

CA User Activity Reporting Module

Release Notes

Release 12.5.03



This documentation, which includes embedded help systems and electronically distributed materials, (hereinafter referred to as the "Documentation") is for your informational purposes only and is subject to change or withdrawal by CA at any time.

This Documentation may not be copied, transferred, reproduced, disclosed, modified or duplicated, in whole or in part, without the prior written consent of CA. This Documentation is confidential and proprietary information of CA and may not be disclosed by you or used for any purpose other than as may be permitted in (i) a separate agreement between you and CA governing your use of the CA software to which the Documentation relates; or (ii) a separate confidentiality agreement between you and CA.

Notwithstanding the foregoing, if you are a licensed user of the software product(s) addressed in the Documentation, you may print or otherwise make available a reasonable number of copies of the Documentation for internal use by you and your employees in connection with that software, provided that all CA copyright notices and legends are affixed to each reproduced copy.

The right to print or otherwise make available copies of the Documentation is limited to the period during which the applicable license for such software remains in full force and effect. Should the license terminate for any reason, it is your responsibility to certify in writing to CA that all copies and partial copies of the Documentation have been returned to CA or destroyed.

TO THE EXTENT PERMITTED BY APPLICABLE LAW, CA PROVIDES THIS DOCUMENTATION "AS IS" WITHOUT WARRANTY OF ANY KIND, INCLUDING WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NONINFRINGEMENT. IN NO EVENT WILL CA BE LIABLE TO YOU OR ANY THIRD PARTY FOR ANY LOSS OR DAMAGE, DIRECT OR INDIRECT, FROM THE USE OF THIS DOCUMENTATION, INCLUDING WITHOUT LIMITATION, LOST PROFITS, LOST INVESTMENT, BUSINESS INTERRUPTION, GOODWILL, OR LOST DATA, EVEN IF CA IS EXPRESSLY ADVISED IN ADVANCE OF THE POSSIBILITY OF SUCH LOSS OR DAMAGE.

The use of any software product referenced in the Documentation is governed by the applicable license agreement and such license agreement is not modified in any way by the terms of this notice.

The manufacturer of this Documentation is CA.

Provided with "Restricted Rights." Use, duplication or disclosure by the United States Government is subject to the restrictions set forth in FAR Sections 12.212, 52.227-14, and 52.227-19(c)(1) - (2) and DFARS Section 252.227-7014(b)(3), as applicable, or their successors.

Copyright © 2011 CA. All rights reserved. All trademarks, trade names, service marks, and logos referenced herein belong to their respective companies.

CA Product References

This document references the following CA products:

- CA Access Control
- CA Audit
- CA ACF2™
- CA Directory
- CA Embedded Entitlements Manager (CA EEM)
- CA Enterprise Log Manager
- CA Identity Manager
- CA IT Process Automation Manager (CA IT PAM)
- CA NSM
- CA Security Command Center (CA SCC)
- CA Service Desk
- CA SiteMinder®
- CA Spectrum®
- CA Top Secret®

Contact CA

Contact CA Support

For your convenience, CA provides one site where you can access the information you need for your Home Office, Small Business, and Enterprise CA products. At <http://ca.com/support>, you can access the following:

- 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

Providing Feedback About Product Documentation

If you have comments or questions about CA product documentation, you can send a message to techpubs@ca.com.

If you would like to provide feedback about CA product documentation, complete our short customer survey, which is available on the CA Support website at <http://ca.com/docs>.

Documentation Changes

The following documentation updates have been made since the last release of this documentation:

- **New and Changed Features in r12.5.03**—This chapter describes CPU throttling of a connector, CA User Activity Reporting Module High Availability, CA User Activity Reporting Module as a virtual appliance, and agent support on Linux 64-bit systems.
- The following Known Issues were removed as they were either fixed or no longer apply in this update:
 - Scheduled Reports With No Limit Option Selected Fail to Appear in PDF Format
 - Unable to Delete Tags that Contain Special Characters

More information:

[New and Changed Features in r12.5.03](#) (see page 39)

