

# CA Embedded Entitlements Manager

## Release Notes

r8.4 SP4



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## CA Technologies Product References

This document references the following CA Technologies products:

- CA Embedded Entitlements Manager (CA EEM)
- CA Directory
- CA SiteMinder® Web Access Manager (CA SiteMinder)
- CA Security Command Center
- CA Integrated Threat Management
- CA Enterprise Log Manager

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# Chapter 1: Welcome

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Welcome to CA Embedded Entitlements Manager (CA EEM). This document contains information about product installation considerations, operating system support, new features, changes to existing features, known issues, third-party acknowledgments, and information about contacting CA Technical Support.

**Note:** We recommend that you refer the CA EEM documentation or the Authentication Server topics in your product documentation to understand the CA EEM features used by your product.



# Chapter 2: Operating System Support

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CA EEM Server and the CA EEM SDK require that you have one of the following operating systems installed:

Platform	Architecture	Version
Windows	x86/32-bit	Microsoft Windows 2008 SP2 Microsoft Windows Server 2003 SP2 Microsoft Windows Server 2003 R2 SP2 Microsoft Windows Vista SP1 (CA EEM SDK only) Microsoft Windows XP Professional SP3 (CA EEM SDK only) <b>Note:</b> CA EEM runs as a 32-bit application on 64-bit operating systems.
Solaris	SPARC/32-bit and 64-bit	Sun Solaris 10 (Ultra SPARC) with GNU tar 1.15.1 Sun Solaris 9 (Ultra SPARC) with GNU tar 1.15.1 Sun Logical Domains (LDOM) (run CA EEM as a 32-bit application)
Linux	x86/32-bit	SUSE Linux Enterprise Server 10, Service Pack 1 (CA EEM SDK only) SUSE Linux Enterprise Server 9.0 Service Pack 3, glibc 2.3.2 Red Hat Enterprise Linux Server 5, Update 1 with libcompat libraries (CA EEM SDK only) Red Hat Enterprise Linux Server 4, Updates 3 and 6 with libcompat libraries Red Hat Enterprise Linux AS4, Update 3 Red Hat Enterprise Linux 3.0 Update 7, glibc 2.3.2
IBM AIX	Power5/32-bit and 64-bit	IBM AIX 6.1 IBM AIX 5.3 with Maintenance Level 9, libcompat.1.o library <b>Note:</b> CA EEM runs as a 32-bit application on 64-bit operating systems.
HP-UX	PA RISC/32-bit	HP-UX 11iv2, libcompat.1.o library HP-UX 11iv3 HP-UX 11.11 with PHCO_31903 Patch, libcompat.1.o library

CA supports these operating systems for the duration of their life cycle (as determined by the operating system's manufacturer or until CA announces that we are dropping support). Visit our website <http://ca.com/support> for the latest information about supported operating systems.



# Chapter 3: System Requirements

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This section contains the following topics:

[Windows](#) (see page 13)

[UNIX and Linux](#) (see page 14)

## Windows

The minimum system requirements are:

- An Intel Pentium or higher computer with a CD-ROM drive
  - At least 256 MB of RAM (1GB recommended)
  - 1 GB of hard disk free space, plus enough space for the directory data
  - At least 300 MB disk space required under the temporary directory %temp% (C:\Documents and Settings\Administrator\Local Settings\Temp\) where the CA EEM installation files are extracted during installation
  - Windows updates applied, that is Windows Installer v3 or later
  - Winsock-compatible TCP/IP installed and configured
  - Windows administrator access to the system
  - 32-bit Java Runtime Environment 1.6 if you are planning to integrate CA EEM with CA SiteMinder
- Note:** CA EEM can be installed and used without JRE. For more information on how to install CA EEM without JRE, see the *Getting Started Guide*.
- Adobe Acrobat Reader 8.0 to view the print format of the documentation
  - Internet Browser to run the Web components (Microsoft Internet Explorer 6.0 and higher or Firefox1.6).
  - Microsoft Internet Explorer 7.0 or Firefox 2.0 and higher if using IPv6 environment
  - Microsoft Internet Explorer 7.0 and Firefox 3.0 for viewing the CA EEM admin GUI in FIPS-only mode.
  - Flash to view reports
  - Microsoft .Net 2.5 framework to run CA EEM C# SDK based applications.

## UNIX and Linux

The minimum system requirements are:

- At least 256 MB RAM (2 GB recommended)
- 1 GB of hard disk free space, plus enough space for the directory data
- At least 300 MB disk space required under the temporary directory (/tmp) where the CA EEM installation files are extracted during installation.
- 32-bit Java Runtime Environment 1.6 if you are planning to integrate CA EEM with CA SiteMinder

**Note:** CA EEM can be installed and used without JRE. For more information on how to install CA EEM without JRE, see the *Getting Started Guide*.

- Adobe Acrobat Reader to view the print format of the documentation (Reader 5.0.10 for Solaris and Reader 7.0 for Linux)
- Internet Browser to run the Web components (Firefox 1.6 or higher).
- Firefox 3.0 for viewing the CA EEM admin GUI in FIPS-only mode.
- The person installing CA EEM should have:
  - General UNIX system administration skills
  - Superuser (root) access to the system

# Chapter 4: Installation Considerations

---

Installation and upgrade procedures for this release of CA EEM are described in the *Getting Started* guide. Additionally, ensure you have the following components installed on your computer before you install and configure CA EEM:

- Windows Installer 3.1 before installing CA EEM Server on Windows platform
- Java Runtime Environment (JRE). CA EEM has been certified with JRE 1.6.

## Supported Versions of iGateway

CA EEM supports x86 or 64-bit versions of iGateway. CA EEM is compatible with CA products that install 64-bit versions of iGateway on the same computer as CA EEM.

## Enable JVM Settings in CA EEM

If you skipped providing JRE path settings during CA EEM installation and later want to integrate with CA SiteMinder or authenticate using SAML, you must first enable JVM settings in CA EEM.

### To enable JVM settings

1. Install JRE.
2. Set JAVA\_HOME environmental variable.
3. Stop iGateway service.
4. Edit igateway.conf to add the following JVM settings:

```
<JVMSettings>
  <loadjvm>true</loadjvm>
  <javahome>"java path"</javahome>
  <!-- <Properties name="prop-1">
    <system-properties></system-properties>
  </Properties> -->
  <Properties name="eem.endorsed.dirs">

    <system-properties>java.endorsed.dirs=$IGW_LOC$/endorsed</system-properti
es>

  </Properties>
  <Properties name="eem.ext.dirs">
    <system-properties>java.ext.dirs="java
path"/lib/ext</system-properties>
  </Properties>
</JVMSettings>
```

**Note:** \$IGW\_LOC is the install location of iGateway and java path is the install location of JRE.

5. Add the following tags to the JVM settings for Linux platforms only:

```
<!-- <Properties name="prop-1">
  <system-properties></system-properties>
<Properties name="jvm_heapsize">
  <jvm-property>-Xmx256m</jvm-property>
</Properties> -->
```

6. Save igateway.conf file.
7. Start iGateway service.

The JVM settings are enabled in CA EEM.

