESERVICE user, the engine failed to start as some file permissions were not set correctly.
IPE-1919	The SSOLite calls failed when the database session had the parameter ANSI_NULL_DLFT_ON set to OFF.
IPE-1768	When upgrading from TIBCO Process Engine to TIBCO iProcess Engine, the upgrade process aborted without any prompt in case of warnings.
IPE-1657	The SQL statement which cached the case counts blocked the database.
IPE-1611 (Parent JIRA IPE-4034)	The background process had a memory leak when an event was published.
IPE-1548	In an EAI Database step, when you tried to call a procedure, the step was not executed and the following error was returned. <i>Invalid Step Definition: No Stored procedure name</i>
IPE-1523	The Work Item Server (WIS) went into a deadlock if the parameter WIS_NEW_ITEM_BATCH_SIZE was not 0, and if a new work item arrived for an undelivered or test queue that did not exist.
IPE-1340	In instances where the Oracle server had to be restarted, some data in the background process was lost. This did not allow the processes to resume normally when the server was restarted.
IPE-1332	User authentication failed due to conflict between TIBCO iProcess Engine APIs and Active Directory APIs.
IPE-1301	When a user was deleted, the user's queue directory under \$SWDIR/queues was not removed.
IPE-1141	In the server manager under section queue management, the failed count/failout value for the messages for any queue were not correct.

Defect #	Description
IPE-1097	If there was a network error when connecting to the LDAP server, TIBCO iProcess Engine did not execute automatic reconnect attempts.
IPE-1085	The change password (chgpwd) process got locked if the TIBCO iProcess Objects Server wrote MON at the time of fork.
IPE-1030	swadm and swconfig printed misleading messages on startup.
IPE-1029	The deadline tab for EAI Step Definitions was not disabled for non-delayed releases.
IPE-966	The case description was not updated in the CASE_INFORMATION field when the setCaseData () call was used.
IPE-947	Add Java library path to catalina.sh for the tomcat bundled with TIBCO iProcess Engine.
IPE-903	Work item did not appear in the Test work queue.
IPE-879	When the TIBCO iProcess Objects Server was paused or resumed, the swsvrmgr did not show the correct server status until the server received a new TCP package.
IPE-841 (Parent JIRA IPE-3880)	There was a timing issue between the background (BG) process and the Work Item Server (WIS) process which updated the staffo table. This resulted in the staffo entries with the locker column set but no locked bit set or expired auto-withdraw deadlines which did not let the Work Item Server (WIS) cache when deadlines recalculated.
IPE-745	The sal_xpc_list_filter_cases () function did not handle expressions with OR correctly.
IPE-690	The IAP monitor did not fully support the field in which an array was defined.
IPE-232 (Parent JIRA IPE-884)	The port used by ORACLE AQ events could not be set up due to problems in the firewall environment.
IPE-167	The LDAP configuration or synchronization behavior was inconsistent when a user with an invalid MENU_NAME existed.

Defect #	Description
IPE-112	<p>If an EAIDB stored procedure returned an output parameter which had a null value, the following error occurred and the EAIDB step failed.</p> <p><i>sw_warn:</i></p> <p>2010/08/25  16:27:08.027943(BG:2:18413:2:EAIDB1:2552:DB1:pro:/proeai.c:81845:3601):  1869-Procedure:EAIDB1 EAI Step:DB1 Case:2552 EAI plug-in EAIRun_Call() failed,  error: SQL_SYS_ERR - MS-SQL error code :-99999 - [IBM][CLI Driver] CLI0110E  Invalid output or indicator buffer specified. SQLSTATE=22002</p> <p>2010/08/25  16:27:08.195189(BG:2:18413:0:EAIDB1:2552:DB1:pro:/cplmain.c:81512:2388):  1631-WARNING: &lt;CPLInstruction - Error&gt; &lt;-2&gt; &lt;RELEASE&gt;  &lt;RELEASE^sw111db2a^5:0.7^1^sw111db2a,swadmin,5102,sw111db2a^2552^2552^s  w111db2a^swadmin^S1^Step1^3^25/08/2010^16:27^5102^sw111db2a^swadmin^1^&gt;</p> <p>2010/08/25  16:27:08.195243(BG:2:18413:2:EAIDB1:2552:DB1:pro:/swbgmbd.c:82103:1113):  1864-Transaction failure : Reason code = -2</p>

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Defect #	Description
IPE-621	<p>If only one Case Data Queue Parameter (CDQP) was defined for a queue and the CDQP contained only 1 character, an error occurred when accessing the queue from iProcess Workspace (Browser).</p> <p>Corrected.</p>
IPE-3640 (Parent JIRA IPE-3626)	<p>If you specified a different value for the SW_CP_VALUE property other than the Priority property in the <b>Input</b> tab of the iProcess Complete Delayed Release activity, the message priority was not changed to the value specified in the SW_CP_VALUE property after completing the delayed release.</p>
IPE-3654 (Parent JIRA IPE-3639)	<p>If you had run the manual_uorai_11_4_1_5.sql script file first, and then run the manual_uorai11_4_1_9.sql script file, the following error message was displayed:</p> <p>"PLS-00306:wrong number or type of arguments in call to 'SW_EVENT_MESSAGE'"</p> <p>Corrected.</p>

Defect #	Description
IPE-3686	The installer crashed when upgrading iProcess Engine from version 11.1.0.7 to 11.4.1.10.  Corrected.
IPE-3687	TIBCO iProcess Objects Server crashed when multiple threads concurrently called the UVAPI interface.
IPE-3688 (Parent JIRA IPE-3634)	When using SPO to open a disabled queue, an infinite loop error occurred and the error messages were written to the log file continuously.  Corrected.
IPE-3697	When upgrading TIBCO iProcess Engine from an earlier version to 11.5.0 and running the upgrade script to check and drop constraints, if an index was created with a constraint and the index was not removed, the upgrade failed.  Corrected.
IPE-3698	The status of the WISMBD process was not correct when WIS processes were suspended and the WISMBD process was terminated.
IPE-3700 (Parent JIRA IPE-3681)	When the BG process was used to publish audited activity messages to the IAPJMS process, the IAPJMS process spent a lot of time looking up a dynamic JMS topic; therefore, both the IAPJMS process and BG process worked very slowly.
IPE-3701 (Parent JIRA IPE-3684)	When using the Case Data Queue Parameter (CDQP) field to filter items, if both the database and the iProcess engine environment used UTF-8, and the CDQP field contained empty values, the filter result was incorrect.  Corrected.
IPE-3708 (Parent JIRA IPE-3705)	After processing the sub cases, the Chinese characters in the "step description" section of the audit message were missing or abnormally displayed.  Corrected.
IPE-3710 (Parent JIRA IPE-3707)	When using the <code>swutil EVENT</code> command with an abox file to update field data, if the abox file contained a numeric field and the value of this field contained a leading zero with no decimal point, after updating, the leading zero in the value was removed and replaced with a decimal point behind the value in the database table. For example, if the original value was "09", the value in the database table was updated to "9." .
IPE-3720	When starting a case and executing a graft step either using <code>sw_graft</code> stored procedure or an iProcess Server Objects application, if the <b>auto-purge</b> option was enabled for the graft sub procedure, an error was returned to iProcess Workspace (Browser).