Contents

Chapter 1: Welcome 13

Upgrading to CA User Activity Reporting Module Version 12.5 through Subscription	13
Upgrading to CA User Activity Reporting Module Version 12.5 through Offline Subscription	17
Download and Install the Pre-12.5 Offline Upgrade Package	19
Upgrade Log Manager Application on All Proxies and Clients	20
Download and Install the 12.5 Offline Upgrade Package.....	21
Update Proxies and Clients With CA User Activity Reporting Module Modules.....	22
Install Updated Agents and Connectors.....	23

Chapter 2: Operating Environment 25

Hardware and Software Environments	25
Power Setting Prerequisites for Certain HP and IBM Computers	26
Monitor Resolution	26
CA EEM Server References	27

Chapter 3: Features 29

Log Collection	29
Log Storage.....	31
Standardized Presentation of Logs.....	32
Compliance Reporting	33
Policy Violation Alerting	35
Role-Based Access.....	36
Subscription Management	37
Support for IPv6 IP Addresses	38

Chapter 4: New and Changed Features in r12.5.03 39

Catalog Database Partitioning.....	39
Agent Support on RHEL 5 x64-bit Systems	39
CPU Throttling	39
CA User Activity Reporting Module High Availability	40
CA User Activity Reporting Module as a Virtual Appliance	40

Chapter 5: New and Changed Features in r12.5.02 41

Product Name Change	41
Data Integrity Checking on Raw Events.....	41

External ODBC Database Connection	42
Virtual Automation API	42

Chapter 6: New and Changed Features in r12.5.01 **43**

Integration with ObserveIT	43
Keyed Lists.....	43
Header and Footer in Reports	44
Datetime Format	44
View Query.....	44
Replace IP Address of an Event Source with Hostname.....	44
Agent Diagnostic File	45
Considerations for CA Access Control Users	45
CA User Activity Reporting Module as a Virtual Appliance	45
Agent Support on Microsoft Windows 64-bit Systems	45

Chapter 7: New and Changed Features in r12.5 **47**

Event Correlation	47
Incident Management.....	48
Compliance Dashboards.....	48
Data Integrity Checking	48
Improved Subscription Monitoring	49
Nested Category Tags.....	49
CA Access Control PUPM.....	50
Large Query Support	50
CA User Activity Reporting Module Sizing Calculator	51

Chapter 8: New and Changed Features in r12.1 SP3 **53**

Chapter 9: New and Changed Features in r12.1 SP2 **55**

CA User Activity Reporting Module as a Virtual Appliance	55
Simplified Agent Administration	55
Role-Based Access Control in API Login Calls	56
LogSensor Help Files.....	56
Retain a Report Configuration.....	56

Chapter 10: New and Changed Features in r12.1 SP1 **57**

FIPS 140-2 Compliance Overview	57
Operating Modes	58
Encryption Libraries.....	59

Algorithms Used	59
About Certificates and Key Files	60
FIPS Support Limitations	61
Configure Microsoft Internet Explorer to Access CA User Activity Reporting Module in FIPS Mode	62
Configure Mozilla Firefox to Access CA User Activity Reporting Module in FIPS Mode	63
ISO Image for New Installations	64

Chapter 11: New and Changed Features in r12.1 **65**

Open API Access	65
Actionable Alerts: CA IT PAM Integration	66
Actionable Alerts: SNMP Integration with NSM Products	66
ODBC and JDBC Access	66
Identity and Asset Relevance: CA IT PAM Integration	67
Extended Direct Log Collection by Default Agent	67
Automated Update Schedules for Subscription Clients	68