## Supported FIPS Modes

By default CA EEM is installed in a non-FIPS mode. FIPS-only mode can be configured during installation or post-installation.

CA EEM does not support FIPS-only mode with SAML and SELinux operating systems.



# Chapter 5: Upgrade Considerations

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This section contains the following topics:

[Before you Upgrade](#) (see page 19)

[Server Cache Update Time](#) (see page 19)

[Setting Events to Cache](#) (see page 19)

[Default Reports and Panels](#) (see page 20)

[Archive Files Are Converted to Cold Database Files](#) (see page 20)

[MDB Database Migration](#) (see page 20)

## Before you Upgrade

We recommend that you back up CA EEM server data, configuration files, events, and iTechnology folders before upgrading to the current version of CA EEM.

**Note:** For more information on how to back up your CA EEM data and configuration files, see the *Getting Started Guide*.

## Server Cache Update Time

The current version of CA EEM updates the server Cache Update Time to 24 hours. If you have used a different value from the default value for Cache Update Time before the upgrade, CA EEM upgrade overwrites the value.

**Note:** You can modify the Cache Update Time when configuring references to external directory. For more information on configuring references to an external directory, see the *Online Help*.

## Setting Events to Cache

During upgrade, the CA EEM installer updates the EventsToCache setting to 100. If you have used a different value from the default value for EventsToCache before the upgrade, the upgrade overwrites the value.

**Note:** EventsToCache setting is available in the iControl.conf file under iTechnology folder.

## Default Reports and Panels

During upgrade from versions before CA EEM r8.4 to the current version, CA EEM overwrites the definitions of default reports and panels. If you have customized the default reports and panels from CA EEM r8.2.1, you must rename your customized reports and panels before upgrading to the current version.

## Archive Files Are Converted to Cold Database Files

When you upgrade from CA EEM r8.2.1 to the current version of CA EEM, the archive files will be converted to cold db files and are stored under your Archived Directory.

## MDB Database Migration

When you upgrade from a CA MDB CA EEM installation to the current version of CA EEM, the data in the CA MDB database is migrated to CA Directory. After the migration, the data in the CA MDB is moved to CA Directory.

# Chapter 6: General Considerations

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## Communication between CA EEM Server and Client Is Broken in an IPv6 Environment

### Valid on Windows

#### Symptom:

The communication between a client and its server is broken in an IPv6 environment.

#### Solution:

In an IPv6 environment, the aforementioned platforms cannot communicate with the DNS server to resolve IPv6 addresses to host names. Hence, the communication between a client and its server is broken. You must perform the following steps to enable communication:

1. Open the hosts file located in the following folder:

`<Windows_install_drive>\WINDOWS\system32\drivers\etc`

2. Add the IP address and host name of the destination computer to the existing IP addresses and host names in the following format:

*IPv6\_Address Hostname*

For example, 2002:9b23:2d52::b892:c8f3:5695:fd5c GPC00015, where 2002:9b23:2d52::b892:c8f3:5695:fd5c is the IP Address and GPC00015 is the host name of the corresponding computer.

3. Save and close the hosts file.

The IPv6 address of the destination computer is mapped to the host name of the destination computer.

**Note:** You must repeat this procedure on all client and their corresponding server computers. For more information on IPv6 and Windows, see the following link:  
<http://www.microsoft.com/technet/network/ipv6/ipv6faq.msp>

## Run Safex

To run Safex on computers where the CA EEM Server is not deployed, install the following on the computers:

- Microsoft Visual C++ 2005 SP1 run-time installed
- CAPKI

### To install CAPKI

1. CAPKI installer is found at the following location on the computer where CA EEM SDK is installed:
  - **Windows:** %EIAM\_SDK%\capki
  - **UNIX and Linux:** \$EIAM\_SDK\capki
2. Install CAPKI on your target computer where you want to run Safex.

# Chapter 7: New Features

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This section contains the following topics:

[New Safex Options](#) (see page 23)

## New Safex Options

From this release, the CA EEM Server stores global user passwords in a SHA1 encoded digest format in the internal user store. Global users with MD5 encoded passwords are not supported. To create and use SHA1 encoded digests, the following options are added to Safex.

### **-sha1encodeddigest**

Converts a cleartext password to a SHA1 encoded digest.

### **DirectoryPasswordDigest**

Specifies the global user password in a SHA1 encoded digest format. This tag is added to the Safex XML.

Use these options when you are managing global users through Safex. For example, when you are adding a global user to the internal data store, do the following:

1. Use Safex to convert a cleartext password to a SHA1 encoded digest.  
`safex.exe -sha1encodeddigest <password>`
2. Specify the encoded digest from Step 1 in the Safex XML using the `DirectoryDigestPassword` tag.

```
<GlobalUser>
<UserName>securityguard</UserName>
<DirectoryPasswordDigest>encodeddigestfromStep1</DirectoryPasswordDigest>
<Description>Security Guard</Description>
<JobTitle>Lieutenant</JobTitle>
<FirstName>Security</FirstName>
<LastName>Guard</LastName>
<DisplayName>Security Guard</DisplayName>
</GlobalUser>
```

**Note:** For more information about this new option, see the Safex Command Line Reference chapter and Global User Examples in the *Programming Guide*.



# Chapter 8: Changes to Existing Features

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This section contains the following topics:

[Changes in CA EEM r8.4 SP4](#) (see page 25)

[Changes in CA EEM r8.4 SP3](#) (see page 25)

[Changes in CA EEM r8.4 SR02](#) (see page 33)

[Changes in CA EEM r8.4 SR01](#) (see page 34)

[Changes in CA EEM r8.4](#) (see page 34)

## Changes in CA EEM r8.4 SP4

The following topics explain the changes that were made to CA EEM since CA EEM r8.4 SP3 GA.

### Changes to Safex XML

The PasswordDigest tag that is used to specify a global user password has been deprecated. Instead, use the DirectoryPasswordDigest tag to specify a global user password.

### Changes to Installer

The following CA EEM Server installation parameters are removed from the installer. The CA EEM Server no longer uses these ports.

