

CA Process Automation

Release Notes

Service Pack 04.0.01



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- Product and documentation downloads
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Chapter 1: Welcome

Welcome to CA Process Automation Service Pack 04.0.01. CA Process Automation is designed to speed the delivery of IT services while helping to remove manual errors. By defining, automating, and orchestrating processes across organizational silos that use disparate systems, CA Process Automation helps improve productivity while also enforcing standards.

CA Process Automation lets you automate IT processes across multiple organizations and systems, reduce the service delivery time, and enforce standards and compliance policies across departments.

CA Process Automation helps you automate IT processes to:

- Reduce operational expenses
- Increase staff productivity
- Speed IT service delivery
- Improve service quality
- Enforce compliance polices

This document contains information about new features, enhancements, resolved issues, known issues, and installation considerations in this release, and tells how to contact [CA Technical Support](#) (see page 3).

Documentation Bookshelf

The CA Process Automation bookshelf is a convenient interface that provides access to all deliverables in the product documentation set in both HTML format (for online viewing) and PDF format (for printing). Both formats include search features. CA Process Automation includes the following documentation:

- *Release Notes*
- *Installation Guide*
- *Content Administrator Guide*
- *Content Designer Guide*
- *Content Designer Reference*
- *Production User Guide*
- *Web Services Reference*
- Online Help

The CA Process Automation Bookshelf includes the following features:

- Access to all documentation for this release.
- Search functionality across the entire documentation set.
- Additional links for using the bookshelf, downloading Acrobat Reader, and contacting CA Technologies.

You can view the bookshelf in the following ways:

- Through the Help menu in the CA Process Automation browser-based UI.
- Through the bookshelf “quick” link on the home tab of the CA Process Automation browser-based UI.
- In Windows operating environments from the CA shortcut menu on the computer where CA Process Automation is installed. Click All Programs, CA, CA Process Automation 4.0, Bookshelf.

Context-sensitive Online help is available throughout the CA Process Automation browser-based UI.

Best Practices Documentation

In addition to the core product documentation, the CA Process Automation Implementation Best Practices page makes a collection of best practices documents and references to other supplemental material available.

Use the "Quick Link" on the home tab of the CA Process Automation browser-based UI to access the CA Process Automation Implementation Best Practices page.

CA Process Automation Support Home Page

The CA Process Automation Support Home Page includes the following information to supplement this documentation set:

- The latest CA Process Automation product news
- Product status, including third-party software and operating system compatibilities that were released after publication of this documentation set
- Access to CA Process Automation downloads that include patches, documentation, and localization updates
- Knowledge Base updates

Use the "support" link in the Help menu in the CA Process Automation browser-based UI to access the CA Process Automation Support Home Page.

Language Certifications

An *internationalized product* is an English product that runs correctly on local-language versions of the required operating system and third-party products. An internationalized product also supports local language data for input and output. Internationalized products support the ability to specify local language conventions for date, time, currency, and number formats.

A *translated product* (sometimes referred to as a localized product) is an internationalized product that includes local language support for the following items:

- The product user interface (UI)
- Online help and other documentation
- Local language default settings for date, time, currency, and number formats

This CA Process Automation release is internationalized and localized in the following languages:

- Brazilian Portuguese
- French
- German
- Italian
- Japanese
- Simplified Chinese
- Spanish
- Turkish
- US English

Visit the download area of the CA Process Automation Support Home Page for access to the latest localized documentation.

Use the Documentation link in the CA Process Automation browser-based UI to access the CA Process Automation Support Home Page.

Support Engagement Guidelines

Support for CA Process Automation is available to licensed customers through [X--Customer Support](#) in the following circumstances:

- The core product installation reports errors.
- The product abends, reports errors, fails to initialize, or exhibits degraded performance.
- Core product functionality does not perform consistently with the documentation.
- You have a question about upgrading from a previous release or about CA Process Automation integration with other CA Technologies products.

CA Technologies provides alternative ways to engage support in the following situations:

- You need assistance using CA Process Automation functionality to complete specific tasks.
- You need guidance regarding best practices for using CA Process Automation.
- You need advice about implementing CA Process Automation in your environment.
- You need assistance with making the product work consistently with your defined workflow.
- You need assistance troubleshooting a process that you built.

