

TIBCO iProcess[®] Engine (DB2) for UNIX and Linux

(Consolidated with TIBCO iProcess[®] Objects
Server and TIBCO iProcess[®] Director)

Release Notes

*Software Release 11.6.1
October 2017*

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Preface

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

Topics

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

Related Documentation

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 <code>swutil</code> 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 <code>MyCommand</code> 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">• In procedures, to indicate what a user types. For example: Type admin.• In large code samples, to indicate the parts of the sample that are of particular interest.• In command syntax, to indicate the default parameter for a command. For example, if no parameter is specified, <code>MyCommand</code> is enabled: <code>MyCommand [enable disable]</code>
italic font	<p>Italic font is used in the following ways:</p> <ul style="list-style-type: none">• To indicate a document title. For example: See <i>TIBCO ActiveMatrix BusinessWorks Concepts</i>.• To introduce new terms. For example: A portal page may contain several portlets. <i>Portlets</i> are mini-applications that run in a portal.• To indicate a variable in a command or code syntax that you must replace. For example: <code>MyCommand</code> <i>PathName</i>
Key combinations	<p>Key name separated by a plus sign indicate keys pressed simultaneously. For example: <code>Ctrl+C</code>.</p> <p>Key names separated by a comma and space indicate keys pressed one after the other. For example: <code>Esc, Ctrl+Q</code>.</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

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

- [New Features, page 2](#)
- [Deprecated and Removed Features, page 12](#)
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New Features

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.

64-bit Application

From this release, TIBCO iProcess Engine is a 64-bit application and can only be used on 64-bit operating systems against a 64-bit database. The executable process size of the 64-bit iProcess Engine application will increase (when compared to 32-bit versions in earlier releases), which depends on the application and amount of data. In general, the resident memory size of a process will increase by around 30%. Ensure that the machine to install iProcess Engine has sufficient memory to cater for this increase.



To use any existing UVAPI plug-ins with iProcess Engine 11.6.0, you have to rebuild the UVAPI package as a 64-bit library.

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 item in the **Configuration Options** menu to specify whether or not you want to log system events information.

See "Configuration Options Menu" in *TIBCO iProcess Engine Installation* for more details about how to use this configuration item .

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 or not you want 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 BLOB (30K) data type in the pack_memo, proc_defn, memo, and user_setting tables in the database has been changed to BLOB (2G).

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 (2G). Migrating the old case memo data from the memo and pack_memo tables to the nmemo and pack_nmemo tables is not supported for the DB2 database in this release. See *TIBCO iProcess Engine (DB2) Administrator's Guide* for more details.

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 Platforms

In this release, the following platforms are supported:

- Red Hat Enterprise Linux Server 5.10 (32-bit and 64-bit)
- Red Hat Enterprise Linux Advanced Platform 5.10 (32-bit and 64-bit)
- Red Hat Enterprise Linux Server 7.x (64-bit)

Support for Database

In this release, IBM DB2 10.5 is supported.

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.

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.

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

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

From this release, 32-bit environments are no longer supported.

Release 11.5.0

No features are deprecated and removed in this release.

Release 11.4.1

No features are deprecated and removed in this release.

Release 11.4.0

No features are deprecated and removed in this release.

Compatibility

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
Note: After installing or upgrading to iProcess Engine 11.6.0, a 64-bit <code>eaiwebsvc.ear</code> file is provided. You have to use this new EAR file to register.	
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

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-4242	In situations where the iProcess Engine installation was run more than once, some of the system libraries of the operating system may be overwritten by system libraries provided by the installer. This causes problems if these libraries belonged to a different version from those that were originally installed on the system. If an upgrade to iProcess Engine 11.6.1 was performed and the installation was successful, then these problems would not occur. However, if for some reason the installation was not successful and had to be rerun, the problem described may occur.
IPE-4224	The libgcc_s library was missing and the libiconv libraries had issues which resulted in errors during installation. These errors occurred because of the swconfig utility's dependency on these libraries.
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.