Installation Parameter	Reason
ssldport	In earlier releases, the SSL functionality was provided by the SSLD service, and ssldport was required to handle certificate authentication. From this release, the DSA process of the CA Directory handles the SSL functionality to provide certificate authentication.
dxadminport	DXadmind is no longer essential for installing CA Directory.

## Changes in CA EEM r8.4 SP3

The following topics explain the changes that were made to CA EEM since CA EEM r8.4 SR02 GA.

## Changes to Installer

The following changes are made to the CA EEM installer:

- CAPKI is installed with CA EEM Server and CA EEM SDK.
- New parameters `-capkiinstalldir` and `-dxadminport` are added to the CA EEM Server installation parameters. Use this parameter to customize the CAPKI installation folder and the dxadmin port respectively.

**Note:** For more information about the new parameter, see the *Getting Started Guide*.

- JRE is required for the CA EEM Server installation on HP-UX.

## Changes to Methods in CA EEM SDK

The following methods are overloaded to accept `SafeCertificate` object as an argument:

- `issueCertificate`
- `issueCertificateForUser`
- `issueCertificateForSession`
- `registerApplicationInstance`
- `authenticateWithCertificate`
- `fastauthenticateWithCertificate`

**Note:** For more information about the signatures of these methods, see the *Programming Guide with SDK Documentation*.

## Deprecated APIs in C# SDK

The following methods are deprecated in the CA EEM C# SDK:

- SafeAuthorizationResult.List
- SafeContext.authenticateWithCertificate (String certfile, String password)
- SafeContext.fastAuthenticateWithCertificate (String certfile, String password)
- SafeContext.registerApplicationInstance (SafeApplicationInstance ai, String certfile, String password)
- SafeContextFactory.getSafeContext (String backend, String appInstance, FileInfo certFile, String certPassword, CultureInfo locale, String cachefile)
- SafeGlobalUser.DirectoryPassword ()
- SafeGlobalUser.PasswordDigest ()
- SafeUtil.buildDigest (String data, int size)
- SafeUtil.buildPasswordDigest (String password)
- SafeUtil.DebugFile ()
- SafeUtil.DebugLevel ()
- SafeUtil.disableDebug ()
- SafeUtil.enableDebug ()
- SafeUtil.isDebugEnabled ()
- SafeUtil.verifyDigest (String data, int size, String digest)
- SafeUtil.verifyPasswordDigest (String password, String passworddigest)

## Deprecated Methods in Java SDK

The following methods are deprecated in the CA EEM Java SDK:

- `SafeContext.authenticateWithCertificate(String, String)`
- `SafeUtil.buildDigest(String, int)`
- `SafeUtil.buildPasswordDigest(String)`
- `SafeSession.exportSession(String)`
- `SafeContext.fastAuthenticateWithCertificate(String, String)`
- `SafeContextFactory.getSafeContext(String, String, File, String, Locale)`
- `SafeContextFactory.getSafeContext(String, String, File, String, Locale, String)`
- `SafeContext.issueCertificate(String, String)`
- `SafeContext.issueCertificateForSession(SafeSession, String, String)`
- `SafeContext.issueCertificateForUser(SafeUser, String, String)`
- `SafeContext.registerApplicationInstance(SafeApplicationInstance, String, String)`
- `SafeGlobalUser.setDirectoryPassword(String)`
- `SafeSession.setLastPassword(String)`
- `SafeGlobalUser.setPassword(String)`
- `SafeGlobalUser.setPasswordDigest(String)`
- `SafeUtil.verifyDigest(String, int, String)`
- `SafeSession.verifyLastPassword(String)`
- `SafeUtil.verifyPasswordDigest(String, String)`

## Deprecated APIs in C++ SDK

The following methods for certificate management are deprecated in the CA EEM C++ SDK:

- `Safe::Context::authenticateWithCertificate` (const char \*certfile, const char \*password, Safe::Error &ee)
- `Safe::Context::fastAuthenticateWithCertificate` (const char \*certfile, const char \*password, istring &username, Safe::Error &ee)
- `Safe::Context::issueCertificate` (const char \*certfile, const char \*password, Safe::Error &ee)
- `Safe::Context::issueCertificateForSession` (Safe::Session \*session, const char \*certfile, const char \*password, Safe::Error &ee)
- `Safe::Context::issueCertificateForUser` (Safe::User \*user, const char \*certfile, const char \*password, Safe::Error &ee)
- `Safe::Context::registerApplicationInstance` (Safe::ApplicationInstance &ai, const char \*certfile, const char \*password, Safe::Error &ee)
- `Safe::GlobalUser::setDirectoryPassword` (const char \*password)
- `Safe::GlobalUser::setDirectoryPasswordDigest` (const char \*passworddigest)
- Use `setPassword` member `Safe::GlobalUser::setPasswordDigest` (const char \*passworddigest)

## Changes to eiam.config File

New tags are added to the eiam.config file to support the following functionality:

- Configure CA EEM SDK in FIPS-only mode or non-FIPS mode.
- Enable iTechnology level logging in Java SDK, C++ SDK.
- Create SafeContext

**Note:** For more information about the eiam.config file, see the *Getting Started Guide*.

## Changes to iPoz.conf File

The following new tags are added to the iPoz.conf file:

- `<ArtifactManager SessionTimeout="10" RequestTimeout="30"ArtifactStore="local/federated"></ArtifactManager>`
- `<ExternalDirCacheFolder>`
- `<ExternalDirEscapeSlash>`

**Note:** For more information about these tags, see the *Getting Started Guide*.

## Changes to Safex XML

The following tags are added to the Safex XML to support certificates during application registration with CA EEM:

### PEM certificates

```
<Register certtype="pem" certfile="RBC_Hospital.pem" keyfile="RBC_Hospital.key" password="RBC_Hospital">
```

#### Where

#### certfile

Specifies the name of the PEM certificate file.

#### keyfile

Specifies the private key file.

#### password

Specifies the password required to read the pem file. In FIPS-only mode, password tag must be blank.

### P12 certificates

```
<Register certtype="p12" certfile="RBC_Hospital.p12" password="RBC_Hospital">
```

#### certfile

Specifies the name of the P12 file.

#### password

Specifies the password required to read the P12 file.

**P11 certificates**

```
<Register certtype="p11" pkcs11lib="pkcs11lib" token="token" userpin="userpin"
id="id" sensitive="true">
```

**Where****pkcs11lib**

Specifies the path to the PKCS11 library implementation.

**token**

Specifies the hardware token name.

**userpin**

Specifies the user pin required to log in.

**id**

Specifies the certificate label.

**sensitive**

Specifies if the private key is treated as sensitive data or not. If the private key path is specified as sensitive, the private key cannot be copied.