Use the following resources for assistance in these situations:

- CA Process Automation Global User Community
<https://communities.ca.com/web/ca-process-automation-global-user-community/welcome>
- CA Services <http://www.ca.com/us/it-services.aspx>
- [CA Partners](#)
- CA Education, through your local or regional CA Technologies account manager

Supported CA Process Automation Releases

For information about releases that are no longer supported, see the End-of-Service and End-of-Life notices under Product News on the CA Process Automation home page <http://www.ca.com/us/products/detail/CA-Process-Automation.aspx>.

For a complete list of supported platforms and requirements for the CA Process Automation Service Pack 04.0.01 components, see the *Installation Guide*.

Chapter 2: Installation Considerations

This section highlights the following information:

- Significant changes to the CA Process Automation installation process
- Information about upgrading CA Process Automation
- Installation requirements that are introduced in the current release

See the *Installation Guide* for detailed information about these changes and the procedures to use to install, upgrade, and configure CA Process Automation.

This section contains the following topics:

[CA Embedded Entitlement Manager is Required](#) (see page 11)

[Database Servers Require XA Support](#) (see page 11)

[General CA Process Automation Upgrade Considerations](#) (see page 12)

[Special Considerations when Upgrading from CA IT Process Automation r2.2](#) (see page 12)

[Special Considerations when Upgrading from CA Process Automation r3.1](#) (see page 12)

[Upgrade JDK Version](#) (see page 13)

CA Embedded Entitlement Manager is Required

Beginning with CA Process Automation v4.0, you must configure the product to use CA Embedded Entitlement Manager (CA EEM).

If you previously used a directory service such as Microsoft Active Directory or another LDAP-compatible directory service with CA Process Automation, you can configure CA EEM to use it for authentication. This configuration lets you continue to use the same directory service for authentication while gaining the flexibility that CA EEM provides to define permissions on CA Process Automation features and automation objects.

Database Servers Require XA Support

Beginning with CA Process Automation v4.0, you must configure the servers that host the databases that the product uses so they support Extended Distributed Transactions (XA).

By default, XA is enabled for Oracle and MySQL. However, if CA Process Automation uses Microsoft SQL Server, enabling XA requires additional configuration. For more information, see the *Installation Guide*.

General CA Process Automation Upgrade Considerations

Consider the following items before you upgrade to CA Process Automation Service Pack 04.0.01:

- Back up both of the databases and the <PAM_Install_loc>\server\c2o folder.
- A CA Process Automation Orchestrator verifies that the database schema is current when it starts. The first time that you start CA Process Automation after an upgrade or installation can take additional time while the database schema is adjusted. Verify that your Database Server has access to at least twice the space your database currently occupies.

To reduce the space requirements and the processing time, purge unnecessary archived processes before the upgrade or installation.
- We recommend that you start the Orchestrator during the same maintenance window as the upgrade.

Special Considerations when Upgrading from CA IT Process Automation r2.2

Complete one of the following actions *before* you upgrade from CA IT Process Automation Manager r2.2 to CA Process Automation Service Pack 04.0.01:

- If you currently use Microsoft SQL Server with Orchestrators in your environment, manually delete the JMS_MESSAGES_TXOP_TXID index from the JMS_MESSAGES table for each Orchestrator.
- If you currently use MySQL with Orchestrators in your environment, convert databases that use the MYISAM table type to the InnoDB table type.

For more information, see the *Installation Guide*.

Special Considerations when Upgrading from CA Process Automation r3.1

Consider the following items when upgrading from CA Process Automation r3.1:

- As noted in "General CA Process Automation Upgrade Considerations", the CA Process Automation schema is modified during the first startup after installation or upgrade. The modifications from schema versions before CA Process Automation r3.0 SP1 are extensive, and the update can take several hours depending on the size of your database.

- CA Process Automation typically requires that the host names used for installation conform to DNS standards.

CA Process Automation r3.1 successfully installed with nonstandard host names (for example, host names that contained underscores).

CA Process Automation Service Pack 04.0.01 requires strict adherence to standard. Additional steps are required before you upgrade to CA Process Automation Service Pack 04.0.01 from CA Process Automation r3.1 with a nonstandard host name. For more information, see the *Installation Guide*.

Upgrade JDK Version

Before you install or upgrade CA Process Automation, verify that you are using a supported JDK version. Upgrade JDK versions lower than 1.6.

Note: Do not use Java 6 Runtime Environment updates 27 (1.6.0_27) through 29 (1.6.0_29). An issue with those versions affects applications including CA Process Automation that use JDBC to connect to Microsoft SQL Server. The SDN bug database lists this issue as bug 7105007.

Chapter 3: New Features

This section describes enhancements in this CA Process Automation release.