Defect #	Description
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.
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>Command: <i>swutil USERINFO - M-Usr00001,Grp00002</i></p> <p>Error: <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 swutil, the pstafffc file crashed. The pstafffc01.log 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-3864 (Parent JIRA IPE-3831)	The RPCBG crashed when TIBCO iProcess Engine was shut down.

Defect #	Description
IPE-3863 (Parent JIRA IPE-3857)	Cases that were suspended displayed as active in the work queues.
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.

Defect #	Description
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.
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-2240	Some Work Item Server (WIS) filter expressions for a range of numerics did not work. For example: <ul style="list-style-type: none"> NUM2=[50/60/70] - Failed with a SAL System Error NUM2=[50] - Failed with SAL System Error 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

Defect #	Description
IPE-2222	When multiple cases were released, some or all deltas did not have the CDQP data.
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-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.
IPE-1097	If there was a network error when connecting to the LDAP server, TIBCO iProcess Engine did not execute automatic reconnect attempts.

Defect #	Description
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-797	swinstall failed to identify missing "command not found".
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-167	The LDAP configuration or synchronization behavior was inconsistent when a user with an invalid MENUENAME 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: <CPLInstruction - Error> <-2> <RELEASE> <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^></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-3640 (Parent JIRA IPE-3626)	If you specified a different value for the SW_CP_VALUE property other than the Priority property in the Input 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.
IPE-3687	TIBCO iProcess Objects Server crashed when multiple threads concurrently called the UVAPI interface.
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.

Defect #	Description
IPE-3710 (Parent JIRA IPE-3707)	When using the swutil EVENT 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 sw_graft stored procedure or an iProcess Server Objects application, if the auto-purge option was enabled for the graft sub procedure, an error was returned to iProcess Workspace (Browser).
IPE-3741	The RPC_POOL process crashed when releasing an unreleased procedure that had configured case deadlines.
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 save as > new procedure option to rename a procedure.
IPE-3759	The BG process crashed when running the SSOLITE stored procedure that contained graft steps.
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 swstart script that was located in the <i>SWDIR/bin</i> directory to start all the server processes in a node cluster, if multiple nodes had similar names, the server processes did not start.

Defect #	Description
IPE-3141	The <code>step_addr</code> column of the <code>predict</code> table displayed NOADDR when a new user was added to TIBCO iProcess Engine.
IPE-3389	<p>When installing TIBCO iProcess Engine, if the name and password of DB Schema Owner were not contained in the <code>passwd</code> file located in the <code>/etc</code> directory, the following error messages were displayed:</p> <p>Checking DB connectivity and users...</p> <p>DB2 User (<user_name>) must be a member of the <group_name> group</p> <p>Press Enter to continue:</p>
IPE-3390 (Parent JIRA IPE-3326)	After starting TIBCO iProcess Engine, the DBQD process was continually logging entries into the <code>DBQD_1_stdout</code> log file, which was located in the <code>\$SWDIR/logs/process/etc</code> directory.
IPE-3393	<p>When using SSOLite stored procedures to start a case, the following error message was displayed:</p> <p>AliasControlDAO - Unable to populate sequence!</p>
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-3395 (Parent JIRA IPE-3309)	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-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	<p>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:</p> <p>SPO did not unlock every the read/write lock.</p>
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.
IPE-3414	When using the <code>swsvrmgr START_NEW</code> command to start a new instance of the BG process, the Process Sentinels crashed.

Defect #	Description
IPE-3416	<p>The following functions are introduced to manage system events:</p> <ul style="list-style-type: none"> • Enable system events logging • Audit system events • Publish system events • Query information about system events • Turn off system events • Import configuration files of system events into iProcess Engine • Export configuration information of system events to a command line <p>See System Events Management (IPE-3416) on page 3.</p>
IPE-3421	<p>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 seperator 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.</p>
IPE-3424	<p>A closed case was not opened by using SSOLite stored procedures.</p>
IPE-3425	<p>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> <p>g_proc_cache_rwlock was read-locked.</p> <p>cache_the_procedure() SEO_node_namefind() failed.</p>
IPE-3436	<p>The TIBCO iProcess Objects server process unlocked the read and write lock before locking the process cache.</p>
IPE-3437 (Parent JIRA IPE-3380)	<p>When running a script, which called the markfieldchanged function, to release work items, the work items were locked.</p>
IPE-3441 (Parent JIRA IPE-3417)	<p>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.</p>
IPE-3445	<p>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.</p>