**Value:** [True|False].

## Issuing Certificates Using Safex

The following new tags are included with the Safex XML to issue certificates:

**P12 certificate**

```
<Register certtype="p12" certfile="sample.p12" password="sample"/>
```

**PEM certificate**

```
<Register certtype="pem" certfile="sample.pem" keyfile="sample.key"
password="sample">
```

**Note:** FIPS-only mode does not support passwords. In FIPS-only mode, the password must be empty.

**P11 certificate**

```
<Register certtype="p11" pkcs11lib="pkcs11lib" token="token" userpin="userpin"
id="id" sensitive="true">
```

## Changes to Display of Filters in GUI

From this release, the attribute type shortcode is displayed in filter information in CA EEM GUI. The following example shows how filters are displayed in CA EEM admin GUI:

```
global user: gu:UserName == value: val:testuser
```

Before CA EEM r8.4 SP3, the same filter was displayed as follows:

```
global user: UserName == value: testuser
```

## Changes to setBackend() API

Before CA EEM r8.4 SP3, the CA EEM SDK had to attach at least once to the primary server to retrieve a list of failover servers. If the primary server is down before the first attach, the CA EEM SDK does not retrieve the failover server list from the primary server. In CA EEM r8.4 SP3, you can set a list of failover servers in the CA EEM SDK using the `setBackend()` API. So, if the primary server is down before the first attach, the CA EEM SDK uses the list of hostnames provided using the `setBackend()` method and connects to the secondary server.

**Note:** This API is not valid for the CA EEM C# SDK. For more information about the `setBackend()` API, see the *Programming Guide with SDK Documentation*.

## Case Sensitivity of Attributes during Policy Evaluation

During policy evaluation, CA EEM treats the attributes listed in the following table as case insensitive when evaluating attributes. If these attributes are provided as part of *calculations* or custom variables in filters, CA EEM treats them as case sensitive.

Attribute Type	Attribute	Comments
dug	Name	Name attribute of Dynamic User Group attribute type.
gu	UserName	User name attribute of Global User attribute type.
gu	GroupMembership	Group membership attribute of Global User attribute type.
gug	GroupMembership	Group membership attribute of Global User Group attribute type.
gug	Name	Name attribute of Global User Group attribute type.

Attribute Type	Attribute	Comments
req	identity	Identity attribute of Request attribute type.
req	delegator	Delegator attribute of Request attribute type.
u	GroupMembership	Group membership attribute of Application User attribute type.
u	Name	Name attribute of Application User attribute type.
ug	GroupMembership	Group membership attribute of Application User Group attribute type.
ug	Name	Name attribute of Application User Group attribute type.

## Changes in CA EEM r8.4 SR02

The following topics explain the changes that were made to CA EEM r8.4 SR02 from CA EEM r8.4 SR01.

### rotateLogFile API in CA EEM C++ SDK

The following API is deleted and is no longer available with the CA EEM C++ SDK:

`Safe::Context::rotateLogFile`

### Constructors Deprecated from Java SDK

The following constructors are deprecated from the CA EEM Java SDK:

- `SafeEvent()`
- `SafeEvent(java.lang.String xmlString)`

The following new constructor is added to the `SafeEvent()` class in the CA EEM Java SDK:

- `SafeEvent(com.ca.itechnology.iclient.Iclient)`

### Packaging of log4j

CA EEM Java SDK does not ship `log4j-1.2.15.jar` as a separate file. The `log4j-1.2.15.jar` file is embedded in the `Safe.jar` file.

## Changes to Logger Configuration File

In CA EEM r8.4 SR01, you configured CA EEM SDK logging using the `logger.config` file. For this release, the `logger.config` file is replaced with two new files--`eiam.log4cxx.config` and `eiam.log4j.config`. These files control the logging configuration for CA EEM C++ SDK and CA EEM Java SDK respectively.

**Note:** Logging in CA EEM C# SDK is not upgraded. You must continue to use `safe::util` to log messages in CA EEM C# SDK.

## Changes in CA EEM r8.4 SR01

The following topics explain the changes that were made to CA EEM r8.4 SR01 from CA EEM r8.4.

### Changes to CA EEM SDK Logging

For Java and C++ SDKs, the new logging process in CA EEM utilizes the `log4j` and `log4cxx` as logger frameworks whereas the older logging process utilized a utility `safe::util` logger. This new feature gives you the following benefits:

- You need not run the debugger to trace the log level and restart the iGateway to debug the errors.
- You can manage the logging properties such as filename, file size, number of backup log files, and so on by editing the parameters in logger configuration file.
- You can log messages, information, or errors relating to network, performance, console, and CA EEM SDK.

**Note:** Logging in CA EEM C# SDK is not upgraded. You must continue to use `safe::util` to log messages in CA EEM C# SDK.

## Changes in CA EEM r8.4

The following topics explain the changes that were made in CA EEM r8.4.

## JRE Requirement for CA EEM Installation

In the current release of CA EEM, JRE is no longer a mandatory requirement to install or use CA EEM. A new server installation parameter `javahome` is added to CA EEM installation; if `javahome` is set to "none", the CA EEM installer lets you install CA EEM without any dependency on JRE.

**Note:** If you intend to integrate CA EEM with CA SiteMinder, JRE is a mandatory prerequisite for CA EEM installation.

## Changes to Event Logging

In the previous releases of CA EEM, when you performed an administrative action such as inserting, removing, or modifying a `SafeStoredObject` or folder in the policy server store, an admin event was generated for each of the changed attributes. In this release of CA EEM, for an administrative action, all the attributes that are updated, inserted, or removed are logged as one admin event.

Also, in this release of CA EEM, events generated during authorization log the named attributes against which the authorization has been done. The following method is added to the `Safe::Context` class to implement this behavior:

```
void submitAuthorizationEvent(const char *identity, const char *action, const char *resourcename, Safe::ErrorCode errorcode, const char *delegator, const char *policyname, Safe::AttrQ &namedattrq);
```



# Chapter 9: Fixed Issues List

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## Issues Fixed in CA EEM r8.4 SP3

The following STAR issues are fixed in this release:

STAR Issue Number	Description of the Issue
17699470	EiamAdmin cannot add trust between two CA EEM Servers.
17911242	Munged password is visible to non-root users.
18497993	Error in retrieving users if the user CN contains a comma.
18443601	CA EEM Server memory consumption increases gradually under load.
18460039	CA EEM Server cores during shutdown on AIX.
18492259	Localized strings are truncated in the CA EEM installer.
18497993	CA EEM is unable to retrieve users if the user CN contains forward slash.
18590200	CA EEM Server startup crashes if the calm.cnf file is empty.
18663809	log4j throws an exception during initialization.
18677992	FastAuthenticateWithPassword does not return the correct error code.
18709849	CA EEM Server CPU utilization is 100 percent.
18771592	CA EEM policy evaluation is case sensitive.
18790763	Applications hang during exit if they invoke CA EEM SDK through a wrapper DLL.
18958738	CA EEM installation fails when the temporary directory path contains blank space.