Chapter 12: Known Issues **69**

Agents and CA Adapters	69
Agentconfig Script Fails on AIX	69
Agent Installation Dependency on Red Hat Linux 4	70
Bulk Connector Deployment with IPv6 Address Is Not Correct	70
centOS Agent Appears as RHEL5 in Connector Deployment Screens	70
Domain Level Event Source Configuration Fails	71
Limitation on Port Configuration	71
Message Parsing Files Fail to Appear in Integration Wizard	72
OPSEC Connector Password Cannot Contain a "\$"	73
Removing Server from Federation Does Not Remove Default Agent	73
Reports with Data Collected from the CA SAPI Collector Are Not Displaying Events Properly	73
The Text File Log Sensor Running on a Solaris Agent System Stops Receiving Events	74
Very High Event Flow Causes the Agent to Become Unresponsive	75
CPU Throttling Is Not Supported on HP-UX PA-RISC and HP-UX Itanium Agents	75
Agent on a RHEL 5 x64-bit System Runs Multiple Agent Services	76
Appliance (non-UI)	76
Cannot Log into CA User Activity Reporting Module Server Using EiamAdmin User Name	76
Event Correlation	77
Correlation Ignores Events Marked Ahead of the Server Time	77
Correlation Service Fails to Initialize on Startup	77
Correlation Rule Filters Fail to Identify Incident Events	78
Line Break Does Not Function in Correlation Wizard Fields	78
Rule Test Interface Does Not Show Completed State	78
Event Refinement	78

Block Mapping String and Numeric Values Require Different Operators	79
Message Parsing Rules Produce an Error When Modified	79
Queries and Reports.....	79
Event Data With Non-UTF8 Characters Does Not Display in XML or PDF	80
Query and Reports Pages Are Displaying Error Messages When the UI is Loading	80
Queries and Reports Fail to Find Host.....	80
Subscription.....	81
Keyed List Updates Disabled After Upgrade	81
Offline Subscription Files Are Unavailable on Offline Proxy	81
Subscription Schedule is Reset after Upgrading the Subscription Server	82
User and Access Management	82
Custom Administrators Not Confined by Access Policies	82
Limitation on Calendar Use with Access Policies	82
Virtualization	83
VAPP Provisioning on ESX Server Fails	83
Performance Problems on ESX Server	83
Miscellaneous.....	83
CA User Activity Reporting Module Is Sometimes Non-Responsive	84
Custom ODBC Database Connection Fails.....	84
Display Time is Wrong.....	85
Event Collection Profiles Fail to Appear on Upgrade	85
High Contrast Settings for Monitor	86
iGateway Continuously Stopping and Restarting.....	86
Keyed Lists Configured Locally Fail to Appear After Upgrade	87
Max Disk Space for Virtual CA User Activity Reporting Module Is Too Small	87
Out of Memory Error on Machines with Low Memory.....	88
Refreshing Browser Logs User Out of CA User Activity Reporting Module.....	89
EE_POZERROR Repository Error Appears on Login When Using Remote EEM.....	89
Screen Captures May Show CA User Activity Reporting Module Title.....	90
Service or Explorer Interface Error May Occur After iGateway Restart.....	90
Uploads and Imports Fail with any Non-IE Browser.....	90
User Interface Unexpectedly Fails to Display Properly on Installation with Remote EEM	91
Upgrade to CA Audit Required for Interoperation with CA User Activity Reporting Module	92
Upgrade to 12.5.x From Earlier Versions Fails	93
An Undefined Server Name Replaces the Primary CA User Activity Reporting Module Server Name	94
DSN Creation Fails on a Windows 64-bit Machine.....	94
The Path /opt/CA/LogManager/help Contains Connector Guides for Unsupported Integrations	95
Changes to Few Fields of the Event Log Store and the Incident Service Requires iGateway Restart	95
LogSensors and Listeners	95
Repeated Events Appear in CA User Activity Reporting Module	96
User Credentials Authentication Fails on WMI LogSensor.....	96
Connector Deployment Fails for a Cisco Router Integration	96

