

CA Process Automation

Release Notes

Release 04.1.00



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- Online and telephone contact information for technical assistance and customer services
- Information about user communities and forums
- Product and documentation downloads
- CA Support policies and guidelines
- Other helpful resources appropriate for your product

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Chapter 1: Welcome

Welcome to CA Process Automation Release 04.1.00. 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 provides convenient access to the following product documentation in both HTML format (for online viewing) and PDF format (for printing). Both formats include search features.

- *Release Notes*
- *Installation Guide*
- *Content Administrator Guide*
- *Content Designer Guide*
- *Content Designer Reference*
- *Production User Guide*

- *Web Services Reference*
- Online Help
- CA Process Automation scenarios

A *scenario* is concise, modular information that explains how to interact with CA Process Automation to achieve specific goals.

The CA Process Automation Bookshelf also includes the following features:

- Functionality to search the entire documentation set.
- Links for using the bookshelf, downloading Acrobat Reader, and contacting CA Technologies.
- Links to supplemental information about CA Process Automation such as videos, technical documents, educational courses, and other valuable resources.

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 4.1, Bookshelf.

Online help provides CA Process Automation workflows that can help you understand who does what and when. The scenario-based content provides drill-down information about lifecycle tasks that administrators, content designers, and production users perform. Additionally, you can get context-sensitive help for each operator on the Designer tab canvas.

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.

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 Release 04.1.00 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)

[Language Certifications](#) (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 Release 04.1.00:

- Back up both of the databases and the *install_dir\server\c2o* folder.
- A CA Process Automation Orchestrator verifies that the database schema is current when it starts. Note that the initial startup of 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 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 Release 04.1.00:

- 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 Release 04.1.00 requires strict adherence to standard. Additional steps are required before you upgrade to CA Process Automation Release 04.1.00 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.

Note: Use an appropriate version of JDK for your operating system. Except for AIX, or HP, use Java SDK that Oracle offers. For AIX, use Java SDK that IBM offers, and use Java SDK that HP offers.

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.

Chapter 3: New Features

This section describes enhancements in this CA Process Automation release.

This section contains the following topics:

[CA Process Automation Version 04.0.00](#) (see page 15)

[CA Process Automation Service Pack 04.0.01](#) (see page 17)

[CA Process Automation Release 04.1.00](#) (see page 20)

CA Process Automation Version 04.0.00

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 Service Pack 04.0.01

New features in CA Process Automation r4 SP1 include:

- A warning message now displays when CA Process Automation refreshes or closes with unsaved changes.
- 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.
- 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.
- 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.

- 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
 - 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.
- The Value field can now be expanded in the properties of a dataset. This expansion applies for String, Integer, Long, and Double data types.
- Dataset scrolling is improved when expanding nested variables.
- 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.

- The existing XML for out-of-the-box content has been updated to include additional features.
- The description for an object in the Library now displays as a tooltip.
- 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.
- The Evaluate Expression operator and the Monitor Event operator now include dataset assistance when using of any of their keywords.
- Process dataset variables now display during design time.
- The CA Process Automation installer now supports installation of CA Process Automation in Embedded Mode.
- 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.
- Module and trigger properties now open in a new pop-up window.
- 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.
- 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.
- 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.
- A warning message now displays for tear-off windows if you close/refresh them without saving your changes.
- 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.
- 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.
- 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.
- When creating a custom operator, you can now double-click to select a base operator.

CA Process Automation Release 04.1.00

CA Process Automation Release 04.1.00 includes the following new features:

Common Script Editor

This advanced code editor lets you create, edit, and debug various types of scripting and markup languages.

Note: For more information about the CA Process Automation Code Editor, see "The CA Process Automation Code Editor" in the *Content Designer Guide*.

Process Documentation

Content designers can generate detailed process documentation, including visual representations of the process that feature details and dependencies at the process and the operator level. You can generate the process documentation in PDF format.

Note: For more information about process documentation, see the *Content Designer Guide*.