## Issues Fixed in CA EEM r8.4 SR02

The following STAR issues are fixed in this release:

STAR Issue Number	Description of the STAR Issue
16654975	iGateway memory usage growth increases due to memory defragmentation used by Windows.
16843262	Policies that include /* in the resources field are not displayed in the GUI.

STAR Issue Number	Description of the STAR Issue
17605187	When retrieving users, if user first and last names have special characters such as '&', '<', '>', and so on, CA EEM Java SDK changes these special characters to their escape sequences.
17729293	When you create a policy of policy type, Identity Access Control List, CA EEM lets you assign different permissions to the same user.
18100525	Cannot login to applications that are protected by CA EEM if any of the CA EEM Servers in the failover setup are not available.
18100943	In a failover setup, when the CA EEM Server 1 is down, any policy changes you make in the replicated servers are saved, but the confirmation message is not displayed.
18119830	When you logout from CA EEM, CA EEM crashes.
18122029	CA EEM inserts an ampersand '&' to object search filters if AllUsersFilter is not used. This insertion increases the processing cycles to the LDAP server.
18167627	The maximum size of App Objects in CA EEM is only 2.5 MB.
18181773	The searchMatchingPoliciesByResource API in Java SDK does not accept '*' as input; so, the Java SDK performance is affected.
18205860	log4cxx messages that are displayed when registering or unregistering applications through safex must be recorded with relevant log messages in the log file.
18246763	When iGateway starts, it creates a defunct process.
18250914	CA EEM installation fails on a machine german language version of Windows.
18261887	During policy evaluation, CA EEM treats global users user name, application users name, global and application groups as case sensitive.
18318532	CA EEM inserts an ampersand '&' in filters in LDAP queries. This insertion increases the processing cycles to the LDAP server.
18320089	Some resource filters are not saved properly if the regular expressions for resources contain an escape character '\\'.
18358337	When the primary CA EEM Server recovers in a failover setup, applications protected by CA EEM have to be restarted to authenticate users.
18360263	CA EEM lets logged-in users to view home page in a different session without logging in.
18434870	In a CA EEM failover setup, application registration information is not replicated from the primary server to the secondary servers.
18443918	The version of log4j shipped with SAML must be the same as the version being used by Java SDK.
18451973	CA EEM SDK hangs when you use the Safe::Cache::Stop call.

## Issues Fixed in CA EEM r8.4 SR01

The following issues are fixed in this release of CA EEM:

- Safex/safetool cannot allocate more than 900 MB on HP-UX.
- Admin Event reports are improperly displayed in CA ELM UI.
- Events of two servers in a failover setup is displayed in both the servers.
- Zero must be removed after the Build Number in the product version.
- CA Directory install fails if C drive does not exist on Windows.
- Default RetryHandler Count for HttpClientrequest should be configurable through a method.
- The method pingEiam that checks for the existence of CA EEM server should be included in JAVA and C# SDKs.
- C# Demo Application and elsewhere.cs must not be shipped with Linux/UNIX SDK builds.

The following STAR issues are fixed on this release of CA EEM:

STAR Issue	Description of the STAR Issue
17346171	On Windows platform, Data and Directory folders are not deleted from their location after you uninstall EEM.
17342835	When retrieving Global Users and Groups, CA EEM is unable to retrieve users with comma in their username.
17832874	A Microsoft Visual C++ 8 (VC8) solution file and VC8 project file is required to build the safetool binary using the SDK.
17844994	CA EEM SDK throws an exception if a policy has * as a resource.
16491014	CA EEM must support SiteMinder failover configuration when connecting to external directory servers.
17888426	DN name is not displayed in ObjectRemove logging statements.



# Chapter 10: Known Issues

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This section contains the following topics:

[CA EEM Java Authentication API Takes 20 Seconds](#) (see page 42)

[Error Messages are Displayed When iGateway Service is Started or Stopped](#) (see page 42)

[SponsorHandler::loadSponsor Error Messages in igateway.log file](#) (see page 43)

[SAML Authentication and CA SiteMinder Integration Do Not Work When the CA EEM Server is in FIPS-only Mode](#) (see page 43)

[Cannot Log Into CA EEM Server with a Custom Created User EiamAdmin](#) (see page 43)

[Delegation Policies](#) (see page 44)

[Error in Custom Installation](#) (see page 44)

[Error in CA EEM Server Installation](#) (see page 45)

[Error Using CA EEM Java SDK](#) (see page 45)

[Error Using Kerberos Authentication](#) (see page 46)

[Error Using WebLogic 8.1 Application Server](#) (see page 46)

[Error Using XACML and SPML Services](#) (see page 47)

[Export Application Takes Time](#) (see page 47)

[Unable to Launch CA EEM GUI After Uninstalling CA Audit](#) (see page 48)

[Unable to Launch CA EEM GUI After Installing CA Integrated Threat Management](#) (see page 48)

[Unable to Launch CA EEM GUI After Uninstalling CA Integrated Threat Management](#) (see page 49)

[Custom Reports Fails to Load or Takes a Long Time to Load](#) (see page 50)

[Application Data is Missing After Connecting to CA SiteMinder](#) (see page 51)

[Search for Users or Groups When Connected to CA SiteMinder Takes a Long Time to Complete](#) (see page 51)

[SAML Does Not Work After Upgrading From r8.2.1 to the Current Release](#) (see page 52)

[Event Log Settings Not Displayed](#) (see page 52)

[Global Group Memberships Are Not Displayed Correctly for Custom Mapped Sun One Directory](#) (see page 53)

[Archive Query Fails](#) (see page 53)

[Archive Query Results Are Not Refreshed](#) (see page 53)

[Storage Folder Field Under Event Log Settings](#) (see page 53)

[Memory Size on HP-UX](#) (see page 54)

[Authentication to an SSL Enabled Directory over Non-SSL Port Fails](#) (see page 54)

## CA EEM Java Authentication API Takes 20 Seconds

### Valid on Linux

#### Symptom:

When I use BSAFE Crypto-J 4.0 as a JCE provider, the CA EEM authentication API takes 20 seconds to execute.