Defect #	Description
IPE-3724	Failed to start the iProcess Engine node after installing iProcess Engine with Hawk 5.1.x.  Corrected.
IPE-3727 (Parent JIRA IPE-3726)	The IDX_ATTACHMENT_FK index was missing, which caused database deadlock.  Corrected
IPE-3739	When using the <b>SWBATCH</b> command to purge a batch of cases, if one of the specified cases did not exist, the subsequent cases within the specified case range were not purged.  Corrected.
IPE-3740 (Parent JIRA IPE-3719)	If the <b>password required</b> option was enabled when installing iProcess Engine, and the first step of a procedure was an EAI step, an error occurred when starting a case.  Corrected.
IPE-3741	The RPC_POOL process crashed when releasing an unreleased procedure that had configured case deadlines.
IPE-3749 (Parent JIRA IPE-3730)	If the SQL statement was marked as cached, memo searches might look into the incorrect table, resulting in no data being found although a memo being assigned.  This issue affected systems with memo data in both the MEMO and NMEMO tables and either type of memo.  Corrected.
IPE-3750 (Parent JIRA IPE-3742)	When using TIBCO ActiveMatrix BusinessWorks or SSOLite to start a case with a memo value, if the procedure contained multiple EAI steps and the memo value was set to NULL in one of the EAI steps, the memo value was not NULL after starting the case.  Corrected.
IPE-3751 (Parent JIRA IPE-3744)	If TIBCO iProcess Workspace (Browser) was used to start cases, unnecessary test logs were added to the SPO SAL logs.  Corrected.

Defect #	Description
IPE-3752 (Parent JIRA IPE-3738)	If you upgraded iProcess Engine to version 11.5 without migrating any cases, an error occurred when running a TIBCO ActiveMatrix BusinessWorks process to issue an update event for a case that existed in any previous versions of iProcess Engine.  Corrected.
IPE-3753 (Parent JIRA IPE-3692)	When multiple users attempted to log in to TIBCO iProcess Objects Server through different client applications (.net/java), a "No response from SPO Server" error message was displayed for certain users.
IPE-3754 (Parent JIRA IPE-701)	Failed to upgrade an iProcess Engine node, if multiple iProcess Engine nodes with similar names, such as wx1234,wx12345, and wx12356, were installed on a machine.
IPE-3757 (Parent JIRA IPE-3691)	If a TIBCO iProcess Engine client connected to TIBCO iProcess Objects Server that had already exited, and it did not close the connection to TIBCO iProcess Objects Server, TIBCO iProcess Objects Server might crash.
IPE-3758	An error occurred when using the <b>save as &gt; new procedure</b> option to rename a procedure.
IPE-3759	The BG process crashed when running the SSOLITE stored procedure that contained graft steps.
IPE-3760 (Parent JIRA IPE-3748)	The value format of the <code>delayedreleaseID</code> parameter was changed. Certain value parsing functions in TIBCO iProcess Objects Server could not parse the new format; therefore, an error occurred when parsing the values with the new format and failed to release the 'delayed release EAI step'.  Corrected.
IPE-3763	When switching iProcess Engine from one machine to another machine in a cluster environment, a database error like the following occurred:  ORA-02292: integrity constraint violated ORA-02292: integrity constraint violated error  Corrected.
IPE-3765 (Parent JIRA IPE-3706)	If you updated the values of memo fields in the subprocedure through the SSOLITE interface, the updated values were not returned to the main procedure.  Corrected.



Defect #	Description
IPE-3794 (Parent JIRA IPE-3785)	The WQS process updated the wqs_index table frequently during the startup of iProcess Engine, the WQS process consumed nearly 100% of the CPU and the WIS process was locked in a STARTING state.  Corrected.
IPE-3795	The standard file descriptor (for example, 0, 1, 2) was used in the RPC depository.

## Release 11.5.0

Defect #	Description
IPE-701	When using the <code>swstart</code> script that was located in the <code>SWDIR/bin</code> directory to start all the server processes in a node cluster, if multiple nodes had similar names, the server processes did not start.
IPE-1488	TIBCO iProcess Engine failed to start if one of the following conditions occurred:  ORA-28002: the password will expire within string days ORA-28011: the account will expire soon; change your password now  Corrected.
IPE-3141	The <code>step_addr</code> column of the <code>predict</code> table displayed <code>NOADDR</code> when a new user was added to TIBCO iProcess Engine.
IPE-3394	When installing iProcess Engine, if you used JBoss EAP 6.1.0 as the JMS provider, the configuration information written to the <code>iapjms_classpath.properties</code> file that was located in the <code>\$SWDIR/etc</code> directory was incorrect.
IPE-3396	When calling the <code>triggerEvent()</code> method, the TIBCO iProcess Objects Server process did not unlock the procedure cache if an error occurred.
IPE-3399	When using the TIBCO iProcess Objects Server process to cache a specified version of the procedure definition that did not exist in TIBCO iProcess Engine, the following error message was displayed in the TIBCO iProcess Objects Server log file:  SPO did not unlock every the read/write lock.
IPE-3400	When importing a procedure library using the <code>swutil IMPORTLIB</code> command for the second time, if the description of the procedure exceeded 24 characters, the importing of the procedure library failed.

Defect #	Description
IPE-3407	When you started more than 1000 cases using the SSOLite stored procedures on SQL Server 2014, some cases were not started successfully.  Corrected.
IPE-3412 (Parent JIRA IPE-3013)	After starting cases by using the SSOLite stored procedures, the values in the casenum_gaps table were incorrect.  Implemented.
IPE-3414	When using the swsvrmgr START_NEW command to start a new instance of the BG process, the Process Sentinels crashed.
IPE-3416	The following functions are introduced to manage system events: <ul style="list-style-type: none"> <li>• Enable system events logging</li> <li>• Audit system events</li> <li>• Publish system events</li> <li>• Query information about system events</li> <li>• Turn off system events</li> <li>• Import configuration files of system events into iProcess Engine</li> <li>• Export configuration information of system events to a command line</li> </ul> See <a href="#">System Events Management (IPE-3416)</a> on page 2.
IPE-3421	When starting a case that contained a numeric field in iProcess Engine 11.4.1, if the NLS_LANG parameter was set to en_US and the decimal separator in the numeric field was set to the period character rather than the comma character, a warning message was displayed in the sw_warn file.
IPE-3424	A closed case was not opened by using SSOLite stored procedures.
IPE-3425	After successfully caching a version of a procedure definition by using the iProcess Objects Server process, the following error message was displayed in the TIBCO iProcess Objects Server log file: <p>g_proc_cache_rwlock was read-locked.</p> <p>cache_the_procedure() SEO_node_namefind() failed.</p>
IPE-3429 (Parent JIRA IPE-3283)	A deadlock occurred when the m_IndexLock parameter was used in the CIndex::SetDeleted() and CIndex::IsDeleted() functions.  Corrected.

Defect #	Description
IPE-3430 (Parent JIRA IPE-3348)	A deadlock occurred which caused all the "worker" threads and the update thread in the WIS process to suspend when more than one "worker" threads were processing the WIS session simultaneously.  Corrected.
IPE-3432 (Parent JIRA IPE-3346)	More logs have been added to trace the information of the locks in the CIndex_MUTEX lock pool used by the WIS process.  Corrected.
IPE-3436	The TIBCO iProcess Objects server process unlocked the read and write lock before locking the process cache.
IPE-3437 (Parent JIRA IPE-3380)	When running a script, which called the markfieldchanged function, to release work items, the work items were locked.
IPE-3441 (Parent JIRA IPE-3417)	When calling the GetNextDeltaItem() method to retrieve a new or modified work item from a work queue, the error message "invalid format of delta details from SAL" was recorded in the TIBCO iProcess Objects Server log file.
IPE-3444	When reconnecting to an LDAP server that was performing synchronization, the BG process was suspended.  Corrected.
IPE-3445	When deploying a procedure in TIBCO Business Studio, the procedure inherited the access control settings of the deployer, instead of the predefined access control settings from the procedure library.
IPE-3455	Add the sqloptim file, which is located in the SWDIR/etc directory, to optimize SQL statements execution.  <a href="#">See Optimize SQL Statements Execution (IPE-3455) on page 4.</a>
IPE-3457	The swutil EXPORT command was case sensitive for the iProcess users.  Corrected.
IPE-3459	When specifying values for fields in the case_data table, if <b>Support Unicode Encoding</b> was enabled and the length of the values exceeded the predefined size, the values were not truncated before they were stored in the table.