NTLM Pass-Through Authentication

EEM NTLM authentication lets you bypass entering credentials in the CA Process Automation login dialog and instead lets you log in to CA Process Automation using Windows credentials (through CA EEM). This feature applies when CA EEM is configured to use Microsoft Active Directory as the external user store and NTLM is enabled.

Note: For more information, see the following documentation:

- "Prerequisites for Configuring NTLM Authentication," "Reference Global Users and Global Groups from Microsoft Active Directory," "Enable NTLM Pass-Through Authentication After Installation," and "Upgrade Prerequisites" in the *Installation Guide*.
- "Configure Web Services," "How Authentication and Authorization Work," and "Oasis Configuration Properties File" in the *Content Administrator Guide*.
- "HTTP URL Information," "HTTP Proxy Information," and "HTTP Operators: Common Output Ports" in the *Content Designer Reference*.
- "Google Chrome Fails First Attempt to Log Out Users Logged in Using NTLM" in the *Release Notes*.

Form Designer User Experience

When content designers open a start request form or an interaction request form from the Library Browser, the Form Designer editor opens. The Form Designer editor provides the following new capabilities:

- Added support for SOAP and RESTful Web services in forms, such as populating form elements using SOAP / RESTful APIs.
- Copy and paste for easy re-use of form elements.
- Drag and drop form elements.

- Tooltips for form element properties.
- Common JavaScript Editor.

Note: For details about the Form Designer, see the "Forms" chapter of the *Content Designer Guide*, particularly "The Form Designer."

Management and Performance enhancements

Administrators with Domain_Admin permissions, such as members of the PAMAdmins group, can disable (or re-enable) the following options:

- Operator level reporting.
- Operator level recovery.
- Process level reporting.
- Process level logging.

Note: For details about configuring these options, see "Configure Domain Properties" in the *Content Administrator Guide*.

Catalyst Interoperability and API

The Catalyst container and Catalyst Process Automation Services are both embedded in CA Process Automation. Communication is optimized among the Catalyst container, Catalyst Process Automation Services, and CA Process Automation.

The following enhancements are included in the current release:

- Catalyst 3.2 is certified.
- RESTful API enhancements for headless control and monitoring impact the following: query and control processes, interaction request forms, start request forms, datasets, module configuration, content import and export, and alerts.
- Catalyst Process Automation Services is enabled by default.

Note: For details, see the "RESTful API Reference" chapter in the *Web Services Reference*. See also "Apache Load Balancer Configuration for Catalyst RESTful API (Windows)" in the *Installation Guide*.

Operator Enhancements

Content designers have two new operators and updated support by SOAP operators.

- Process Progress operator

You can set the progress of a process using the Process Progress operator. You can monitor the process progress through user-defined reports and in the Operations tab (Process Instances link).

Note: For details, see "Process Progress Operator" under "Standard Operators" in the *Content Designer Reference*.

- Apply XSLT operator

This operator lets you to apply a predefined style sheet to transform an XML source document to another presentation-oriented format, such as HTML, XHTML, or SVG.

Note: For details, see the "Apply XSLT Operator" under "Utilities" in the *Content Designer Reference*.

- SOAP operators

These operators support NT LAN Manager (NTLM) authentication to authenticate clients to a Windows server.

Note: For details, see "Soap Call Data Parameters" and "SOAP Call Data Properties" in the *Content Designer Reference*.

Process Management

Content designers can better manage processes through the following enhancements:

- Content designers can use the duration attribute to specify the expected duration for a process or report. This enables designers to track the actual duration compared against the expected duration.

Note: For details, see "Define the Run Duration for a Process" in the Library Browser section of the *Content Designer Guide*.

- Content designers can now add progress markers as part of their process definition. This lets production users track processes based on progress.

Note: For details, see the "Process Progress Operator" and the "setProcessProgress" method in the *Content Designer Reference*. The "Process Instances" section in the *Production User Guide* now includes Progress as a displayed attribute.

Content Creation and Management

Content creation and management enhancements impact custom operators and content management.

Custom Operators:

- Ability to hide variable from output dataset.

Note: For details, see "Custom Operator: Dataset Tab" in the *Content Designer Guide*.