Defect #	Description
IPE-3455	<p>Add the <code>sqloptim</code> file, which is located in the <code>SWDIR/etc</code> directory, to optimize SQL statements execution.</p> <p>See Optimize SQL Statements Execution (IPE-3455) on page 4.</p>
IPE-3458	<p>After upgrading TIBCO iProcess Engine from 11.1.1 to 11.4.1, the <code>swdefs</code> file was not successfully generated.</p>
IPE-3459	<p>When specifying values for fields in the <code>case_data</code> table, if Support Unicode Encoding was enabled and the length of the values exceeded the predefined size, the values were not truncated before they were stored in the table.</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-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 Reduce Login Time (IPE-3468) on page 4.</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 Unlock Work Items (IPE-3472) on page 4.</p>
IPE-3473	<p>Add the <code>WRITELOG</code> function to write messages to log files.</p> <p>See WRITELOG Function Introduced (IPE-3473) on page 5.</p>
IPE-3476	<p>Add support for defining the maximum size of log files.</p> <p>See Define the Maximum Size of Log Files (IPE-3476) on page 5.</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 Define the Maximum Size of the <code>sw_warn</code> and <code>sw_error</code> Log Files (IPE-3477) on page 5.</p>
IPE-3480	<p>Add the <code>requestid</code> as the unique identifier for each work item.</p> <p>See Work Items Are Unique to Users (IPE-3480) on page 5.</p>

Defect #	Description
IPE-3486	When triggering a graft step, TIBCO iProcess Objects server crashed.
IPE-3491	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.
IPE-3496	The participation data within the WQS process was not unlocked after it was locked. Monitor logic is added in the WQS process to accurately trace the locations where participation data is locked.
IPE-3497	The sw_partic_unlock_external() method was called to unlock a locker that was not created in the participation data.
IPE-3498	The sw_partic_unlock_external() method was not called to unlock a locker after the locker was created in the participation data.
IPE-3513	Change field data type in the database. See Change Field Data Type (IPE-3513) on page 5 .
IPE-3536	Add the W_DELAYED_RELEASE_ERR stored procedure in the database and system-define error message in audit trail to trace delayed release. See Delayed Release Has Been Enhanced (IPE-3536) on page 6 .
IPE-3537	When installing TIBCO iProcess Engine, if you specified an incorrect password for the database user, no warning messages were displayed until the installation failed.
IPE-3538	When starting the iProcess Objects Server (SPO) process, the memory was rapidly consumed.
IPE-3588	When migrating only live cases from swutil by running the Swutil PROC RELEASE -M command, all cases (including close cases) were migrated.
IPE-3615	When the MakeProc function was called to return the minor version of a released procedure, if the major version and minor version parameters were both set to -1 in the function, an incorrect procedure version was returned.
IPE-3627	Upgrade Java 1.7 to new versions on the following platforms of iProcess Engine: <ul style="list-style-type: none"> • Windows, Linux, and Solaris: 1.7.0.75 • HP: 1.7.0.11 • AIX: 7.0.0.195

Defect #	Description
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-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.

Release 11.4.1

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-3013	TIBCO iProcess Engine ran out of case numbers.
IPE-3224	Add support to set priority for case deadlines. See Set Case Priority for Deadlines (IPE-3224) on page 7 .
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: <code>idl_SQL_allocate_connection_from_pool()</code> <code>idl_SQL_enlist_connection()</code> Failed (Statement ID - 0) (ORA-25402: transaction must roll back)
IPE-3252	When a Database Queue Daemon (DBQD) thread was updating the database that was related to an MBox message, another DBQD thread could cache the MBox message from the database.
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 <code>TIMZONE</code> process attribute containing a line break.
IPE-3280	Add the <code>SPO_USERMUTEX_WAITTIME</code> 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. See Check the Time for Acquiring a User's Mutex (IPE-3280) on page 7 .