This section contains the following topics:

[CA Process Automation v4](#) (see page 15)

[CA Process Automation r4 SP1](#) (see page 17)

CA Process Automation v4

New features included in CA Process Automation v4 include the following.

Full Browser-Based User Interface

CA Process Automation now has a single, completely redesigned user interface. There is no more dependency on the Java runtime engine to use the new interface. CA Process Automation v4 also includes support for the latest browser versions.

Operator Enhancements

This CA Process Automation release includes the following operator enhancements:

- Loop operator enhancements
 - Loop Count Variable
 - Loop Duration Variable
 - Additional loop execution option
- The Comments operator supports HTML.
- Operators support directly running classes in external jars through “JavaObjects”.
- Operator searching is improved. An operator palette filter capability makes it easy to find specific operators.
- A new Invoke Java Operator enables users to invoke Java classes, so that Java APIs from target systems can be integrated directly into CA Process Automation.

Usability Enhancements

CA Technologies has redesigned the CA Process Automation user interface as follows to improve the user experience:

- Major feature sets are grouped into tabs. Users see and have access only to the features necessary to their role.
- The home page provides users with easy access to key features of CA Process Automation. It also provides users with direct access to online and out-of-the box content, as well as recently modified processes, pending tasks, and system activity. The home page is customizable and allows quick access to items frequently used.
- Users can "tear off" selected UI components into new windows.
- Designing processes has been streamlined and improved with a workspace that is easier to navigate and enables access to important information in a single view.

The process designer provides the following features:

- Users can drag and drop units of work (*operators*) to a canvas and link them with process flows.
- Users can pin, hide, move, or resize the Properties pane for displaying and modifying operator attributes.
- At design time, users can drag and drop variables to exchange data between operators easily.
- Users can pan and zoom the canvas to navigate processes easily.
- Enhanced operator run-time and configuration state indicators.
- A Custom Icon Editor lets users create custom icons to tailor the visual appearance of an operator.
- The library can act on multiple automation objects.
- The Report management tab lets users manage and run reports.
- The Configuration tab provides centralized system configuration and deployment of CA Process Automation components and resources.
- A dynamic forms designer lets users create flexible human interaction forms that comply with web standards.
- A centralized dashboard lets users manage and interact with automated processes and associated objects.
- A new Operations dashboard allows users to surface key metrics of processes and operators. This dashboard comes with drill-down capability so that users can inspect status, diagnose or correct any issues discovered.
- Several of the new user interface elements support direct URL access which enables embedding parts of CA Process Automation UI into other browser-based applications and portals.

Web Services HTTP Properties

Web Services HTTP Properties contains a new field that you can use to validate the SSL certificate for HTTP calls.

To use this validation for operators that were designed in CA Process Automation r3.1, select the Default Validate SSL Certificate checkbox at the Web Services category level. For more information, see the *Content Designer Reference*.

CA Process Automation r4 SP1

New features in CA Process Automation r4 SP1 include:

- A warning message now displays when CA Process Automation refreshes or closes with unsaved changes. (OPT-10824 and OPT-12643)
- Process instance information now displays in the Operations tab for Start Request Forms. You can correlate the Start Request Form instance with the process associated to that Start Request Form. A new Process Instance column displays in the Start Request Form grids under the Operations tab, with the new "Open Process Instance" right-click menu option for each Start Request Form. (OPT-12636)
- The Assign User Task operator now lets you send a notification that contains the direct URL to a task. A new "Task ID" operator parameter is populated once the operator executes. Users can then use this variable to trigger emails, notifications, and so on. (OPT-12635)
- New system functions are now available to generate CA EEM tokens:

getEEMArtifactTokenForUser(username,password)

This method returns an CA EEM token for single use.

getEEMCredentialsTokenForUser(username,password)

This method returns an CA EEM token for multiple uses.

getEEMArtifactToken (certificateFilePath, certPassword/keyFilePath)

The input parameters of this method are the relative path of the certificate file and certificate password (in the case of non-FIPS mode) or the relative path of the key file (in case of FIPS mode). This method returns the CA EEM token for a single use.

getEEMCredentialsToken (certificateFilePath, certPassword/keyFilePath)

The input parameters of this method are the relative path of the certificate file and certificate password (in the case of non-FIPS mode) or relative path of the key file (in case of FIPS mode). This method returns the CA EEM credential token for multiple use.

isFIPSMode()

This method return true if the CA EEM server is running in FIPS mode.