#### Solution:

This is an issue with Sun Java. The workaround for this issue is published on the following Sun site: <http://bugs.sun.com/>. Search for the bug ID: 4705093 to see the workaround. Follow the steps as a workaround:

- Set the EGD used by Java by setting the security property "java.security.egd" to "file:///dev/urandom"

or

- Set the system property, rather than the security property, "java.security.egd" from the command line as follows: `-Djava.security.egd=file:///dev/./urandom`

## Error Messages are Displayed When iGateway Service is Started or Stopped

The following error messages are recorded in the `igateway.log` file when you shut down iGateway:

- `PozFactory::isFailoverRequired: Could not communicate with the EEM Server, server returned with errorcode= 500`
- `PozFactory::attachPoz Error: iSponsor server error`
- `PozFactory::searchObjects - Not Attached`
- `Safe::Cache::threadLoop - error retrieving cache objects`

Ignore these messages; they have no impact on the CA EEM functionality.

Also, when you start or stop iGateway on Windows, you see the following error messages in the Event Viewer:

- `ERROR: iGateway service failed to start. Error code is 2 return code is 0`
- `ERROR: iGateway service failed to stop. Error code is 2 return code is 0`

These messages are displayed when your computer is slow and fails to stop or start the iGateway services within a specified time limit. Ignore these messages, they have no impact on the CA EEM functionality.

## SponsorHandler::loadSponsor Error Messages in igateway.log file

The following error messages are recorded in the igateway.log file when you upgrade CA EEM Server from r8.4 SR01 or r8.4 SR02 to the current version of the CA EEM Server:

- ERROR :: SponsorCallBack::GetLibPtr2 : unable to load library [ CALMSpindle ]
- ERROR :: SponsorHandler::loadSponsor : unable to load [ sponsor : logDepot , imagename : logDepot ]
- ERROR :: SponsorHandler::start : unable to load sponsor [ sponsor : logDepot , imagename: logDepot ]
- ERROR :: InProcessSponsorManager::addSponsor : unable to load sponsor [ sponsor : logdepot ]
- ERROR :: SponsorManager::start : Sponsor [ logdepot ] failed to load

Ignore these error messages; they have no impact on the CA EEM functionality.

## SAML Authentication and CA SiteMinder Integration Do Not Work When the CA EEM Server is in FIPS-only Mode

### Valid on AIX

SAML authentication and CA SiteMinder integration fails when CA EEM Server is configured for FIPS-only mode.

## Cannot Log Into CA EEM Server with a Custom Created User EiamAdmin

### Valid on Windows and Linux

#### Symptom:

I cannot log into CA EEM server with a custom created user "EiamAdmin". I receive an incorrect password error message.

#### Solution:

By default, CA EEM creates a user 'EiamAdmin' with administrative privileges during installation. When you try to login as "EiamAdmin", CA EEM always tries to authenticate based on the credentials of the default "EiamAdmin" user. Therefore, if you have a custom user "EiamAdmin" in your external directory or CA MDB, you cannot log into CA EEM with the custom "EiamAdmin" credentials.

## Delegation Policies

### Symptom:

When I delete or disable users who have delegated permissions (using delegation policies) to other users, I find that the delegated permissions remain effective.

### Solution:

You must explicitly delete the delegation policies created by the deleted or disabled user.

## Error in Custom Installation

### Valid on Windows

#### Symptom:

When I install CA Directory and iTechnology in a customized location, I receive the following error:

```
Error Executing Specified program
```

#### Solution:

You may receive this error due to the restriction on the InstallShield command length.

On a computer with Microsoft Windows XP or Windows Server 2003, the maximum length of the string that you can use at the command prompt is 8,191 characters. With Microsoft Windows 2000, the maximum length of the string that you can use at the command prompt is 2,047 characters.

To avoid this error, use the cmdfile parameter:

```
EEMServer_[releasenumbr].[builddate]_win32.exe -s -a /s /f1"location of response file" /z"cmdfile=location of cmdfile "
```

#### Example:

```
EEMServer_8.4.0.55_win32.exe -s -a /s /f1"c:\resp.iss" /z"cmdfile=c:\cmd.txt "
```

**Important!** For the cmdfile parameter, enter a single space character only before the end quotes.

The cmdfile contains the custom installation paths for CA Directory and iGateway as shown in the following example:

```
etdirpath=Custom installation path for CA Directory;igpath=Custom installation path for iGateway;
```

## Error in CA EEM Server Installation

### Valid on HP-UX

#### Symptom:

When I Install CA EEM Server, I receive a message 'One or more installation sanity tests failed' and the installation fails.

#### Solution:

You receive this error if the swlist binary file is not accessible. The swlist binary file is used to check for HP-UX patches.

To avoid this, update the PATH environment variable with the folder containing the swlist binary file using the export command. For example:

```
export PATH=/usr/sbin/:$PATH
```

After updating the path, restart the installation.

## Error Using CA EEM Java SDK

### Symptom:

When I use the CA EEM Java SDK on a computer with Tomcat 4.1, I receive the following browser error:

HTTP 404 Error

In the Tomcat log, I see the following exception:

```
org.apache.commons.logging.LogConfigurationException: Invalid class loader hierarchy. You have more than one version of 'org.apache.commons.logging.Log' visible, which is not allowed.
```

### Solution:

To use the CA EEM Java SDK on a computer with Tomcat 4.1, do the following:

1. Stop Tomcat Server.
2. Delete the commons-logging-api.jar and commons-logging.jar files from the webapps/application\_name/WEB-INF/lib/ directory.
3. Restart Tomcat Server.

## Error Using Kerberos Authentication

### Valid on SUSE Linux 9

#### Symptom:

When I perform Kerberos authentication, I receive an "EE\_Authentication" error.

#### Solution:

Enable trace in the CA EEM to capture the details of the error in the iPoz log file. If you receive the error message 'libkrb5.so file does not exist' in the iPoz.log file, create a link from the existing libkrb5.so.\* file to the libkrb5.so file.

You receive this error if the authentication process is unable to locate the libkrb5.so file in the LD\_LIBRARY\_PATH.

**Note:** The iPoz.log file logs the error only if you enable trace on CA EEM. For information on how to enable tracing, see the *Programming Guide*.

#### Example: Create a link

The following example searches for the available version of libkrb5.so file and creates a link:

```
# find / -name libkrb5.so.*  
/usr/lib/libkrb5.so.17.3.0  
# ln -s /usr/lib/libkrb5.so.17.3.0 /usr/lib/libkrb5.so
```

## Error Using WebLogic 8.1 Application Server

#### Symptom:

When I deploy an application that uses the CA EEM Java SDK, on a WebLogic 8.1 Application server, I receive a ClassCastException.

#### Solution:

You receive this error if the WebLogic server is configured to use its own implementation of HttpURLConnection for HTTP handlers.