Chapter 13: Fixed Issues	97
Issues List	97
Chapter 14: Documentation	99
Bookshelf.....	99
How to Access the Bookshelf	100
Appendix A: Third-Party Acknowledgements	101
Adaptive Communication Environment (ACE) 5.5.10	102
Adobe Flex SDK 3.5.....	103
Software under the Apache License.....	104
Boost 1.39.0	108
Connector for ODBC 6 SP1	108
CentOS 5.5.....	109
DataDirect OpenAccess 6.0	109
dom4j 1.6.1	109
Google Protocol Buffers 2.3.0	110
Jackson 1.7.4	112
Jaxen 1.1.....	115
JAXP 1.2.0-FCS.....	117
JDOM 1.0.....	119
Jersey 1.5.....	120
Red Hat Enterprise Linux 5.5	127
SNMP4J 1.9.3d	131
Sun JDK 1.6.0_19	135
Sun JDK 1.6.0_25	140
Tomcat 7.0.11.....	141
PCRE 6.3	145
TPSR--POI 3.0.....	146
POI 3.6.....	151
Zlib 1.2.3	157
ZThread 2.3.2	158

Chapter 1: Welcome

Welcome to CA User Activity Reporting Module. This document contains information about operating system support, enhancements, known issues, and information about contacting CA Technical Support.

Upgrading to CA User Activity Reporting Module Version 12.5 through Subscription

To upgrade CA User Activity Reporting Module to version r12.5, first upgrade to version r12.5 of the Log Manager product, then update all other CA User Activity Reporting Module modules, such as Content, Integration and Agent modules. You perform all upgrade tasks through Subscription.

Important! Upgrade the management CA User Activity Reporting Module server before you install any new CA User Activity Reporting Module servers in your network. Doing so allows the new servers to register properly.

To upgrade to CA User Activity Reporting Module version r12.5

1. Upgrade to Log Manager version r12.5.
 - a. Click the Administration tab, Services subtab, expand Subscription Module, and select your CA User Activity Reporting Module management server. By default, this server is the first you installed in your CA User Activity Reporting Module environment.
 - b. Click the global/local button to switch to local service configuration.
 - c. In the RSS feed URL field, type:
`http://securityupdates.ca.com/CA-ELM/r12.5/RSSFeed_PreUpgrade.xml`
 - d. In the Modules to Download list, use the arrows to move the Log Manager module from Available to Selected.
 - e. Verify that all other required values are configured for the selected server.
 - f. Click Update Now.

When the update is complete, a self-monitoring event appears, indicating that the Log Manager update has been installed. iGateway automatically restarts and your CA User Activity Reporting Module Log Manager session closes. The iGateway restart takes approximately 5 minutes.

- g. Log in to CA User Activity Reporting Module. In the upper right corner of the Log Manager browser window, click About and confirm that the version number indicates the new version of CA User Activity Reporting Module.

Note: The upgraded CA User Activity Reporting Module r12.5 user interface lists both Subscription Module and Subscription Service under the Administration tab, Services subtab. Subscription Module reflects the interface and functionality previous to the r12.5 update, and is present to help ensure proper communication between all CA User Activity Reporting Module servers during the upgrade to r12.5. Once you have upgraded the Log Manager product on a given CA User Activity Reporting Module server to version r12.5, use only Subscription Service to perform all further subscriptions tasks and configuration changes.

- h. In a federated environment, repeat this process for all CA User Activity Reporting Module servers in your environment, in the following order:
 - Upgrade all subscription proxies to the new version of Log Manager
 - Upgrade all subscription clients to the new version of Log Manager

2. Update all other CA User Activity Reporting Module modules.

- a. Click the Administration tab, click the Services subtab, expand Subscription Service, and select your CA User Activity Reporting Module management server. By default, this server is the first you installed in your CA User Activity Reporting Module environment.

Important! After you perform Step 1, the upgraded CA User Activity Reporting Module r12.5 user interface lists both Subscription Module and Subscription Service. Use only Subscription Service, and not Subscription Module, to perform all further subscriptions tasks, including the following steps. Subscription Module is present only to help ensure proper communication between all CA User Activity Reporting Module servers during the upgrade to r12.5; do not use it to perform subscription functions post-upgrade.

- b. Click the Administration tab, and click the global/local button to switch to local service configuration.
- c. In the RSS feed URL field, type:
`http://securityupdates.ca.com/CA-ELM/r12.5/RSSFeed.xml`
- d. Click Browse, select all CA User Activity Reporting Module modules, and click OK. CA User Activity Reporting Module modules can include Content, Integration, Operating System and Agent updates.
- e. Verify that all other required values are configured for the selected server.
- f. Click Update Now.