(OPT-12632 and OPT-12546)

- Web service methods have been updated:
 - A process or a Start Request Form that is initiated through a Web service can now be tagged with a unique user-provided ID. Web service methods have been enhanced to let you obtain the status of a process or Start Request Form that has been submitted with such a tag. If a process starts directly, or if the Start Request Form starts a process, then CA Process Automation returns the task ID of the process. Updated/new Web service methods that are affected by this change include:
 - checkStartRequestStatus
 - executeProcess
 - executeStartRequest
 - getProcessStatus
 - ImportObject
 - ControlProcess

(OPT-12628)

- You can now control process archiving through a Web service. The executeProcess and executeStartRequest Web service methods have been enhanced to support an additional parameter which lets the caller exempt that process from normal archiving. (OPT-12627)
- The Value field can now be expanded in the properties of a dataset. This expansion applies for String, Integer, Long, and Double data types. (OPT-12545)
- Dataset scrolling is improved when expanding nested variables. (OPT-12537)
- The new getOrchestratorURL() system function returns the URL of the Orchestrator and facilitates the dynamic creation of URLs for use with specific Interaction Request Forms. In the case of a cluster, getOrchestratorURL() returns the URL of the load balancer. (OPT-12533)

- The existing XML for out-of-the-box content has been updated to include additional features. (OPT-12530)
- The description for an object in the Library now displays as a tooltip. (OPT-12525)
- In the Forms Designer, you can now select forms from a drop-down menu that is populated dynamically. Previously, forms were located through a search. (OPT-12528)
- The Evaluate Expression operator and the Monitor Event operator now include dataset assistance when using of any of their keywords. (OPT-12521)
- Process dataset variables now display during design time. (OPT-12520)
- The CA Process Automation installer now supports installation of CA Process Automation in Embedded Mode. (OPT-12494)
- In the Forms Designer, there is a provision to expand the right-hand side properties of a form, resulting in more space to enter JavaScript functions. You can right-click and select Expand. Also, assistance support has been added on Ctrl+Space (OPT-12424).
- Module and trigger properties now open in a new pop-up window. (OPT-12084)
- For custom operators, there is a new "Read Only" parameter. This property governs whether the given parameter always takes value from the base operator and is not editable for the end users of the custom operator. (OPT-12024)
- In the Trigger tab of the Configuration Browser, if you open the properties of an SNMP Trigger, a Browse button is now available for the ProcessPath field. (OPT-11065)
- Dynamic forms now support custom images. You can upload a custom image through Manage User Resources (on the Configuration tab) to a user-created folder, which is accessible over a URL. You can also copy/host the images on another web server as long as they are accessible with an absolute URL. (OPT-10660)

- A warning message now displays for tear-off windows if you close/refresh them without saving your changes. (OPT-10511)
- Saving any user preferences through the Resource Editor (such as pagination, the number of records, columns to display and hide, and so on) also saves them in CA Process Automation User Preferences. (OPT-9887)
- CA Process Automation now provides the ability to right-click a variable in a dataset and select "View Expression". You can also copy the expression for the dataset variable and then paste it wherever needed. (OPT-12602)
- You can now upload resources (including JARs) to the Agent Resources and Orchestrator Resources in the Manage User Resources palette on the Configuration tab. All JARS uploaded to the Agent Resources are included in the agent's classpath upon the restart of the agent. All JARS uploaded to the Orchestrator Resources are included in the Orchestrator's classpath upon the restart of the Orchestrator. (OPT-12667)
- When creating a custom operator, you can now double-click to select a base operator. (OPT-12691)

Chapter 4: Retired Features

The following features have been retired in either because functionality had limited utility or usage by our client base, or to remove unnecessary complexity.

This section contains the following topics:

[Direct LDAP and Active Directory Support](#) (see page 21)

[Log Viewer Objects](#) (see page 21)

[Retired and Replaced Operators](#) (see page 21)

[State Policies and Rules Engine](#) (see page 22)

[Telephony Application Programming Interface \(TAPI\) Support](#) (see page 22)

Direct LDAP and Active Directory Support

LDAP or AD users can continue to use them for Directory Services, but must access them as external directory services through CA EEM.

Log Viewer Objects

This feature was rarely used and was retired to remove unnecessary complexity.

Retired and Replaced Operators

The following operators are replaced in this CA Process Automation release:

Derivation

The *Or* operator replaces this operator.

Run Detached ITPAM Process

The base *Start Process* operator options replace this operator.