Defect #	Description
IPE-3282	<p>Add a function to calculate the default number of message processing threads.</p> <p>See Function for Calculating the Default Number of Message Processing Threads (IPE-3282) on page 7.</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 Remove the Orphaned Work Items (IPE-3290) on page 7.</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 Track the Time for Dequeuing a Message from an Mbox Set (IPE-3296) on page 7.</p>
IPE-3297	<p>Add support to track the duration for processing an EAI step.</p> <p>See Track the Time for Processing an EAI Step (IPE-3297) on page 8.</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 Add the MEMSET Debug String for Debugging iProcess Engine Server Processes (IPE-3298) on page 8.</p>
IPE-3299	<ul style="list-style-type: none"> 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 and the following stored procedures were not dropped from the SSOLite package:SW_CASEREOPEN SW_SET_PRIORITY SW_UNSET_PRIORITY SW_APPLY_WI_PRIORITY SW_SET_MBOX SW_UNSET_MBOX
IPE-3300	<p>Case counting is not performed by default.</p> <p>See Case Counting Performance Improvements (IPE-3300) on page 8.</p>

Defect #	Description
IPE-3306 (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, the next work item failed to be locked.
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 <code>m_IndexLock</code> parameter was used in the <code>CIndex::SetDeleted()</code> and <code>CIndex::IsDeleted()</code> 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 <code>OnAfterClose</code> event was not displayed in the queue after closing the case to trigger the defined <code>OnAfterClose</code> 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-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 <code>DBQD_1_stdout</code> log file, which was located in the <code>SWDIR/logs/process</code> 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 <code>iap_monitor</code> table and was used for the newly created procedure.

Defect #	Description
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-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.

Defect #	Description
IPE-3364	<p>TIBCO iProcess Server Manager was not displayed correctly in Internet Explorer and Firefox.</p> <p>Note: For Internet Explorer, you must use the compatibility view to display TIBCO iProcess Server Manager.</p>
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	<p>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.</p> <p>See Exact Timestamps for Instructions in Audit Trail (IPE-3369).</p>
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-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 PROCMGR 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.
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 Define how many of the Latest Versions of Procedure Definition to be Cached (IPE-2975) 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 Enable Quick Start Mode (IPE-2976) on page 9.</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 Define the Minimum Size of a Work Queue to Cache on a Restart (IPE-2990) on page 9.</p>
IPE-3014	The <code>CNUM_SEQ_CACHE</code> and <code>REQID_SEQ_CACHE</code> attributes are applied to SSOLITE for SQL Server and DB2 databases. The default values of <code>CNUM_SEQ_CACHE</code> and <code>REQID_SEQ_CACHE</code> attributes for SSOLITE on SQL Server and DB2 are changed to 10.
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 Procedure Level Events (IPE-3016) on page 9.</p>
IPE-3017	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 SSOLITE on Oracle. Changed the default value of the <code>WIS_UPDATE_PERIOD</code> attribute to 20.
IPE-3019	<p>Add support to delay the case auto-purge operation and to set case deadlines.</p> <p>See Set Auto-Purge and Deadlines for Cases (IPE-3019) on page 10.</p>
IPE-3020 (Parent JIRA IPE-2978)	The message priority was not controlled by setting the value of the <code>SW_CP_VALUE</code> field through TIBCO ActiveMatrix BusinessWorks Plug-in.

Defect #	Description
IPE-3028	Upgrade Java from version 1.6 to 1.7 on all platforms of TIBCO iProcess Engine.
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-3037 (Parent JIRA IPE-3018)	The EAI SQL step failed when inserting more than 4,000 characters into a memo field.
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.