- Ability to create module level configuration so that configuration data (such as named connections) can be shared between multiple custom operators.

Note: For details on custom operator groups, see the following documentation:

- To create a custom operator group, see Custom Operator: Settings Tab" in the *Content Designer Guide*.
- To define parameters for a custom operator group and publishing the custom group to the Modules tab in the same Domain, see "Configure and Publish a Custom Operator Group" in the *Content Designer Guide*.

- To publish a custom operator group configuration to another Domain, see "Import an Object, a Folder, or a Package" in the *Content Designer Guide*.
- To configure (or delete) a custom operator group, see "Configure Values for a Custom Operator Group" and "Delete a Custom Operator Group Configuration" in the *Content Administrator Guide*.
- To override custom operator group values at the environment level, see "Enable or Disable a Custom Operator Group" and "Override Inherited Values for a Custom Operator Group" in the *Content Administrator Guide*.
- To review the new CA EEM resource class Group Configuration and the related action key Group_Config_Admin, see the "Permissions Reference" section for in the *Content Administrator Guide*.
- To extend the configuration right to content designers, see "Example: Grant Designers the Ability to Configure Groups for Custom Operators" in the *Content Administrator Guide*.
- To review task flow, see "Scenario: How to Work with Custom Operator Groups" on the CA Process Automation section of the Support website.

Content Management

Content designers or administrators can specify a release-specific value for the new Release Version attribute for objects to be packaged for export for a release. The exporter can specify that this attribute is to be nonmodifiable in the import environment. When this attribute is locked, content designers can easily identify whether objects customized for a specific release have been changed since being imported to the production environment.

Note: For details about release versions, see the following topics in the "Release Objects to Another Environment" chapter of the *Content Designer Guide*:

- "Release Versions."
- "View Release Version Information."
- "Set the Release Version of Objects to Export."
- "Export an Object, a Folder, or a Package" addresses how to set the Export Release Versions in Nonmodifiable Mode option.
- "Release Version and Baseline Status of Imported Objects."

The *Content Administrator Guide* contains topics in the section "How to Prepare the Production Environment for a New Release" that touch on release versions.

Reporting

Reporting is enhanced in the following ways:

- Extended data in the reporting database is to be in line with Process Watch: custom instance name, duration, progress, organizational information, parent-child information.

- New database views provide easy access to PAM historic data and replaces PAM legacy reporting DB schema. You can use the following database views to generate the user-defined reports:
 - Process_Instances.
 - Automation_Objects.
 - Operator_Instances.

Note: For details, see "Reporting DB Views" in the *Production User Guide*.
- New: Process Duration Status Report.

Note: This new report is referenced in the "Working with Predefined Reports" topic in the *Production User Guide*.
- All reports updated to leverage schema updates.

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:

[Microsoft Internet Explorer 8](#) (see page 25)

[Direct LDAP and Active Directory Support](#) (see page 25)

[Log Viewer Objects](#) (see page 25)

[Retired and Replaced Operators](#) (see page 25)

[State Policies and Rules Engine](#) (see page 26)

[Telephony Application Programming Interface \(TAPI\) Support](#) (see page 26)

Microsoft Internet Explorer 8

CA Process Automation Release 04.1.00 is not supported on Windows Internet Explorer 8.

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 04.1.00.

This section contains the following topics:

[Unable to Launch CA Process Automation using the Apache URL in Internet Explorer and Firefox](#) (see page 27)

[Export Objects Can Contain Only English Characters](#) (see page 28)

[Google Chrome Fails First Attempt to Log Out Users Logged in Using NTLM](#) (see page 28)

[Limitations to Process Definition Upgrade](#) (see page 28)

[Oracle bug # 9347941](#) (see page 29)

[Limitations in Microsoft SQL Server SQL JDBC Driver's handling of Socket Read](#) (see page 30)

[JDK 1.7 is Unable to Encrypt and Decrypt Passwords with Special Characters like "&" in SUSE 11SP1](#) (see page 30)

[Limitations in Internet Explorer](#) (see page 31)