Defect #	Description
IPE-3460	<p>When upgrading TIBCO iProcess Engine to 11.4.1 from any versions except for 11.4.0, an error occurred during creating indexes because the column name of <code>table_owner</code> in the <code>user_indexes</code> view was mistakenly replaced by the name of the database owner.</p> <p>Corrected.</p>
IPE-3463	<p>When using the <code>swutil PROC RELEASE</code> command to release a version of a procedure with the <code>-M ALL</code> option, if the required libraries and the EAI plug-in were not loaded because of an EAI failure, the specified version of the procedure was released, but all the active cases were not migrated to the new version.</p>
IPE-3466	<p>When installing TIBCO iProcess Engine 11.4.1, if you used the <code>TNSNames.ora</code> file to connect to the database of which database type was Oracle Real Application Clusters, the following warning message was displayed in the <code>sw_warn</code> log file:</p> <p>Function <code>loci_unsubscribe_event</code>, Error Message <code>OCISubscriptionUnRegister()</code> failed.</p> <p>Corrected.</p>
IPE-3467	<p>After forwarding work items to another queue, the <code>Arrival-time</code> attribute was not displayed correctly.</p>
IPE-3468	<p>Reduce the average time for a user to log in to a TIBCO iProcess Engine node with many user groups and users created.</p> <p>See <a href="#">Reduce Login Time (IPE-3468) on page 4</a>.</p>
IPE-3472	<p>Add the <code>MN_UNLOCKER</code> process attribute to define who can have the permission to unlock work items.</p> <p>See <a href="#">Unlock Work Items (IPE-3472) on page 4</a>.</p>
IPE-3473	<p>Add the <code>WRITELOG</code> function to write messages to log files.</p> <p>See <a href="#">WRITELOG Function Introduced ( IPE-3473) on page 4</a>.</p>
IPE-3476	<p>Add support for defining the maximum size of log files.</p> <p>See <a href="#">Define the Maximum Size of Log Files (IPE-3476) on page 5</a>.</p>
IPE-3477	<p>Add the <code>WARN_ERROR_LOG_SIZE</code> process attribute to define the maximum size of the <code>sw_warn</code> and <code>sw_error</code> log files.</p> <p>See <a href="#">Define the Maximum Size of the <code>sw_warn</code> and <code>sw_error</code> Log Files (IPE-3477) on page 5</a>.</p>

Defect #	Description
IPE-3480	<p>Add the requestid as the unique identifier for each work item.</p> <p>See <a href="#">Work Items Are Unique to Users (IPE-3480)</a> on page 5.</p>
IPE-3486	<p>When triggering a graft step, TIBCO iProcess Objects server crashed.</p>
IPE-3491	<p>When using the SW_JUMPTO procedure to have a case jumped from its current step to another step in the sub-procedure, if the case tag contained the main procedure name and the withdraw list was set to the asterisk (*) wildcard, the transaction failed and an error message was displayed in the sw_error file.</p>
IPE-3494	<p>When upgrading TIBCO Process Engine version 9.0 to TIBCO iProcess Engine version 11.4.1.2, the <b>Upgrade Schema</b> check box was unselected, and if you continued the upgrade process without selecting the check box, the installer crashed.</p> <p>Corrected.</p>
IPE-3496	<p>The participation data within the WQS process was not unlocked after it was locked.</p> <p>Monitor logic is added in the WQS process to accurately trace the locations where participation data is locked.</p>
IPE-3497	<p>The sw_partic_unlock_external() method was called to unlock a locker that was not created in the participation data.</p>
IPE-3498	<p>The sw_partic_unlock_external() method was not called to unlock a locker after the locker was created in the participation data.</p>
IPE-3513	<p>Change field data type in the database.</p> <p>See <a href="#">Change Field Data Type (IPE-3513)</a> on page 5.</p>
IPE-3516	<p>When upgrading iProcess Engine to 11.4.1.8, the master server was incorrectly treated as a slave server, which caused the <b>Upgrade Schema</b> check box to be disabled and the database upgrade to fail.</p> <p>Corrected.</p>
IPE-3536	<p>Add the W_DELAYED_RELEASE_ERR stored procedure in the database and system-define error message in audit trail to trace delayed release.</p> <p>See <a href="#">Delayed Release Has Been Enhanced (IPE-3536)</a> on page 6.</p>
IPE-3537	<p>When installing TIBCO iProcess Engine, if you specified an incorrect password for the database user, no warning messages were displayed until the installation failed.</p>

Defect #	Description
IPE-3538	When starting the iProcess Objects Server (SPO) process, the memory was rapidly consumed.
IPE-3544	The <code>plist -M</code> command did not work because the iProcess foreground user ( database user) was used to connect to the database.  Corrected.
IPE-3588	When migrating only live cases from swutil by running the <code>Swutil PROC RELEASE -M</code> command, all cases (including close cases) were migrated.
IPE-3615	When the <code>MakeProc</code> function was called to return the minor version of a released procedure, if the major version and minor version parameters were both set to <code>-1</code> in the function, an incorrect procedure version was returned.
IPE-3624	The <code>CNUM_SEQ_CACHE</code> and <code>REQID_SEQ_CACHE</code> process attributes were not added into the upgrade scripts since TIBCO iProcess Engine 11.1.3.  Corrected.
IPE-3627	Upgrade Java 1.7 to new versions on the following platforms of iProcess Engine: <ul style="list-style-type: none"> <li>• Windows, Linux, and Solaris: 1.7.0.75</li> <li>• HP: 1.7.0.11</li> <li>• AIX: 7.0.0.195</li> </ul>
IPE-3629	When using the <code>trigger event</code> function in a script step to change the value of a memo field, if the new value of the memo field exceeded 4096 characters, the memo data stored in the memo table was incorrect.
IPE-3633	When installing TIBCO iProcess Engine 11.4.1.8, if the <b>Upgrade NobleNet Portmapper</b> check box is selected in the <b>Select components to configure</b> dialog, the installer was crashed or the "Failed to start the NobleNet Portmapper for TCP service or contact it once it had been started" error message was displayed.  Corrected.
IPE-3641	When completing a delayed release in TIBCO ActiveMatrix BusinessWorks, if the <code>SW_CP_VALUE</code> field was set to a value, the value of the message priority in TIBCO iProcess Engine was not changed.
IPE-3642	TIBCO iProcess Engine failed to insert the outstanding workitems information into the <code>outstanding_addr</code> table.
IPE-3650	Upgrade Tomcat to version 7.0.59.

Defect #	Description
IPE-3652 (Parent JIRA IPE-3663)	<p>When a dynamic sub-procedure call step started more than 300 sub-cases of the main procedure, the following error message was displayed in the <code>sw_error</code> log file:</p> <pre>write_pprs() Unable to execute statement(non-select) (Statement ID - 298) (ORA-00001: unique constraint (PK_OUTSTANDING_ADDR) violated)</pre> <p>Corrected.</p>

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Defect #	Description
IPE-734	Error messages were generated when deploying a procedure with EAI steps from TIBCO Business Studio to TIBCO iProcess Engine.
IPE-1754	After starting a case, which contained only one step, the BG process crashed when the step deadline expired.
IPE-3224	Add support to set priority for case deadlines.  See <a href="#">Set Case Priority for Deadlines (IPE-3224)</a> on page 6.
IPE-3242	After installing EAICOM with TIBCO iProcess Engine, the following error message was continually displayed in the <code>sw_error</code> log file if the BG processes did not work due to the session level failover:  1945-Database error: idl_SQL_allocate_connection_from_pool() idl_SQL_enlist_connection() Failed (Statement ID - 0) (ORA-25402: transaction must roll back)
IPE-3249	An error message was generated in the Event Viewer Application log when starting up TIBCO iProcess Objects Director.  Corrected.
IPE-3260	When logging on TIBCO iProcess Engine through TIBCO iProcess Workspace (Windows), the TIBCO iProcess Workspace (Windows) client crashed after clicking the Open First button to release a Form.  Corrected.
IPE-3269 (Parent JIRA IPE-3265)	When the iProcess Objects Server process caching procedures, the released version of procedures occasionally were in the version list rather than in the released version list.
IPE-3270 (Parent JIRA IPE-3259)	The iProcess Objects Server process crashed after you deleted a withdrawn procedure.
IPE-3271 (Parent JIRA IPE-3267)	The iProcess Objects Server process did not unlock the read/write lock each time for the procedure cache.
IPE-3279	The watcher Process Sentinel process crashed when starting up process sentinels if you set the value of the TIMZONE process attribute containing a line break.