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 Test the Event Mechanism Manually (IPE-3052) on page 10.</p>
IPE-3055	<p>IPv6 addresses are supported on Windows and Linux systems.</p> <p>See Additional IP Addresses Support (IPE-3055) on page 11.</p>
IPE-3071	TIBCO iProcess Engine could not work for DB2 on Linux systems when using IPv6 addresses.
IPE-3072 (Parent JIRA IPE-3048)	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.
IPE-3073 (Parent JIRA IPE-3053)	Case start was slow after installing TIBCO iProcess Engine 11.3.0_HF-008.
IPE-3076	IPv4 addresses are supported for <code>rpcbind</code> on Linux systems.
IPE-3078	After migrating existing cases of a procedure to a new version, the existing cases were still in the old version.
IPE-3088	An error message was not displayed when an LDAP attribute was mapped for more than one iProcess property.
IPE-3090	The F3 filter failed to filter work items via Case Data Queue Parameter (CDQP) if the field held 255 characters, the maximum capacity.
IPE-3096	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.
IPE-3115	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.
IPE-3116	Only iProcess Engine database user (<code>swuser</code>) account is used to connect to databases.
IPE-3122 (Parent JIRA IPE-3063)	When the BG process failed to handle the SUBDONE message because of a deadlock, the BG process did not roll back the affected transaction.

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-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 audit_trail 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 SWUTIL 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>Summary 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>Workaround 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>Summary When a procedure is exported to an XPDL file from TIBCO iProcess Workspace (Windows), no list or table information is included.</p> <p>Workaround None.</p>
MR 35194	<p>Summary The iProcess Server Manager does not support language translation.</p> <p>Workaround None.</p>
CR 19520	<p><i>This applies to the iProcess Engine (DB2) for Linux only</i></p> <p>Summary When Setup reaches the Database Connection and Account Details dialog, the password information for the database users is automatically filled in. However, the dialog uses the default passwords, not the passwords that have been set for the database users on the operating system.</p> <p>Workaround You should reset these passwords to be the same as the passwords set for the database users on the operating system.</p>
CR 19010	<p>Summary If the WIS process handles an update event (for example, from a <code>\$\$SWDIR/bin/swutil EVENT -p</code> command) while a user has a work item open, the Case Description and WQ Parameters revert to the values they had prior to the update when the work item is kept.</p> <p>Workaround None.</p>

Defect #	Summary/Workaround
CR 18799	<p>Summary 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>Workaround Once all operations have been completed, modify the user/group area and perform one last MOVESYSINFO.</p>
CR 18631	<p>Summary 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>Workaround Clean up the item using the <code>swutil CLEANITEM</code> command.</p>
CR 18614	<p>Summary 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>Workaround If a new work item is sent to a test queue this causes the Rebuild List button to appear. Alternatively, the user can select their personal work queue and press F5. This also causes the Rebuild List button to appear. Clicking Rebuild List displays the test queues.</p>
CR 18361	<p>Summary Performance on AIX systems can be very slow when opening cases from a queue.</p> <p>Workaround If the SERVERRUN function is being used frequently in one or many procedures, the <code>\$SWDIR/lib/fil.so</code> file should be "pinned" into the AIX Shared Memory, by ensuring that all users have read and execute permissions on the file. To do this, use the command</p> <pre>chmod 555 \$SWDIR/lib/fil.so</pre>

Defect #	Summary/Workaround
CR 17603	<p>Summary 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 IAPJMS process. The process uses these credentials for both JNDI InitialContext and JMS connections.</p> <p>Note that the IAPJMSConnect.SecurityPrinciple property defines the username. The IAPJMSConnect.SecurityCredentials property defines the password. Both properties are defined in the iapjms.properties file. See Chapter 9, “Administering Activity Monitoring”, in the <i>TIBCO iProcess Engine Administrator’s Guide</i> for more information.</p> <p>Workaround None.</p>
CR 17466	<p>Summary If you are using iProcess activity monitoring, Monitor Event Detail (MED) messages with ActivityIDs 16, 19, 20, 25, 26 and 28 do not display the name of the audit user in the <AuditUser> 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 ActivityID = 16 is generated. The <AuditUser> 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><AuditMessage>Sub-Case started from "SUBCALL1"</AuditMessage> <AuditStep Name="SUBCALL1"> <Description>SUBCALL1</Description> <AuditDate Microseconds="545547">2005-08-24T14:57:56</AuditDate> <AuditUser>:iPEPublication4:SUBPROC:1:201:201</AuditUser> </AuditStep></pre> <p>Workaround None. If you require additional information about the contents of the <AuditUser> element for one of these messages, please contact TIBCO Support.</p>
CR 16946	<p>Summary The iProcess Engine uses the SHMKEY_ID process attribute value when building the UNIX shared memory key that is allocated when the WQS process is started. If a shared memory conflict occurs, resulting in the WQS process being unable to start, you can change the SHMKEY_ID value to resolve the problem.</p> <p>However, changing the value of the SHMKEY_ID process attribute has no effect in this version of the iProcess Engine. You cannot use SHMKEY_ID to resolve shared memory conflicts.</p> <p>Workaround See CR 16945 on page 46 for more information about alternative ways of resolving shared memory conflicts.</p>