[Catalyst Container in CA Process Automation does not support Java 7](#) (see page 32)

[CA Process Automation Installation on Dual Stack \(IPv4 and IPv6\) Network Environments](#) (see page 33)

[SERVER_CONNECT_FAILED Error](#) (see page 33)

[Sorting Automation Objects](#) (see page 33)

Unable to Launch CA Process Automation using the Apache URL in Internet Explorer and Firefox

Symptom:

You cannot launch CA Process Automation using the Apache URL in Internet Explorer and Firefox after enabling NTLM authentication in a cluster environment. This issue is specific to Internet Explorer and occurs when the load balancer is used in secure mode. The CA Process Automation UI appears blank once you log in.

Solution:

Comment the following lines in httpd-ssl.conf. httpd-ssl.conf can be found under *ApacheInstallDir\conf\extra\httpd-ssl.conf* (for example, C:\Program Files (x86)\Apache Software Foundation\Apache2.2\conf\extra\httpd-ssl.conf).

```
#BrowserMatch ".*MSIE.*" \  
# nokeepalive ssl-unclean-shutdown \  
# downgrade-1.0 force-response-1.0
```

CA Process Automation successfully launches.

Export Objects Can Contain Only English Characters

Due to a Microsoft Windows limitation, a package name with non-English characters gets exported to `pam_export.xml` instead of `PackageName.xml`. Likewise, an object name with non-English characters gets exported to `pam_export.xml` instead of `ObjectName.xml`.

As a best practice, when exporting a package or object with a name that includes non-English characters, be sure to rename the package or object prior to export.

Google Chrome Fails First Attempt to Log Out Users Logged in Using NTLM

When CA EEM is configured to use Microsoft Active Directory as the external directory and to use NTLM authentication, you can browse to CA Process Automation with the Google Chrome browser and bypass the Login dialog. When you click the Log Out link, your UI refreshes but logout does not occur. When you click the Log Out link a second time, a Login UI requesting credentials opens.

You should be able to log out of CA Process Automation on your first attempt. This behavior is specific to the Google Chrome browser and is not a CA Process Automation issue.

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.

Oracle bug # 9347941

Important! When running with versions of the Oracle RDBMS prior to release 11.1.0.7, CA Process Automation would occasionally encounter the known Oracle RDBMS defect 9347941 in which concurrent inserts of CLOB data where the individual column values exceed 52K bytes in size have such columns updated incorrectly with data past the 52K offset replaced by spaces. This issue has been seen using both 10g and earlier 11g versions of the Oracle RDBMS.

Symptom:

CA Process Automation process would freeze. Reset the process at the corresponding operator where the process is frozen to continue the process execution to complete. This infrequent issue occurs only with extremely high rates of update contention.

Solution:

This has not been seen when running either version 11.1.0.7 or 11.2.0.2 of Oracle, and we recommended that sites using Oracle for their CA Process Automation databases run version 11.1.0.7 or 11.2.0.2 or higher.

Limitations in Microsoft SQL Server SQL JDBC Driver's handling of Socket Read

Consider the scenario of a thread executing the driver code waiting on a socket read and a network packet is lost. The thread executing the socket read is blocked due to a Microsoft SQL Server JDBC driver that cannot specify a time-out. This socket reading limitation is present in any version of Microsoft SQL Server JDBC Driver that CA Process Automation supports, up to the latest version available at the time of publication (4.0.2206.100).

Symptom:

This issue is infrequent and has only been known to occur when the Orchestrator is running on a virtual machine configured with an E1000 NIC card. When the problem does occur, its most frequent symptom is that of CA Process Automation processes freezing. You can verify if a process is frozen by checking a JMX thread dump. If you think you might be experiencing this issue, contact support to confirm its occurrence.

Solution:

To mitigate the problem, we recommend using VMXNet NIC cards in the virtual machines where the Orchestrator and database for CA Process Automation are installed. While using VMXNet NIC cards does not address the fundamental limitation, it has been proven to be effective and gives better performance than an E1000 NIC card. Check support.ca.com to see if a complete solution for a later version of Microsoft SQL Server JDBC Driver exists.