Run Inline ITPAM Process

The base *Start Process* operator options replace this operator.

Date-Time Wait

The *Check Date-Time* operator replaces this operator.

The following operators are retired in this CA Process Automation release:

- Telephony Alert
- Sound Alert
- Break Sound Alert

Operator replacements are implemented automatically when they are first opened after upgrade, or during the report phase. In the rare case when a process contains a retired operator, a nonfunctioning equivalent replaces the retired operator and the user is instructed to modify the process.

Note: For a complete list of modules and operators with their former and current names and categories, see the *Content Designer Reference*.

State Policies and Rules Engine

This feature was rarely used and was retired to remove unnecessary complexity.

Telephony Application Programming Interface (TAPI) Support

The TAPI standard is used primarily to let computers interface with modems and specific PBX hardware. This feature was rarely used and was retired to remove unnecessary complexity.

Chapter 5: Known Issues

This section describes known issues in CA Process Automation Service Pack 04.0.01.

This section contains the following topics:

[Limitations to Process Definition Upgrade](#) (see page 23)

[SERVER_CONNECT_FAILED Error](#) (see page 24)

[Microsoft Internet Explorer 8](#) (see page 24)

[Sorting Automation Objects](#) (see page 24)

Limitations to Process Definition Upgrade

A primary goal of CA Process Automation upgrades is that existing content continues to behave identically to previous versions to preserve your investment in existing processes. Exceptions such as retired functionality are rare and carefully considered.

However, the following minor differences exist because of current implementation limitations:

Some link customizations do not translate.

Most customized link attributes translate to the new Process Designer, with the following exceptions:

- Links defined with styles other than "solid" display as "dashed"
- Links defined with the "curved" shape display as "orthogonal"

This limitation only affects how links are displayed, and does not affect link operation.

Processes upgraded or imported from previous releases do not allow design-time browsing of output parameters.

Design-time generation of output variables is a CA Process Automation v4.0 feature and is available only for new processes. This limitation does not affect run-time function of the processes, but prevents users from previewing output variables.

Custom Icons do not display.

Custom Icons that were developed before CA Process Automation v4.0 do not display in CA Process Automation v4.0. Instead, operators and custom operators display the default CA Process Automation v4.0 icon for the base operator.

SERVER_CONNECT_FAILED Error

This error can occur after you apply a CA Process Automation upgrade or patch:

SERVER_CONNECT_FAILED Status Code: 400

Clear the browser cache and restart the browser-based UI.

Microsoft Internet Explorer 8

The JavaScript engine that is delivered with Microsoft Internet Explorer 8 (IE8) is noticeably slower than the engines delivered with Microsoft Internet Explorer 9 (IE9) and other browsers that are compatible with CA Process Automation v4.0.

The CA Process Automation v4.0 Process Designer, Library tab, and so on, sometimes generate large amounts of data. In some cases, an IE alert asks the user whether to terminate the script. Click No in response to this alert.

After your response, the display typically renders without further interruption. In extreme cases, however, the browser session can crash while rendering complicated process flows.

We recommend that you use another supported browser. Microsoft IE8 is not supported by CA Process Automation.

Sorting Automation Objects

For compatibility with previous releases, CA Process Automation v4.0 sorts automation objects by the type names used in the database. Therefore, although the product sorts the automation objects, it does not display them in the expected order.

Appendix A: Acknowledgments and License Agreements

Components licensed under the Apache 2.0 License are listed in the following topic:

- Components Licensed under the Apache 2.0 License

PDF users can find the following license agreements in the \Bookshelf Files\TPSA folder of the CA Bookshelf. You can navigate to the TPSA folder and its files if you download the bookshelf. HTML users can link directly to the license agreements from the following links.

- Apache 2.0 License
- Apache Tuscan SDO
- Beanshell v.2.0b4
- BIRT 2.3.2.2
- Castor Software
- ej technologies
- Hibernate Software 3.3.2
- HSQLDB 1.8
- Hypersonic SQL Group
- J2ssh 0.2.7
- JAXP 1.4.2
- JBoss Application Server 5.1.0
- Jetty 6.1.26
- JGO 5.1.5
- JGoodies Looks 2.2.0
- jgroups 2.4.6.GA
- JSW (Java Service Wrapper) 2.3.2
- Netx 0.5
- Oracle 11G JDBC Driver
- Rhino 1.6R4
- Xalan-j 2.7.1

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Mime4j 0.6

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wss4j 1.5.8

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XML Schema 1.4.2

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XMLSec 1.4.2

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