Defect #	Summary/Workaround
CR 16945	<p>Summary If the WQS process (or other iProcess Engine process) cannot obtain a shared memory segment when the iProcess Engine attempts to start, startup fails. Error messages 1974 and 1975 are written to the \$SWDIR/logs/sw_error file - for example:</p> <p>2005/02/15 16:51:48(WQS:1:18218:1:swadmin:/wqsinde.c:7.21:566): 1974-Failed to get shared memory handle for WQSINDEX</p> <p>2005/02/15 16:51:48(WQS:1:18218:1:swadmin:/wqsinde.c:7.21:677): 1975-WQS initialize failed, connected to shared memory for</p> <p>Workaround For more information about how to resolve this problem, please refer to the description of these errors in the <i>iProcess Engine System Messages Guide</i>. Note that:</p> <ul style="list-style-type: none"> You can force the iProcess Engine to obtain a new shared memory key when it starts up. To do this: <ol style="list-style-type: none"> Move the <code>/var/tmp/nodename</code> directory (where nodename is the nodename of this iProcess Engine) to another location on the same physical partition of the file system - for example, <code>/var/tmp/old/nodename</code>. Restart the iProcess Engine. The iProcess Engine should obtain a different shared memory key, allowing it to start successfully. If you set debugging for the WQS process, the <code>shmget</code> call returns error code 22. Changing the value of the SHMKEY_ID process attribute has no effect in this iProcess Engine version. This is because of a current restriction in the product - see CR 16946 on page 45 for more information.
CR 16924	<p>Summary If the LD_LIBRARY_PATH environment variable contains Oracle libraries as well as DB2 libraries, and the Oracle libraries are listed first, the iProcess Engine will try to use the Oracle libraries instead of the DB2 ones. The iProcess Engine will therefore fail to start on DB2.</p> <p>Workaround To avoid this problem, make sure that the DB2 libraries are listed in front of the Oracle libraries in LD_LIBRARY_PATH before you start the iProcess Engine.</p>
CR 16878	<p>Summary 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>Workaround None.</p>

Defect #	Summary/Workaround
CR 15531	<p>Summary 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 \$SWDIR/bin/swutil USERINFO. 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>Workaround None.</p>
CR 15311	<p>Summary The following fields do not appear in the Available Fields list of fields in the Inputs or Outputs tab for iProcess Engine plug-ins:</p> <ul style="list-style-type: none"> • SW_IP* Fields • SW_STEPNAME • SW_STEPDESC <p>Workaround None.</p>
CR 14598	<p>Summary When you map sub-procedure output parameters to main procedure fields, you can define a private Output Mapping 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>Workaround None.</p>
CR 14597	<p>Summary 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>Workaround None.</p>
CR 14225	<p>Summary 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>Workaround Either:</p> <ul style="list-style-type: none"> • Use the Equal sign (=) instead; for example, SW_CASENUM = "2", or • 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.
CR 12037	<p>Summary You should not use any of the following special characters when naming new groups, roles, lists or tables:</p> <p>" \ / [] : ; = , + * ? < > @ \0 "</p> <p>Workaround None.</p>

Defect #	Summary/Workaround
CR 12024	<p>Summary When adding a group into the LDAP directory, if the group name is longer than 11 characters, the following information is displayed in the <code>sw_warn</code> log file:</p> <p>The length of the group name is limited to 15 characters.</p> <p>Workaround None.</p>

Known Issues

This section lists known issues in the current release.