When update is complete, a self-monitoring event appears, indicating that the selected updates have been installed.

- g. If an Operating System module was among the updates installed, reboot the CA User Activity Reporting Module server.
- h. In a federated environment, repeat this process for all CA User Activity Reporting Module servers in your environment, in the following order:
 - Update all subscription proxies with all current CA User Activity Reporting Module modules
 - Update all subscription clients with all current CA User Activity Reporting Module modules

3. If Agent or Connector modules were among the updates, install updated agents and connectors.
 - a. Click the Administration tab, click the Log Collection subtab, and select Agent Explorer.
 - b. Determine whether to apply subscription updates at the agent explorer level, the agent group level, or the agent level. Select the desired level and click the Subscription button.
 - c. Apply updates to agents.
 - d. Click the Subscription button again.
 - e. Apply updates to connectors.

Note: For detailed instructions on installing Agents and Connectors, see the *CA User Activity Reporting Module Administration Guide*.

4. Reregister third-party and other CA products, like CA Access Control, that display CA User Activity Reporting Module reports in their native interfaces using the Open API calls.

Completing this step updates the certificates that changed in this release. See the *CA User Activity Reporting Module API Programming Guide* for more information.

Note: Review the Release Notes for any Known Issues related to subscription upgrades. If you are upgrading from a release earlier than 12.5, you may experience issues requiring a [manual installation](#) (see page 93) of the pre-12.5 upgrade package.

Upgrading to CA User Activity Reporting Module Version 12.5 through Offline Subscription

To upgrade CA User Activity Reporting Module to version r12.5 using offline subscription, you must first download the offline upgrade file package from the CA FTP site and manually copy it to all offline proxies. You can then upgrade all servers to version r12.5 of the Log Manager product. You must then repeat this process to update all other CA User Activity Reporting Module modules, such as Content, Integration and Agent modules as well.

Note: The following instructions assume that your entire CA User Activity Reporting Module environment is offline, rather than a mixed environment where some servers are online while others are offline. While it is possible to implement a mixed subscription architecture, it is considered best practice to design either an entirely online or entirely offline subscription architecture.

Important! Upgrade the management server before you upgrade or install any new CA User Activity Reporting Module servers in your network. Doing so allows the servers to register properly.

The process to upgrade to CA User Activity Reporting Module Version 12.5 through offline subscription is as follows. For details on each step, see the procedures references in the More Information section.

1. Download and install the pre-12.5 offline upgrade file package from the CA FTP site.
2. Upgrade all subscription proxies to Log Manager version r12.5.
3. Upgrade all subscription clients to Log Manager version r12.5.
4. Download and install the 12.5 offline upgrade file package from the CA FTP site.
5. Update all proxies with all other CA User Activity Reporting Module version r12.5 modules.
6. Update all clients with all other CA User Activity Reporting Module version r12.5 modules.
7. If Agent or Connector modules were among the updates, install updated agents and connectors.

After completing the upgrade process, reregister third-party and other CA products, like CA Access Control, that display CA User Activity Reporting Module reports in their native interfaces using the Open API calls. Completing this step updates the certificates that changed in this release. See the *CA User Activity Reporting Module API Programming Guide* for more information.

Note: Review the *Release Notes* for any Known Issues related to subscription upgrades. If you are upgrading from a release earlier than 12.5., you may experience issues requiring a [manual installation](#) (see page 93) of the pre-12.5 upgrade package.

More information

[Download and Install the Pre-12.5 Offline Upgrade Package](#) (see page 19)

[Download and Install the 12.5 Offline Upgrade Package](#) (see page 21)

[Update Proxies and Clients With CA User Activity Reporting Module Modules](#) (see page 22)

[Install Updated Agents and Connectors](#) (see page 23)

Download and Install the Pre-12.5 Offline Upgrade Package

Begin the upgrade by downloading and installing the pre-12.5 offline file package.