Defect #	Description
IPE-3280	<p>Add the SPO_USERMUTEX_WAITTIME process attribute to define the maximum amount of time (in milliseconds) that an iProcess Objects Server process should take to acquire for a user's mutex before reporting the time to the log file.</p> <p>See <a href="#">Check the Time for Acquiring a User's Mutex (IPE-3280) on page 6</a>.</p>
IPE-3282	<p>Add a function to calculate the default number of message processing threads.</p> <p>See <a href="#">Function for Calculating the Default Number of Message Processing Threads (IPE-3282) on page 7</a>.</p>
IPE-3290	<p>Add support to check and to remove work items in a work queue that is cached by the wis process, but do not have matching records in the outstanding_addr table.</p> <p>See <a href="#">Remove the Orphaned Work Items (IPE-3290) on page 7</a>.</p>
IPE-3293 (Parent JIRA IPE-3319)	<p>After executing the swstop command, the BG processes on the master node were not stopped.</p>
IPE-3296	<p>Add support to track the duration for dequeuing a message from an Mbox set.</p> <p>See <a href="#">Track the Time for Dequeuing a Message from an Mbox Set (IPE-3296) on page 7</a>.</p>
IPE-3297	<p>Add support to track the duration for processing an EAI step.</p> <p>See <a href="#">Track the Time for Processing an EAI Step (IPE-3297) on page 7</a>.</p>
IPE-3298	<p>Add the MEMSET debug string to record the debug information if the debugging is disabled for an iProcess Engine server process.</p> <p>See <a href="#">Add the MEMSET Debug String for Debugging iProcess Engine Server Processes (IPE-3298) on page 7</a>.</p>
IPE-3299	<p>Failed to upgrade from TIBCO iProcess Engine version 11.1 to 11.3.1 if you tried to upgrade TIBCO iProcess Engine more than once because the leavers table was not dropped from the SSOLite package.</p>
IPE-3300	<p>Case counting is not performed by default.</p> <p>See <a href="#">Case Counting Performance Improvements (IPE-3300) on page 7</a>.</p>
IPE-3301 (Parent JIRA IPE-3248)	<p>When using TIBCO iProcess Objects Server to lock work items, the "Procedure name not found" error message was reported occasionally.</p> <p>Corrected.</p>

Defect #	Description
IPE-3302 (Parent JIRA IPE-3258)	After starting a case of a procedure that had a wait step, the prediction did not contain all the predictable steps of the procedure.  Corrected.
IPE-3303 (Parent JIRA IPE-3254)	When upgrading the iProcess Engine in silent mode, the master node was treated as a slave node, then the database for the master node was not upgraded.  Corrected
IPE-3309 (Parent JIRA IPE-3257)	After importing procedures through the XML Process Definition Language (XPDL) file, the access control on the library containing the imported procedures was reverted to the default settings.
IPE-3310 (Parent JIRA IPE-3287)	The wis process was suspended due to the m_IndexLock parameter was used in the CIndex::SetDeleted() and CIndex::IsDeleted() functions.
IPE-3311 (Parent JIRA IPE-3256)	When connecting a LDAP server through a LDAP proxy server, the following error message was reported if the time delay between the two calls exceeded the idle timeout:  An error has occurred in 2nd call to SW_LDAP_search(): Error whilst performing Search (entries = 0)
IPE-3312	The number of connections between the IAPJMS process and TIBCO Enterprise Message Service increased when the IAPJMS process sent a message to TIBCO Enterprise Message Service after you have stopped the BG process.
IPE-3313	The user step following the OnAfterClose event was not displayed in the queue after closing the case to trigger the defined OnAfterClose event.
IPE-3314 (Parent JIRA IPE-3305)	The TIBCO iProcess Engine user successfully logged in through TIBCO iProcess Workspace (Browser) with an expired and unusable password.
IPE-3315 (Parent JIRA IPE-3307)	After changing password for a user while its SAL session was available, the TIBCO iProcess Engine user failed to log in with the new password.
IPE-3316 (Parent JIRA IPE-2557)	TIBCO iProcess Objects Server was suspended.  Corrected.

Defect #	Description
IPE-3317 (Parent JIRA IPE-2785)	TIBCO iProcess Objects Server now uses a new interface <code>salq_list_sfinditem</code> to retrieve the work item index and improves the performance of SSO operations including <code>lockitem</code> , <code>unlockitem</code> , <code>releaseitem</code> , <code>keepitem</code> , <code>forwarditem</code> , and <code>undo</code> .  Implemented.
IPE-3318 (Parent JIRA IPE-2810)	The new interface <code>salq_list_sfinditem</code> introduced in IPE-2785 in the 11.1.3-Hotfix03 did not unlock work items by using <code>swadmin</code> .  Corrected.
IPE-3320 (Parent JIRA IPE-2835)	<p>A configuration flag is added in the configuration file to specify whether or not TIBCO iProcess Objects Server caches the EAI step definition.</p> <p>Create the <code>CacheProcEAIStep</code> String Value in the following registry list:</p> <p>RegistryLocation\Staffware plc\Staffware Server\Nodes\nodename</p> <p>where:</p> <ul style="list-style-type: none"> <li>RegistryLocation is either <code>\HKEY_LOCAL_MACHINE\SOFTWARE</code>, if you are running TIBCO iProcess Engine on a 32-bit machine, or <code>\HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node</code>, if you are using a 64-bit machine.</li> <li>nodename is the name of TIBCO iProcess Engine installation.</li> </ul> <p>To cache the EAI step definition, set <code>CacheProcEAIStep</code> to 1.</p> <p>When setting <code>CacheProcEAIStep</code> to 0, the EAI step definition is not be cached and the following methods return empty information:</p> <ul style="list-style-type: none"> <li>For TIBCO iProcess Server Objects clients: <code>sProcManager.getExternalForm</code> and <code>xProcManager.getExternalForm</code></li> <li>For TIBCO iProcess Objects Server clients: <code>SWStep.getExtForm</code></li> </ul> <p>Implemented.</p>
IPE-3321 (Parent JIRA IPE-3250)	When creating an XList of work items from a queue by using TIBCO iProcess Objects (COM) and looping through the XList to lock each work item, after the first work item was locked and then released, other work items failed to be locked.  Corrected.
IPE-3322 (Parent JIRA IPE-3128)	An error occurred when releasing steps that had embedded fields through TIBCO iProcess Objects Server.  Corrected.

Defect #	Description
IPE-3323 (Parent JIRA IPE-3277)	After changing the password for a user while its SAL session was available, the user failed to log in with the new password.  Corrected.
IPE-3324	The file descriptors leak occurred when the IAPJMS process sent messages to TIBCO Enterprise Message Service, which was not running.
IPE-3326	The DBQD process was continually recording useless messages into the DBQD_1_stdout log file, which was located in the <i>SWDIR/logs/process</i> directory.
IPE-3329	When creating a procedure with a Message Event Request (MER) message, the record of the last deleted procedure, which was monitored by its MER message, was not removed from the <i>iap_monitor</i> table and was used for the newly created procedure.
IPE-3331	TIBCO iProcess Objects Server crashed when filtering work items by using F2 filter through the Work Item Server if one of the filter strings for a field exceeded 512 characters, which is the maximum capacity.
IPE-3332 (Parent JIRA IPE-3304)	Error messages were recorded in the audit trail of a case when starting the sub-case if a script was mapped from a field of the procedure to a MEMO field of its sub-procedure.
IPE-3335 (Parent JIRA IPE-3334)	A deadlock occurred in the iProcess Objects Server cache of procedures.
IPE-3337	Chinese characters were not retrieved correctly by using Java SSO if they were split by TIBCO iProcess Objects Server (SPO).  Corrected.
IPE-3338	When creating an XList of work items from a queue by using TIBCO iProcess Objects (COM) and looping through the XList to lock each work item, after the first work item was locked and then released, the next work item failed to be locked.  Implemented.
IPE-3339	After changing password for a user while its SAL session was available, the user failed to log in with the new password.  Implemented.