Summary

Summary On SUSE Linux Enterprise 11, RPC portmapper service is started by rpcbind by default, which causes TIBCO iProcess Engine to fail to start.

Workaround Switch to *portmap* to start RPC services by following these steps:

1. Run `/etc/init.d/rpcbind stop` to stop RPC services.
2. Get the portmap RPM installation file from SUSE Linux Enterprise 11 installation disk and install portmap.
3. Run `/etc/init.d/portmap start` to start RPC services.

Then, the iProcess Engine can start successfully.

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 login" in Active Directory, and then sync to iProcess Engine, the user cannot login to iProcess Engine.

Workaround None.

Summary

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 [HP only] The following special characters can cause problems in client applications when using an HP iProcess Objects Server:

" \ / [] : ; | = , + * ? < > @ \0 "

The workaround for this issue is to avoid using special characters in user names, group names, procedure names, step names, and node names.

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

Clearing the `sw_subscription_list` Table

If you use the operating system **kill** command to terminate the (worker and watcher) process sentinel processes, or if the iProcess Engine crashes, rows may be left in the **sw_subscription_list** database table. This table is used by the iProcess Engine event daemon (which is provided by the watcher process sentinel process).

The following utilities use events, and use the **sw_subscription_list** database table to determine whether or not they should initialize a connection to the event daemon:

- `$$SWDIR/bin/swutil` (**pstaffer** and **stafffc**)
- `$$SWDIR/util/swadm`
- `$$SWDIR/util/swcdata`
- `$$SWDIR/util/sweaireg`

If you try to use one of these utilities while the iProcess Engine is not running *and* while the **sw_subscription_list** database table is not empty, the utility will attempt to create an RPC connection to the watcher process. Because the watcher process is not running:

- the utility will hang and then timeout, and
- error messages with message identifier 1903 may be written to the `$$SWDIR/logs/sw_warn` or `$$SWDIR/logs/sw_error` file. For example:

```
Failed to connect to the RPC Event Daemon after n attempts.  SWRPCEV RPC Program Not Registered.
```

To avoid this problem, you should manually clear the contents of the **sw_subscription_list** database table before trying to use one of these utilities or restarting the iProcess Engine.

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.

Number of File Descriptors per Process

The TIBCO iProcess Engine must be started with a sufficient number of available file descriptors per process based upon the number of users. This is specified in the iProcess Engine using the NumFiles configuration parameter.

It is very difficult to know exactly how many files per user will be needed for the iProcess Engine since this number will vary depending on a number of factors that are unique to each site's procedures and transactions. The number of files could be as low as 4 files per user, but would not likely go above 12 files per user in a standard configuration. In addition, the iProcess Engine will use up to an additional 50 files independent of the number of users. Based on 1,000 users, the iProcess Engine would open somewhere from 4,050 to 10,150 files.

When the iProcess Engine is started, it attempts to set the number of files from the default number to the maximum number allowed. The default value can be displayed with the `ulimit -n` or `ulimit -Sn` commands ("s" indicating the "soft" or default limit). The maximum value can be displayed with the `ulimit -Hn` command ("H" indicating the "hard" or maximum limit).

The following formula can be used as a guideline to determine the number of file descriptors you need:

$$(12 * \text{Number of users}) + 100$$

For a default configuration, the default number of users is 1024, which means the upper file limit should be 12388 $((12 * 1024) + 100)$.

The TIBCO iProcess Engine must be started by the background user (which defaults to "pro"), but only the superuser ("root") can increase the maximum ulimits. If the current per process maximum file limit is less than the number needed, either the number of open files per process will have to be raised for the entire system, or the root user can start a shell, increase the file limits for that shell, and then "su" to the background user. (The name of the background user is listed on the second line of the `$SWDIR/swdefs` file.)

It is *highly* recommended that the file limit be set as high as possible since the iProcess Engine will immediately exit if there are no more file descriptors available. Running the command `ulimit -n unlimited` will set the file limit to the operating system design limits. This command will only be successful if the system limits allow this.

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($EMAIL) err(0) curridx(1)
ERROR|error in sal_pver_audlist procname($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.