To avoid this error, configure the WebLogic server to use the SUN handlers by adding the -DUseSunHttpHandler=true parameter to the JVM options.

For information on how to set the parameters, see the JVM documentation.

## Error Using XACML and SPML Services

**Symptom:**

When I use XACML and SPML services with JRE1.5 installed, I receive the following error:

```
java.lang.NullPointerException
```

**Solution:**

To use XACML and SPML services with JRE1.5, do the following:

1. Stop Tomcat Server.
2. Copy the xercesImpl.jar file from the WEB-INF/lib directory of oasis.war to the jre/lib/ext directory.
3. Start Tomcat server.

For more information about this issue, see

[http://bugs.sun.com/bugdatabase/view\\_bug.do?bug\\_id=6219364](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6219364).

## Export Application Takes Time

**Valid on Linux****Symptom:**

The Export Application feature takes a long time to export an application.

**Solution:**

To optimize the time taken to export an application, do the following:

1. Stop iGateway.
2. Open the /opt/CA/SharedComponents/iTechnology/ directory.
3. Edit the S99gateway script file as follows:
  - Modify the following entry:  
LD\_ASSUME\_KERNEL=2.4.1
  - To read:  
# LD\_ASSUME\_KERNEL=2.4.1
4. Start iGateway.

## Unable to Launch CA EEM GUI After Uninstalling CA Audit

**Symptom:**

I am unable to launch CA EEM GUI after uninstalling CA Audit that is installed on the same server as CA EEM.

**Solution:**

You may be unable to launch CA EEM GUI if there are any references to CA Audit spindles in the Spin.conf files even after uninstalling CA Audit. You must delete all CA Audit related spindles from the Spin.conf to launch CA EEM GUI.

## Unable to Launch CA EEM GUI After Installing CA Integrated Threat Management

**Valid on Windows Server 2003 SP2**

**Symptom:**

I am unable to launch CA EEM GUI after installing CA Integrated Threat Management on the same server as CA EEM.

**Solution:**

You may be unable to launch CA EEM GUI because CA Integrated Threat Management during installation removes a <Spindle> tag from the Spin.conf file.

You must add the <Spindle> tag before the following section in the Spin.conf file to launch CA EEM GUI:

```
<version>8.1</version>  
<directory/>  
<config/>  
<redirecthttps>true</redirecthttps>  
<sendevents>true</sendevents>  
</Spindle>
```

To look like:

```
<Spindle>  
<version>8.1</version>  
<directory/>  
<config/>  
<redirecthttps>true</redirecthttps>  
<sendevents>true</sendevents>  
</Spindle>
```

## Unable to Launch CA EEM GUI After Uninstalling CA Integrated Threat Management

**Valid on Windows Server 2003 SP2**

**Symptom:**

I am unable to launch CA EEM GUI after uninstalling CA Integrated Threat Management that is installed on the same server as CA EEM.

**Solution:**

You may be unable to launch CA EEM GUI because CA Integrated Threat Management during uninstallation removes a <Spindle> tag from the Spin.conf file.

You must add the <Spindle> tag before the following section in the Spin.conf file to launch CA EEM GUI:

```
<version>8.1</version>  
<directory/>  
<config/>  
<redirecthttps>>true</redirecthttps>  
<sendevents>>true</sendevents>  
</Spindle>
```

To look like:

```
<Spindle>  
<version>8.1</version>  
<directory/>  
<config/>  
<redirecthttps>>true</redirecthttps>  
<sendevents>>true</sendevents>  
</Spindle>
```

## Custom Reports Fails to Load or Takes a Long Time to Load

**Symptom:**

When I create a custom report and later try to view the custom report, it fails to load or takes 10 to 15 minutes or longer to load.

**Solution:**

You must restart the igateway service to load the custom report.

Note: For more information on how to start and stop iGateway services, see the *Getting Started Guide*.

## Application Data is Missing After Connecting to CA SiteMinder

**Valid on SUSE Linux 9.0**

**Symptom:**

When I attach my application having more than 30,000 policies to CA EEM server and try to connect to CA SiteMinder, I receive the following error and I lose my application data:

```
EE_NOTALLOWED
```

**Solution:**

You may receive this error due to low JVM memory. To increase JVM memory, you must use the ConfigTool.exe to add the following lines of code to the gateway.conf file:

```
<JVMSettings>
    <loadjvm>true</loadjvm>
<!-- Increasing the jvm heap memory -->
    <Properties name="test">
        <jvm-property>-Xmx256M</jvm-property>
    </Properties>
</JVMSettings>
```

To add the preceding code, open the iTechnology folder and run the ConfigTool.exe as follows:

```
./ConfigTool.exe -merge -comp igateway -xml "<JVMSettings><Properties
name=\"MaxJVMHeap\"><jvm-property>-Xmx[memory_size]</jvm-property></Properties></
JVMSettings>"
```

Where

**[memory\_size]**

Specifies the memory that the JVM uses. You must set this value based on your requirements.

## Search for Users or Groups When Connected to CA SiteMinder Takes a Long Time to Complete

When you use a regular expression \* (asterisk) to search for users or groups through CA SiteMinder, CA EEM may take 20 minutes to 45 minutes, based on your system configuration, to display the results.

## SAML Does Not Work After Upgrading From r8.2.1 to the Current Release

**Symptom:**

SAML does not work after I upgrade from CA EEM r8.2.1.

**Solution:**

You must perform the following steps to ensure that SAML works after upgrade:

1. Delete the following files from the iTechnology folder:
  - jaxp-api.jar
  - dom.jar
2. Restart iGateway

## Event Log Settings Not Displayed

**Symptom:**

I am unable to view the Event Log Settings page when I do the following steps:

1. Click any other option in CA EEM server to navigate to another page from the Event Log Settings page.
2. Click Event Log Settings.

**Solution:**

If you have navigated away from the Event Log Settings page and want to go back to the same page, click Manage Reports, Configuration, Services, Event Log Settings.

## Global Group Memberships Are Not Displayed Correctly for Custom Mapped Sun One Directory

When you connect to a custom mapped Sun One directory, the global group memberships may not be displayed correctly. When you connect to a custom mapped Sun One directory, the global group membership is determined by the following parameters under custom mapping:

### **Use Group As Container**

If you select this option, CA EEM will display only the group membership of the user. The extended group membership of the user and the group membership of the groups is not displayed.

### **Use Group As Attribute**

If you select this option with Group Membership Attribute as uniqueMember, CA EEM will display group memberships of the groups, but CA EEM will not display the group membership of the user.

## Archive Query Fails

### **Valid on Red Hat Linux Enterprise Server**

When you append a blank space at the end of your search query, the archive query fails and CA EEM will not display any query results.