Defect #	Description
IPE-3340 (Parent JIRA IPE-3304)	Error messages were recorded in the audit trail of a case when starting the sub-case if a script was mapped from a field of the procedure to a MEMO field of its sub-procedure.
IPE-3341 (Parent JIRA IPE-3333)	The error message "cannot start a new transaction" was reported in the <code>sw_error</code> file when deleting user information if EAICOM was registered in TIBCO iProcess Engine.
IPE-3343 (Parent JIRA IPE-3342)	The procedure information was missing when TIBCO iProcess Objects (C++ and Java) requested for the procedure information from iProcess Objects Server if the procedures were newly created or updated.
IPE-3344	An iProcess Objects Server timeout exception was reported when TIBCO iProcess Workspace (Browser) client sent a message to the iProcess Objects Server process if the message capacity was exceeded.
IPE-3358 (Parent JIRA IPE-3346)	More logs have been added to trace the information of the locks in the CIndex_MUTEX lock pool used by the wis process.
IPE-3359 (Parent JIRA IPE-3348)	A deadlock occurred which caused all the "worker" threads and the update thread in wis process were suspended when more than one "worker" thread were processing the wis session simultaneously.
IPE-3361	Add the TIBCO Enterprise Message Service 8.0 option for Java Message Service provider when installing TIBCO iProcess Engine.
IPE-3364	TIBCO iProcess Server Manager was not displayed correctly in Internet Explorer and Firefox.  <b>Note:</b> For Internet Explorer, you must use the compatibility view to display TIBCO iProcess Server Manager.
IPE-3365	TIBCO iProcess Engine provides a new interface for setting priority for purging and closing messages with TIBCO iProcess Server Objects.
IPE-3366	TIBCO iProcess Objects Server uses the new SAL interface to support setting priority for purging and closing messages with TIBCO iProcess Server Objects.
IPE-3369	Add the EXACT_OPERATION_TIMESTAMP attribute to record in the audit trail either when the user does a specified operation or when BG or RPCBG processes an instruction.  See <a href="#">Exact Timestamps for Instructions in Audit Trail (IPE-3369)</a> .

Defect #	Description
IPE-3373	When starting TIBCO iProcess Engine, the IAPJMS process was not started if using JBoss EAP 6.1 after installing TIBCO iProcess Engine with JBoss selected as the JMS provider.
IPE-3374	When starting TIBCO iProcess Engine, the IAPJMS process was not started if using IBM WebSphere 7.x or 8.x after installing TIBCO iProcess Engine with IBM WebSphere V7.x selected as the JMS provider.  Corrected.
IPE-3375 (Parent JIRA IPE-3367)	An error occurred when using TIBCO iProcess Server Objects to start a new case of a procedure which was released recently.
IPE-3379	A transaction was not committed or rolled back when using the PROCMDR process to run the SELECT SQL statement in a loop.
IPE-3381	Database scripts did not run successfully if using the scripts the second time when upgrading TIBCO iProcess Engine to version 11.4.1.
IPE-3383 (Parent JIRA IPE-3371)	TIBCO iProcess Objects Server supports the extension of the length of the login password for TIBCO iProcess Engine to 32,768 bytes.
IPE-3384 (Parent JIRA IPE-3370)	The length of a password used for logging into TIBCO iProcess Engine, has been extended to 32,768 bytes.
IPE-3385	Upgrade Tomcat to version 7.0.52.
IPE-3386	Update TIBCO iProcess Engine to use new TIBCO logo.

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Defect #	Description
IPE-163	An error occurred when checking permissions of the running users due to the user name being case-sensitive on Windows systems.

Defect #	Description
IPE-2975	<p>Add the <code>RESTART_SPO_CACHE_PROC</code> process attribute to define how many of the latest versions of the procedure definition will be cached by the iProcess Objects Server processes when restarting or quick starting iProcess Engine. Add the <code>SPO_CACHE_PROC</code> process attribute to define this behavior when starting iProcess Engine normally.</p> <p>See <a href="#">Define how many of the Latest Versions of Procedure Definition to be Cached (IPE-2975)</a> on page 8.</p>
IPE-2976	<p>Add a new option <code>-q</code> to the <code>swstart</code> command for quick starting iProcess Engine.</p> <p>See <a href="#">Enable Quick Start Mode (IPE-2976)</a> on page 8.</p>
IPE-2990	<p>The <code>RESTART_WIS_CACHE_THRESHOLD</code> process attribute, defining the threshold number of work items in a work queue, is added to determine whether to cache all the work items in the work queue when a WIS process restarts or quick starts.</p> <p>See <a href="#">Define the Minimum Size of a Work Queue to Cache on a Restart (IPE-2990)</a> on page 8.</p>
IPE-3016	<p>The procedure level event is added to TIBCO iProcess Engine to record information about cases that are interrupted by triggered events when processing the purge, close, resurrect, suspend, or resume operation.</p> <p>See <a href="#">Procedure Level Events (IPE-3016)</a> on page 9.</p>
IPE-3017	<p>Changed the default values of the <code>CNUM_SEQ_CACHE</code> and <code>REQID_SEQ_CACHE</code> process attributes to 5 for the iProcess Objects, and <code>SSOLITE</code> on Oracle. Changed the default value of the <code>WIS_UPDATE_PERIOD</code> attribute to 20.</p>
IPE-3019	<p>Add support to delay the case auto-purge operation and to set case deadlines.</p> <p>See <a href="#">Set Auto-Purge and Deadlines for Cases (IPE-3019)</a> on page 9.</p>
IPE-3020 (Parent JIRA IPE-2978)	<p>The message priority was not controlled by setting the value of the <code>SW_CP_VALUE</code> field through TIBCO ActiveMatrix BusinessWorks Plug-in.</p>
IPE-3028	<p>Upgrade Java from version 1.6 to 1.7 on all platforms of TIBCO iProcess Engine.</p>
IPE-3032	<p>Adds the <code>RETRY_OFF_FOR_RAC</code> attribute to determine whether to enable the retry function that reviews work items from the <code>staffo</code> database table for the configured Oracle RAC.</p> <p>Implemented. See <a href="#">Switch On or Off the Retry Function for Configured Oracle RAC (IPE-3032)</a> on page 10.</p>

Defect #	Description
IPE-3036	An error message was logged in the <code>seo_error</code> log when starting TIBCO iProcess Objects Server after upgrading iProcess Engine to version 11.3.1.
IPE-3038 (Parent JIRA IPE-2967)	Mapping from the sub-procedure fields to expressions continued after the "sal_validsh (): session_lock (21248) failed" error occurred, resulting in incorrect mappings.
IPE-3039 (Parent JIRA IPE-2981)	Users imported from the LDAP Server could log in through TIBCO iProcess Workspace (Windows) or TIBCO iProcess Workspace (Browser) with an incorrect password.
IPE-3040 (Parent JIRA IPE-3004)	The trigger event operation did not work when the case number was greater than 2147483647.
IPE-3041 (Parent JIRA IPE-3005)	When releasing a script, the <code>CALL</code> function did not work if the <code>scriptname</code> parameter in the function was not enclosed in double quotation marks.
IPE-3042 (Parent JIRA IPE-3025)	When using the <code>JumpTo</code> function to jump from main procedures to dynamic sub-procedures, the "unexpected exception, Message Item not found." error message was reported.
IPE-3043 (Parent JIRA IPE-3030)	If the user name of a case had been changed, for example, changing S02460 to s02460, the original user was inserted into the <code>leavers</code> and <code>redir_defn</code> tables as a recently deleted user.
IPE-3045 (Parent JIRA IPE-2974)	When attempting to release a work item, which contained fields with validations, error messages were generated in the TIBCO iProcess Objects Server log file.
IPE-3046 (Parent JIRA IPE-2994)	When creating an XList of work items from a queue by using TIBCO iProcess Objects (COM) and looping through the XList to lock each work item, after the first work item was locked and then released, other work items failed to be locked.
IPE-3050 (Parent JIRA IPE-3013)	TIBCO iProcess Engine ran out of case numbers. Corrected.