To download and install the pre-12.5 offline upgrade file package from the CA FTP site

1. On a system with Internet or FTP access, navigate to the FTP offline subscription site:

```
ftp://ftp.ca.com/pub/elm/connectors/ftp/outgoing/pub/elm/ELM_Offline_Subscription
```

The directory index displays a folder for each major CA User Activity Reporting Module release.

2. Select the 12.5_Offline_Subscription folder, and the Pre_12.5_Upgrade folder.
3. Download the pre-12.5 offline subscription update package. The file name follows the following format:

```
subscription_12_5_xx_yy.tar
```

4. Using physical media such as a disk, or using scp, manually copy the .tar file to the following path on your offline proxy:

```
/opt/CA/LogManager/data
```

5. Log into the default subscription proxy through ssh as the caelmadmin user.
6. Switch to root.
7. Navigate to the following path:

```
/opt/CA/LogManager/data
```

8. Stop iGateway.
9. Rename the existing subscription directory under /data to subscription.bak. For example, rename it to mydir/data/subscription.bak.
10. Untar the tar file using the following command:

```
tar -xvf subscription_12_<x_x_x>.tar
```

This creates a subscription folder and extracts the 12.5 upgrade modules. Correct ownership and permissions are automatically set.

11. Restart iGateway.

Upgrade Log Manager Application on All Proxies and Clients

Upgrade subscription proxies, then subscription clients to CA User Activity Reporting Module r12.5.

To upgrade subscription proxies and clients to r12.5

1. Upgrade all subscription proxies to Log Manager version r12.5.
 - a. Log in to a system in your CA User Activity Reporting Module environment.
 - b. Click the Administration tab, Services subtab, expand Subscription Module, and select your CA User Activity Reporting Module management server. By default, this is the first server you installed in your CA User Activity Reporting Module environment.
 - c. In the Modules to Download list, use the arrows to move the Log Manager module from Available to Selected. Remove any other modules from the Selected list.
 - d. If Offline Subscription Proxy is cleared, select it.
 - e. Verify that all other required values are configured for the selected server.
 - f. Click Save.
 - g. Click Update Now.

When update is complete, a self-monitoring event appears, indicating that the Log Manager update has been installed. iGateway automatically restarts and your CA User Activity Reporting Module Log Manager session closes.

- h. Log in to CA User Activity Reporting Module. In the upper right corner of the Log Manager browser window, click About and confirm that the version number indicates the new version of CA User Activity Reporting Module.

Note: The upgraded CA User Activity Reporting Module r12.5 user interface lists both Subscription Module and Subscription Service under the Administration tab, Services subtab. Subscription Module reflects the interface and functionality previous to the r12.5 update, and is present to help ensure proper communication between all CA User Activity Reporting Module servers during the upgrade to r12.5. Once you have upgraded the Log Manager product on a given CA User Activity Reporting Module server to version r12.5, use only Subscription Service to perform all further subscriptions tasks and configuration changes.
 - i. In an environment with multiple subscription proxies, copy the offline update .tar file to each proxy in your environment, untar the file according to the instructions in the Download and Install the Pre-12.5 Offline Upgrade Package topic, and repeat this process for all proxies.
2. Upgrade all subscription clients to Log Manager version r12.5.
 - a. Click the Administration tab, Services subtab, expand Subscription Module, and select a subscription client.

Note: Offline subscription clients automatically receive all modules that are manually installed on their offline proxy. The contents of the proxy server control which updates the subscription client receives. Modules selected at the local level for an offline client have no effect.

- b. Verify that all other required values are configured for the selected server. If you change any settings, click Save.
- c. Click Update Now.

When update is complete, a self-monitoring event appears, indicating that the Log Manager update has been installed.

- d. Repeat this process for all clients in your environment.

Note: Instead of manually updating each client, you can also set a global subscription schedule to begin an update after confirming that all proxies have been upgraded to version r12.5.

Download and Install the 12.5 Offline Upgrade Package

After upgrading all proxies and clients to Log Manager version 12.5, download and install the 12.5 offline upgrade file package from the CA FTP site.