## Archive Query Results Are Not Refreshed

When your archive query fails, CA EEM displays the appropriate error message, but the Archive Query Results pane may not be refreshed; the Archive Query Results pane may display the results from an earlier archive query.

## Storage Folder Field Under Event Log Settings

This release of CA EEM does not support Storage Folder parameter in Event Log Settings, though the Storage Folder field is visible in CA EEM server.

**Note:** For more information about Event Log Settings, see the *Online Help*.

## Memory Size on HP-UX

By default, HP-UX allocates 256 MB of memory for processes such as iGateway. CA EEM will run out of memory and iGateway may crash if you perform tasks using CA EEM that may require memory of more than 256 MB. So, you must increase the memory size allocated by HP-UX to iGateway process based on your requirement.

## Authentication to an SSL Enabled Directory over Non-SSL Port Fails

### Symptom:

When I disable SSL connections to an external directory and later try connecting to that external directory using SSL port 636, the authentication fails, and I am unable to login to CA EEM GUI.

### Solution:

You cannot use an SSL port to connect to an external directory even if the SSL connection is disabled. To connect to an external directory that is configured for SSL connections, over non-SSL ports, you must do the following:

1. Open iPoz.conf file and edit the following entry to reflect any valid non-SSL port:  
`<ExternalDirPort>non-SSL port</ExternalDirPort>`
2. Restart iGateway

You can now connect to an SSL enabled external directory over non-SSL ports. The authentication is successful and you can login to CA EEM GUI.

# Chapter 11: Limitations

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This section contains the following topics:

[CA Integrated Threat Management r8.0](#) (see page 55)

[Display Limitations in User Interface](#) (see page 55)

[CA EEM Server Operating System Requirements for Kerberos Authentication](#) (see page 56)

[CA EEM SiteMinder Integration](#) (see page 56)

[Policy Limitation on HP-UX](#) (see page 56)

## CA Integrated Threat Management r8.0

CA EEM is incompatible with CA Integrated Threat Management r8.0. Therefore, if you need to run the CA EEM Server on the same computer as the CA Integrated Threat Management product, you must upgrade your computer to CA Integrated Threat Management r8.1.

## Display Limitations in User Interface

The use of non-alphanumeric characters, such as double quotes, \ or / cause display problems in the user interface. Use only alphanumeric characters for the following objects:

- Actions
- Calendars
- Custom Mapped Directory Label
- Global Groups
- Global Users
- Folders
- Named Attributes
- Obligation Names
- Policies
- Resource Classes
- Users
- User Attributes
- User Groups

## CA EEM Server Operating System Requirements for Kerberos Authentication

For Kerberos authentication from any CA EEM-supported client, the CA EEM Server must be installed on any of the following operating systems:

- AIX 5.3 with krb.client packages installed
- Red Hat Enterprise Linux 4 or 5
- Solaris 10 with kernel patch level 120011-14 or later

**Important!** CA EEM does not support Kerberos authentication on the HP-UX platform.

## CA EEM SiteMinder Integration

CA EEM does not support integration with CA SiteMinder on the following platforms:

- HP-UX
- SUSE Linux

## Policy Limitation on HP-UX

CA EEM supports up to 20,000 policies on the HP-UX platform.

# Chapter 12: Published Fixes

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The complete list of published bug fixes for this product can be found through Published Solutions on CA Support Online.



# Chapter 13: Bookshelf

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The Bookshelf provides access to all CA EEM documentation from a central location. The Bookshelf includes the following:

- Single expandable list of contents for all guides in HTML format
- Full text search across all guides with search terms highlighted in the content and ranked search results
- Breadcrumbs that link you to higher level topics
- Single index across all guides
- Links to PDF versions of guides for printing

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The PDF guides for this product are as follows:

- Getting Started
- Programming Guide
- Release Notes

## **To use the Bookshelf**

1. Locate and open the documentation folder from the product installation folder.
2. Choose one of the following methods to open the bookshelf:
  - Open the Bookshelf.hta file if the bookshelf is on the local system and you are using Internet Explorer.
  - Open the Bookshelf.html file if the bookshelf is on a remote system or if you are using Mozilla Firefox.



# Chapter 14: International Support

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An *internationalized* product is an English product that runs correctly on local language versions of the required operating system and required third-party products, and supports local language data for input and output. Internationalized products also 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 product's user interface, online help and other documentation, as well as local language default settings for date, time, currency, and number formats.

**Note:** The CA EEM SDK is neither localized nor translated.

In addition to the English release of this product, CA Technologies supports *only* those languages listed in the following table.

Language	Internationalized	Translated
Brazilian-Portuguese	Yes	No
Chinese (Simplified)	Yes	No
Chinese (Traditional)	Yes	No
French	Yes	No
German	Yes	No
Italian	Yes	No
Japanese	Yes	No
Korean	Yes	No
Spanish	Yes	No



# Appendix A: Third-Party License Agreements

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CA EEM uses some third-party code. This appendix includes the license agreements for that code.

This section contains the following topics:

[Softwares Under the Apache License](#) (see page 64)

[Adaptive Communication Environment \(ACE\) 5.5.10](#) (see page 68)

[Adobe Flex SDK 3.4](#) (see page 70)

[Castor 0.9.5.4](#) (see page 76)

[Expat 2.0.1](#) (see page 77)

[libcurl 7.18.2](#) (see page 78)

[Libxml2 2.6.27](#) (see page 79)

[Libxslt 1.1.18](#) (see page 80)

[Microsoft Cabinet File Software Development Kit \(CAB SDK\) 1](#) (see page 82)

[MIT Kerberos v5 release1.4](#) (see page 83)

[NUNIT 2.2.8](#) (see page 86)

[Aleksey XML Security Library v.1.2.9 and the xmlsec-nss Library](#) (see page 87)

[OpenSSL 0.9.8.d and 0.9.8.h](#) (see page 100)

[OpenLDAP 2.4 and 2.3.20](#) (see page 103)

[PCRE 6.3](#) (see page 104)

[zlib 1.2.3](#) (see page 106)

[ZThread 2.3.2](#) (see page 106)

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- Commons Codec 1.3
- Commons Logging 1.1.1
- httpclient 4.0
- Log4cplus 1.0.2
- Log4cxx 0.10.0
- Log4j 1.2.15
- Log4net 1.2.10
- not-yet-commons-ssl 0.3.10
- OpenSAML 1.1
- Xalan-J 2.5.2
- Xerces-C 2.6.0
- Xerces-C 2.8
- Xerces-J 2.9.1
- XML Security Java 1.3

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LEGAL form mozilla source code base directory

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