Defect #	Description
IPE-3052	<p>Add the <code>swadm EVLOOPBACK</code> command to test event mechanism manually, and report error messages if events do not work.</p> <p>See <a href="#">Test the Event Mechanism Manually (IPE-3052)</a> on page 10.</p>
IPE-3055	<p>IPv6 addresses are supported on Windows and Linux systems.</p> <p>See <a href="#">Additional IP Addresses Support (IPE-3055)</a> on page 10.</p>
IPE-3072 (Parent JIRA IPE-3048)	<p>After cases were migrated to a new procedure version by using the <code>swutil IMPORT +c</code> command, duplicated work items were displayed in a case when triggering an event.</p>
IPE-3073 (Parent JIRA IPE-3053)	<p>Case start was slow after installing TIBCO iProcess Engine 11.3.0_HF-008.</p>
IPE-3074 (Parent JIRA IPE-3051)	<p>The indexes for the Mbox tables did not include the <code>enq_time</code> index after upgrading TIBCO iProcess Engine from version 11.1.2 or earlier versions to 11.3.1.</p> <p>Corrected.</p>
IPE-3078	<p>After migrating existing cases of a procedure to a new version, the existing cases were still in the old version.</p>
IPE-3088	<p>An error message was not displayed when an LDAP attribute was mapped for more than one iProcess property.</p>
IPE-3090	<p>The F3 filter failed to filter work items via Case Data Queue Parameter (CDQP) if the field held 255 characters, the maximum capacity.</p>
IPE-3096	<p>The MEMATTTS sections in the old version and new version of the procedures did not match after the XFR file was imported by using the <code>SWUTIL</code> command.</p>
IPE-3115	<p>After you have forwarded a work item from a cached queue to another queue to be cached, the work item was not displayed in the destination queue.</p>
IPE-3116	<p>Only iProcess Engine database user (<code>swuser</code>) account is used to connect to databases.</p>
IPE-3122 (Parent JIRA IPE-3063)	<p>When the BG process failed to handle the SUBDONE message because of a deadlock, the BG process did not roll back the affected transaction.</p>

Defect #	Description
IPE-3126 (Parent JIRA IPE-3101)	Chinese characters were not retrieved correctly by using iProcess Server Objects (Java) if they were split by TIBCO iProcess Objects Server.
IPE-3145 (Parent JIRA IPE-3131)	An error occurred when using the output mapping script to assign the sub-procedure output values to the Date type and Time type fields of the main procedure.
IPE-3155	The archived log files were not deleted as per the LogFileMaxArchives setting.
IPE-3156 (Parent JIRA IPE-3144)	The user defined attributes of Group were missing after synchronizing iProcess user data with the LDAP directory by using the LDAPCONF utility.
IPE-3177	If an error occurred when closing a case, the BG process did not catch the error nor roll back the transaction.
IPE-3184	Failed to upgrade TIBCO iProcess Engine to version 11.4.0 due to the unnecessary check for the UNDO tablespace.  Corrected.
IPE-3199	Upgrading TIBCO iProcess Engine to version 11.4.0 failed due to an error occurred when running the <code>swadm find_master</code> command.
IPE-3205	Upgrade Tomcat from version 6.0.35 to 7.0.40.
IPE-3209 (Parent JIRA IPE-3189)	The background (BG) processes crashed because iProcess Engine unexpectedly released memory addresses twice. Also, a memory leak occurred in the BG processes.
IPE-3237 (Parent JIRA IPE-3231)	When you close or purge a case that contains sub-cases, delete certain <code>audit_trail</code> entries to reduce the number of returned sub-cases.
IPE-3243 (Parent JIRA IPE-3240)	After importing a new version of a procedure by using the <code>SWUTIL</code> command, MEMO fields are created for the new version of the procedure referencing the same MEMO ID.

## Restrictions

The table in this section lists known restrictions in this release.

Defect #	Summary/Workaround
IPE-3113	<p><b>Summary</b> An error occurs when loading XPDL for a procedure library with any new functionality into iProcess Workspace (Windows), if the procedure library is saved as XPDL from a later version of TIBCO iProceess Engine, and loaded into an earlier version of TIBCO iProcess Engine.</p> <p><b>Workaround</b> TIBCO does not recommend that you import procedures, which are exported from a later version of TIBCO iProcess Engine, to an earlier version of TIBCO iProcess Engine.</p> <p>See <i>TIBCO iProcess swutil and swbatch Reference Guide</i> for more information.</p>
MR 40988	<p><b>Summary</b> When a procedure is exported to an XPDL file from TIBCO iProcess Workspace (Windows), no list or table information is included.</p> <p><b>Workaround</b> None.</p>
MR 35194	<p><b>Summary</b> The iProcess Server Manager does not support language translation.</p> <p><b>Workaround</b> None.</p>
CR 19525	<p><b>Summary</b> A temporary file is always left behind when installing the iProcess Engine, whether the installation is successful or not. The location of the file is defined by the TEMP system variable. The name of the file is <b>_ISTMPn.DIR</b> where <i>n</i> is a number that increments each time you install the iProcess Engine. For example, <b>_ISTMP1.DIR</b>, <b>_ISTMP2.DIR</b> and so on.</p> <p><b>Workaround</b> Manually delete the temporary file(s) once the iProcess Engine installation is complete.</p>
CR 19301	<p><b>Summary</b> Installation fails if the username of the background user starts with a numeric; for example, <b>1swpro</b>.</p> <p><b>Workaround</b> Define the background user to start with an alphabetic character.</p>
CR 19010	<p><b>Summary</b> If the WIS process handles an update event (for example, from a <b>SWDIR\bin\swutil EVENT -p</b> command) while a user has a work item open, the <b>Case Description</b> and <b>WQ Parameters</b> revert to the values they had prior to the update when the work item is kept.</p> <p><b>Workaround</b> None.</p>

Defect #	Summary/Workaround
CR 18799	<p><b>Summary</b> If lots of MOVESYSINFO operations are being performed by BG processes, then the other processes that have to recache the user/group information might fail due to becoming deadlocked.</p> <p>It is also possible that the caching process might load group membership or attribute values that don't match the attributes or queues loaded. This is because the caching process would first load the queues, then the attributes and finally the attribute values. If a MOVESYSINFO changed the attribute values before they were loaded then they may not match the attributes that were loaded prior to the MOVESYSINFO.</p> <p><b>Workaround</b> Once all operations have been completed, modify the user/group area and perform one last MOVESYSINFO.</p>
CR 18631	<p><b>Summary</b> If you have an outstanding test mail item for an unreleased procedure and you delete the step from the procedure that the outstanding mail refers to, the test mail item can no longer be accessed. This is to be expected as the step has been deleted from the procedure. However, if you then purge the case for this inaccessible step the case is purged but the item is never removed from the message queue.</p> <p><b>Workaround</b> Clean up the item using the <code>swutil CLEANITEM</code> command.</p>
CR 18614	<p><b>Summary</b> When a user logs in to the iProcess Workspace (Windows) test queues are not displayed in Work Queue Manager. This is because the user's personal work queue (from which the test queues are created) has not been cached yet.</p> <p><b>Workaround</b> If a new work item is sent to a test queue this causes the <b>Rebuild List</b> button to appear. Alternatively, the user can select their personal work queue and press <b>F5</b>. This also causes the <b>Rebuild List</b> button to appear. Clicking <b>Rebuild List</b> displays the test queues.</p>
CR 18467	<p><b>Summary</b> TIMEZONE setting does not correctly handle daylight savings time on Windows for zones that do not use North American rules.</p> <p><b>Workaround</b> None.</p>
CR 17603	<p><b>Summary</b> The J2EE standard supports the use of different security credentials (username and password) for JNDI InitialContext and JMS connections.</p> <p>However, in this version of the iProcess Engine, you can only define a single username and password for the <b>IAPJMS</b> process. The process uses these credentials for both JNDI InitialContext and JMS connections.</p> <p>Note that the <b>IAPJMSConnect.SecurityPrinciple</b> property defines the username. The <b>IAPJMSConnect.SecurityCredentials</b> property defines the password. Both properties are defined in the <b>iapjms.properties</b> file. See Chapter 9, “Administering Activity Monitoring”, in the <i>TIBCO iProcess Engine Administrator's Guide</i> for more information.</p> <p><b>Workaround</b> None.</p>