JDK 1.7 is Unable to Encrypt and Decrypt Passwords with Special Characters like "&" in SUSE 11SP1

In CA Process Automation 4.1, JDK 1.7 is unable to encrypt and decrypt passwords with special characters such as & in SUSE 11SP1.

Symptom:

When you use SUSE 11 SP1 with the Microsoft SQL 2k8 on Microsoft Windows 2k8, JDK 1.7 throws an exception and the CA Process Automation application does not start. The exception is thrown when the Microsoft SQL-SA password has special characters such as &.

Solution:

Uninstall the JDK 1.7 rpm on SUSE linux and install JDK 1.6.X.

Limitations in Internet Explorer

Internet Explorer limits the agent installation in a network other than the network where Domain Orchestrator is installed.

Symptom:

Access the Domain Orchestrator using Internet Explorer and install the CA Process Automation Agent in a network other than the network where Domain Orchestrator is installed. The installation may fail while downloading JAR files for installation.

Solution:

A possible cause of this sporadic issue might be that Java is unable to load JAR files while routing through the proxy in Internet Explorer. To mitigate this issue, change Java Network Settings to the Direct Connect option before you install the Agent.

Follow these steps:

1. Open the Java Control Panel on the host system where you install the Agent.
2. Open Network Settings from the General tab.
The Network Settings page appears.
3. Select the Direct Connect option and click OK to save changes.
4. Install the Agent.

Catalyst Container in CA Process Automation does not support Java 7

If CA Process Automation uses Java 7, then the Catalyst container fails to initialize during Orchestrator startup.

Symptom:

PAM_install_folder/server/c2o/log/c2o.log contains a message similar to:

```
2012-10-08 12:54:26,590 WARNING
[com.ca.catalyst.container.impl.ContainerImpl] [onconnectorManager]
Failed to get bundle information for container start reference bundle:
org.apache.felix.webconsole
```

```
2012-10-08 12:54:56,610 ERROR
[com.optinuity.c2o.ucf.UCFPAMConnectorManager] [onconnectorManager]
UCFPAMConnectorManager failed to initialize UCF Connector.
```

All Catalyst container functionality, including web and REST services, running on this Orchestrator will not be available.

Solution:

Install or reconfigure CA Process Automation r4.1 to use Java 6, if you intend to use Catalyst REST services. Alternatively, open <PAM-HOME>PAM\server\c2o\bin\c2osvcw.conf file and update the following attributes to reflect the correct Java path:

```
wrapper.java.command=c:/program files/java/jdk1.6.0_26/bin/java
wrapper.java.classpath.2=c:/program
files/java/jdk1.6.0_26/lib/tools.jar
```


CA Process Automation Installation on Dual Stack (IPv4 and IPv6) Network Environments

If you install CA Process Automation on dual stack (IPv4 and IPv6) network environments, CA Process Automation may fail to boot up.

Symptom:

When you install CA Process Automation on dual stack (IPv6 and IPv4) network environments, you may experience issues while bringing up or accessing the following CA Process Automation components across network:

- Domain Orchestrators
- Orchestrators
- Agents

Solution:

Disable IPv6 stack on the host system where any of the following CA Process Automation components are running and restart the services:

- Domain Orchestrators
- Orchestrators
- Agents

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.

Sorting Automation Objects

For compatibility with previous releases, CA Process Automation r4.x would not support sorting automation objects on 'Type' column. Because the sorted order in the UI is different from the sorted order in the database at the back end, CA Process Automation does not support sorting by type.

Appendix A: Acknowledgments and License Agreements

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- Castor Software
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- CodeMirrorUI 0.0.16 ([../../TPSA/CodeMirrorUI 0.0.16.txt](#))
- Derby 10.8.1.2 ([../../TPSA/Derby 10.8.1.2.txt](#))
- 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
- JSHint r07 ([../../TPSA/JSHint r07.txt](#))
- JSW (Java Service Wrapper) 2.3.2
- Netx 0.5
- Oracle 11G JDBC Driver
- Rhino 1.6R4
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