To download and install the 12.5 offline upgrade file package

1. On a system with Internet or FTP access, navigate to the FTP offline subscription site:

```
ftp://ftp.ca.com/pub/elm/connectors/ftp/outgoing/pub/elm/ELM_Offline_Subscription
```

The directory index displays a folder for each major CA User Activity Reporting Module release.

2. Select the 12.5_Offline_Subscription folder.
3. Download the offline subscription update package. The file name follows the following format:

```
subscription_postupgrade_12_5_xx_yy.zip
```

4. Using physical media such as a disk, or using scp, manually copy the .zip file to the following file path on your offline proxy:

```
/opt/CA/LogManager/data/subscription/offline
```

Update Proxies and Clients With CA User Activity Reporting Module Modules

After upgrading all servers to Log Manager version 12.5, and installing the 12.5 offline upgrade file package, update subscription proxies, and then subscription clients with all additional CA User Activity Reporting Module modules.

To update proxies and clients with all additional modules

1. Update all proxies with all other CA User Activity Reporting Module version r12.5 modules.
 - a. Log in to a system in your CA User Activity Reporting Module environment.
 - b. Click the Administration tab, Services subtab, expand Subscription Service and select your CA User Activity Reporting Module management server.

The Subscription Service Configuration for the selected CA User Activity Reporting Module server appears.
 - c. Click the Administration tab.
 - d. In the File drop-down, select the offline update .zip file you copied to the server, and click Browse.

The Modules Available for Download dialog appears.
 - e. Select the modules you want to download. Modules can include Content, Integration, Operating System and Agent updates.
 - f. Click Save.
 - g. Click Update Now.

When update is complete, a self-monitoring event appears, indicating that the selected updates have been installed.
 - h. In an environment with multiple subscription proxies, copy the offline update .zip file to each proxy in your environment, and repeat this process for all proxies.
2. Update all clients with all other CA User Activity Reporting Module version r12.5 modules.
 - a. Click the Administration tab, Services subtab, expand Subscription Module, and select a subscription client.

Note: Offline subscription clients automatically receive all modules that are manually installed on their offline proxy. The contents of the proxy server control which updates the subscription client receives. Modules selected at the local level for an offline client have no effect.
 - b. Verify that all other required values are configured for the selected server. If you change any settings, click Save.
 - c. Click Update Now.

- d. When update is complete, a self-monitoring event appears, indicating that all updates have been installed.
- e. Repeat this process for all clients in your environment.

Note: Instead of manually updating each client, you can also set a global subscription schedule to begin an update after confirming that all proxies have been updated with the selected r12.5 modules.

Install Updated Agents and Connectors

If Agent or Connector modules were among the 12.5 update modules, install updated agents and connectors.

To install updated agents and connectors

1. Click the Administration tab, click the Log Collection subtab, and select Agent Explorer.
2. Determine whether to apply subscription updates at the agent explorer level, the agent group level, or the agent level. Select the desired level and click the Subscription button.
3. Apply updates to agents.
4. Click the Subscription button again.
5. Apply updates to connectors.

Note: For detailed instructions on installing Agents and Connectors, see the *CA User Activity Reporting Module Administration Guide*.

Chapter 2: Operating Environment

This section contains the following topics:

[Hardware and Software Environments](#) (see page 25)

[Power Setting Prerequisites for Certain HP and IBM Computers](#) (see page 26)

[Monitor Resolution](#) (see page 26)

[CA EEM Server References](#) (see page 27)

Hardware and Software Environments

CA User Activity Reporting Module installs the CentOS operating system as part of its initial setup. Earlier versions use the Red Hat Enterprise Linux operating system. See the certification matrix for more information.