Defect #	Summary/Workaround
CR 17466	<p><b>Summary</b> If you are using iProcess activity monitoring, Monitor Event Detail (MED) messages with <b>ActivityIDs 16, 19, 20, 25, 26</b> and <b>28</b> do not display the name of the audit user in the <b>&lt;AuditUser&gt;</b> element. Instead, they display information that depends on the particular message.</p> <p>For example, when a sub-procedure is started a MED message with <b>ActivityID = 16</b> is generated. The <b>&lt;AuditUser&gt;</b> element in this case shows the SubCaseID of the sub-case that has been started, not the name of the audit user, as shown below.</p> <pre>&lt;AuditMessage&gt;Sub-Case started from "SUBCALL1"&lt;/AuditMessage&gt; &lt;AuditStep Name="SUBCALL1"&gt;   &lt;Description&gt;SUBCALL1&lt;/Description&gt;   &lt;AuditDate Microseconds="545547"&gt;2005-08-24T14:57:56&lt;/AuditDate&gt;   &lt;AuditUser&gt;iPEPublication4:SUBPROC:1:201:201&lt;/AuditUser&gt; &lt;/AuditStep&gt;</pre> <p><b>Workaround</b> None. If you require additional information about the contents of the <b>&lt;AuditUser&gt;</b> element for one of these messages, please contact TIBCO Support.</p>
CR 16878	<p><b>Summary</b> Filtering a view of a case via the TIBCO iProcess Objects Server with a filter expression that uses a Question mark (?) or Asterisk (*) wildcard character to match against SW_CASEREF causes an error. A ‘SAL System Error’ message is returned to TIBCO iProcess Objects (COM).</p> <p><b>Workaround</b> None.</p>
CR 15531	<p><b>Summary</b> Adding a numeric user attribute with decimal places actually creates an attribute with 24 Characters and no decimal places.</p> <p>This happens if the attribute is added using the iProcess Administrator or via <b>SWDIR\bin\swutil USERINFO</b>. For example, if you add a numeric attribute with length 10.2, it is actually created as a numeric attribute with length 24.0.</p> <p><b>Workaround</b> None.</p>
CR 15444	<p><b>Summary</b> During the upgrade process, the iProcess Engine services are deleted and then re-created. If the <b>Services</b> window is open during this process the system will not actually delete the service but will mark it for deletion, which will be performed at the next reboot.</p> <p><b>Workaround</b> If this error occurs during upgrade you will need to reboot the machine and re-run the upgrade process.</p>

Defect #	Summary/Workaround
CR 15334	<p><b>Summary</b> When you upgrade from a Version 9 Process Engine the entries in the <b>at_id</b> column of the <b>audit_trail</b> table are migrated to the <b>audit_usecs</b> column. <b>at_id</b> values that are greater than 1 million are truncated after upgrade, which means that the correct ordering of audit trail rows is lost.</p> <p>This is only an issue when the number rolls over from 6 to 7 digits and the audit trail items are from the same case and have the same timestamp. If all the numbers are above 6 digits then all entries are truncated and ordering is preserved.</p> <p><b>Workaround</b> None.</p>
CR 15319	<p><b>Summary</b> If you change the date separator in the <i>SWDIR\etc\staffpms</i> file to a hyphen (-):</p> <ul style="list-style-type: none"> <li>• when you enter a date field in a form the separators are displayed correctly, but change to backslash characters (/) when you tab off the field.</li> <li>• when you release the form, one or more background processes crash.</li> </ul> <p><b>Workaround</b> None.</p>
CR 15311	<p><b>Summary</b> The following fields do not appear in the <b>Available Fields</b> list of fields in the <b>Inputs</b> or <b>Outputs</b> tab for iProcess Engine plug-ins:</p> <ul style="list-style-type: none"> <li>• SW_IP* Fields</li> <li>• SW_STEPNAME</li> <li>• SW_STEPDESC</li> </ul> <p><b>Workaround</b> None.</p>
CR 14598	<p><b>Summary</b> When you map sub-procedure output parameters to main procedure fields, you can define a private <b>Output Mapping</b> script which runs after all mappings have been performed (for example, to perform additional field manipulation). These output mapping scripts are ignored when performing case prediction.</p> <p><b>Workaround</b> None.</p>
CR 14597	<p><b>Summary</b> If a memo field is defined as an input or output parameter for a sub-procedure, it is ignored when performing case prediction - no data is passed for the field.</p> <p><b>Workaround</b> None.</p>

Defect #	Summary/Workaround
CR 14225	<p><b>Summary</b> When viewing cases, filter criteria that use the Question mark (?) (such as SW_CASENUM ? "2") or regular expressions using the same character (SW_CASENUM ? "1234?") will fail.</p> <p><b>Workaround</b> Either:</p> <ul style="list-style-type: none"> <li>• Use the Equal sign (=) instead; for example, SW_CASENUM = "2", or</li> <li>• Use a Asterisk (*) wildcard character in the regular expression; for example, "1234*". This will succeed, but will produce a wider range of results than the ? character should; any case number that starts with 1234 will match.</li> </ul>
CR 12037	<p><b>Summary</b> You should not use any of the following special characters when naming new groups, roles, lists or tables:</p> <p>" \ / [ ] : ;   = , + * ? &lt; &gt; @ \0 "</p> <p><b>Workaround</b> None.</p>
CR 12001	<p><b>Summary</b> The iProcess Engine's <b>DNS Host Name</b> must be identical (including case) to its <b>Computer Name</b>. If these names are different, users will not be able to log in to this iProcess Engine from the TIBCO iProcess Workspace (Windows).</p> <p><b>Workaround</b> To make sure the names are identical:</p> <ol style="list-style-type: none"> <li>1. In <b>Control Panel</b>, double-click the <b>System</b> icon. The <b>System Properties</b> dialog is displayed.</li> <li>2. On the <b>Network Identification</b> tab, click <b>Properties</b>. The <b>Identification Changes</b> dialog is displayed.</li> <li>3. Click <b>More</b>. The <b>DNS Suffix and NetBIOS Computer Name</b> dialog is displayed.</li> <li>4. Note the <b>Primary DNS suffix of this computer</b>. If it is not already the same, change this name to match the <b>NetBIOS computer name</b>.</li> </ol>
CR 11428	<p><b>Summary</b> During the starting or stopping of the iProcess Engine, there can be a pause of 60 seconds between a process (once shutdown) publishing an event and all the subscribers receiving it. This makes it look like the system has not fully shutdown or started up. This is a problem with the COM+ Events system and a resolution is being sought from Microsoft.</p> <p><b>Workaround</b> None.</p>

## Known Issues

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This section lists known issues in the current release.

### Summary

**Summary** TIBCO iProcess Engine fails to be moved to another machine in the same Microsoft Windows cluster by using Move To option in the Failover Cluster Administrator.

**Workaround** Before moving TIBCO iProcess Engine to another machine in the same Microsoft Windows cluster in the Failover Cluster Administrator, run the following command at the command prompt:

```
SWDIR\util\swadm move_server machine_id machine_name
```

where:

- *machine\_id* is the server identifier of the source server, such as, 1, 2, 3.
- *machine\_name* is the name of the Microsoft Distributed Transaction Coordinator resource (MSDTC). See "What is MSDTC" in *TIBCO iProcess Engine Architecture Guide* for more information.

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**Summary** After installing TIBCO iProcess Engine on a Microsoft Windows platform, an iProcess Engine service user without the local administrator rights cannot start the iProcess Engine services if User Access Control (UAC) is enabled on the Microsoft Windows platform.

**Workaround** Disable User Access Control (UAC) on the Microsoft Windows platform.

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**Summary** TIBCO iProcess Engine Server Manager cannot work with TIBCO HAWK (64-bit) on the Microsoft Windows platforms.

**Workaround** Follow these steps:

1. Back up the tomcat and java folders under SWDIR.
  2. Copy the 64-bit tomcat and JDK folder to SWDIR and rename them to tomcat and java respectively.
  3. Copy the ipsvmgr folder and iProcessReports.war file under the backed-up tomca\webapps folder to SWDIR\tomcat\webapps folder.
  4. Delete contents under SWDIR\tomcat\work.
  5. Rename the tomcat6.exe and tomcat6w.exe files under the SWDIR\tomcat\bin folder to tomcat5.exe and tomcat5w.exe.
  6. Restart TIBCO iProcess Engine.
-



## Summary

**Summary** Work items cannot be seen in the work queue when configuring IAPJMS for JBoss.

**Workaround** Follow these steps:

1. Copy *JBOSS\_HOME*/client/log4j.jar to *\$SWDIR*/jar/thirdpart/
2. Open the *SWDIR*/etc/iapjms\_classpath.properties configuration file and replace `classpath.internal.log4j=thirdparty/log4j-1.2.8.jar` With `classpath.internal.log4j=thirdparty/log4j.jar`
3. Restart TIBCO iProcess Engine.

---

**Summary** The `PM_AUTO_BOOT` parameter should not be set in a cluster of the TIBCO iProcess Engine nodes.

**Workaround** Follow these steps to set the `PM_AUTO_BOOT` parameter and start the cluster:

1. Set the `PM_AUTO_BOOT` parameter to 0.
2. Run `swstart -p` to start the sentinels on all nodes.
3. Run `swstart` to start TIBCO iProcess Engine on any node.

---

**Summary** If you select the option "User must change password at net logon" in Active Directory, and then sync to iProcess Engine, the user cannot login to iProcess Engine.

**Workaround** None.

---

**Summary** Services are not removed correctly if the Microsoft Management Console dialog is open.

If the **Microsoft Management Console** dialog is open and a service is stopped and then deleted, the **Startup Type** of the service can be shown as **Disabled**. The service will be removed when the **Microsoft Management Console** dialog is closed.

The problem does not occur if you are using command line utilities. This is a known problem documented in the Microsoft Knowledge Base.

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## Summary

**Summary** Disabling cached logon information in a domain environment.

By default, Windows Server 2008 R2 caches previous users' logon information locally. This ensures that users can log on if a domain logon server is unavailable during subsequent logon attempts. However, this feature could result in users with invalid passwords still being able to log on to the iProcess Suite. For example, a user whose password has been changed attempts to logon to the iProcess Suite with their old password. If the domain controller is not available to validate the current password but the old password is still cached locally, the logon attempt will be accepted.

You can prevent this from happening by disabling the cached logon information feature in Windows Server 2008 R2. If you do this, a user will not be able to logon to the iProcess Suite if the domain controller is not available to validate their password.

For more information about how to disable logon caching, refer to the **Cached Logon Information** article (Article ID: Q172931), available from the Microsoft Personal Support Centre at:

<http://support.microsoft.com>

---

**Summary** Operating system dates later than 31st December 2037 are not supported.

Although designed to process dates up to the year 3000, the iProcess Suite has been modified - in the interests of data integrity - to shut down if the system date exceeds 31st December 2037.

The iProcess Suite uses the time() system call to get the system date and time. This call returns the system date and time as the number of seconds since midnight, 1st January 1970 as a signed integer (32-bits). This means that the time() function (which is commonly referred to as UNIX time) is unable to return a time beyond 19th January 2038, 03:14:07 UCT.

To protect the integrity of your iProcess installation, the iProcess Engine will create a file `SWDIR\logs\sw_error` and shut itself down if the system returns a date beyond 31 December 2037. You should not use operating system dates later than this. Potentially, ALL applications that use the time function are at risk beyond this date.

---

## Summary

### **Summary** Large Number of User Logins May Cause Problems.

If your client application performs a large number of user logins to the iProcess Engine, it may experience problems that are a result of running out of TCP ports, or attempting to connect to a TCP port above 5000. You may see one of the following problems in the client application or the iProcess Engine:

- the system hanging or exhibiting unexpected behavior
- unable to create new connections to the server
- Event ID 2009 “Number of sessions exceeds 2048” may be written to the event log
- the local computer responds with a WSENOBUFS (10055) error

For information about resolving these issues, refer to Microsoft Knowledge Base articles Q149532 and Q196271. These can be found at: <http://support.microsoft.com>.

---

### **Summary** Same user logged on multiple times causes degradation/possible errors.

The same user logging on multiple times to the same iProcess Engine may result in performance degradation. The iProcess Engine will allow only one transaction to be processed at a time for users that are logged on multiple times to that server, resulting in slower processing.

---

### **Summary** Locking work items.

The SAL SDK allows long locking multiple times by the same user name. Consequently, in the iProcess Engine, it is possible to lock the same work item from a work queue using a different login session if there are two or more clients logged in as the same user name.

---

### **Summary** Text field attribute lengths stored in multiples of 24.

All attributes except for text fields are set to a length of 24 if a length is not specified or if some length (up to 24) is specified. Decimal places are not stored.

For text fields, length is set to 24 if no length is specified. If a length is specified, the actual length will be the next multiple of 24, up to the maximum length of 255. For example, creating a text field 25 characters long will result in the field actually being 48 characters long.

---

## Summary

**Summary** Audit filtering limitations on sub-cases.

When specifying an audit filter for a sub-case, or a parent case that contains a sub-case, the following limitation applies: If your filter criteria does not match the sub-case started audit entry in the parent case, no audit entries are returned for the sub-case, regardless of whether the filter criteria matches audit entries of the sub-case.

The work around for this is to specify the following in your AuditFilterExpr filter expression:

```
FILTER_FLAGS=[AF_ALL_SUBSTART]
```

---

## Other Information

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### Using SWDIR\util\plist

You can use the *SWDIR\util\plist X* option to provide backwards compatibility with Staffware 2000. For example, using **plist -pv** does not report counts, but you can use **plist -pvX** to specify Staffware 2000 compatibility so that counts are derived. Enter *SWDIR\util\plist* at the command line to display a full list of options.

### Must Normalize Case Data to View Cases

When you install the iProcess Engine, there is a check box in the Configuration window that is used to enable a feature called CaseData Normalization. If you are using an application developed with iProcess Objects or iProcess Server Objects, you *must* enable case data normalization. If it is not enabled, cases will not appear in the case list.

Case data normalization can be enabled either during the installation, or at a later time using the Case Data Normalization utility, *swnormcd*.

For more information about case data normalization and using *swnormcd*, see *TIBCO iProcess Engine Administrator's Guide*.

### Upgrading from Earlier Version May Cause Error Messages in Log File

Upgrading from an earlier version of the iProcess Engine to version i10.0 (0.0) or later may cause error messages similar to the following to appear in the iProcess Engine log file:

```
ERROR|error in sal_pver_audlist procname(SEMAIL) err(0) curridx(1)
ERROR|error in sal_pver_audlist procname($SYSTEM) err(0)
curridx(1)
ERROR|error in sal_pver_audlist procname(CARPOOL) err(0)
curridx(1)
```

These messages are a result of the upgrade, but an error has not occurred. Disregard the messages.