The [CA Enterprise Log Manager Certification Matrix Index](#) lists the links for all CA User Activity Reporting Module certification matrices, including the following:

- Server hardware and software
[CA Enterprise Log Manager Server Hardware and Software Certification Matrix](#)
- Agent hardware and software
[CA Enterprise Log Manager Agent Hardware and Software Certification Matrix](#)
- Log sensors and related operating system support
[CA Enterprise Log Manager Log Sensor Certification Matrix](#)
- Product integrations
[CA Enterprise Log Manager Product Integration Matrix](#)
- Certifications with CA Audit iRecorders
[CA Enterprise Log Manager Audit iRecorder Certification Matrix](#)

You can access CA User Activity Reporting Module with the following browsers and the Adobe Flash 9 or 10 player:

- Internet Explorer 7 or 8 (FIPS or Non-FIPS modes)
- Mozilla Firefox 3.5 or later and 3.6 or later (FIPS and Non-FIPS modes)

Note: File exports do not work when you access CA User Activity Reporting Module with a Mozilla Firefox browser.

Power Setting Prerequisites for Certain HP and IBM Computers

When CA User Activity Reporting Module is installed on HP Proliant DL 380G5 Series servers and IBM X3650 Series servers with default power use settings, iGateway issues may occur, resulting in slow operation, or other interface issues that may require a manual service restart.

To prevent this potential issue, change the settings before you install CA User Activity Reporting Module.

Note: If you have already installed CA User Activity Reporting Module, you can stop the computer, change the settings as outlined, and restart the computer.

To change the power use settings on HP Proliant DL 380G5

1. Access the BIOS Settings menu.
2. Navigate to the power use settings.
3. Select “OS Control Mode” from the available choices.

Note: The default setting is “HP Dynamic Power Settings Mode”.

To change the power use settings on IBM X3650

1. Access the BIOS Settings menu.
2. Navigate to the power use settings.
3. Disable the following parameters:
 - Active Energy Manager
 - Enhanced C1 Power State

Monitor Resolution

The minimum requirement for monitor resolution is 1024 x 768 pixels. For best viewing, a monitor resolution of 1280 x 1024 is recommended.

CA EEM Server References

For information about operating system support for an existing CA EEM server, see the *CA Embedded Entitlements Manager Getting Started* guide. This guide is included on the CA User Activity Reporting Module bookshelf.

You can also download this bookshelf from Technical Support. For assistance, contact CA Support at <http://ca.com/support>.

Chapter 3: Features

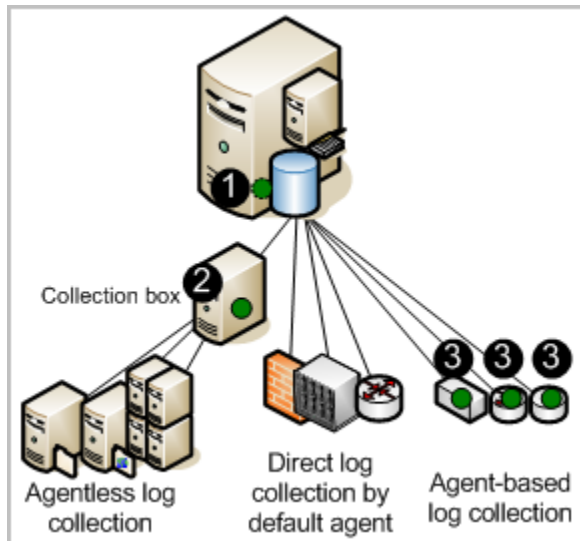
This section contains the following topics:

- [Log Collection](#) (see page 29)
- [Log Storage](#) (see page 31)
- [Standardized Presentation of Logs](#) (see page 32)
- [Compliance Reporting](#) (see page 33)
- [Policy Violation Alerting](#) (see page 35)
- [Role-Based Access](#) (see page 36)
- [Subscription Management](#) (see page 37)
- [Support for IPv6 IP Addresses](#) (see page 38)

Log Collection

The CA User Activity Reporting Module server can be set up to collect logs using one or more supported techniques. The techniques differ in the type and location of the component that listens for and collects the logs. These components are configured on agents.

The following illustration depicts a single-server system, where agent locations are indicated with a dark (green) circle.



The numbers on the illustration refer to these steps:

1. Configure the default agent on the CA User Activity Reporting Module to fetch events directly from the syslog sources you specify.
2. Configure the agent installed on a Windows collection point to collect events from the Windows servers you specify and transmit them to the CA User Activity Reporting Module.
3. Configure agents installed on hosts where event sources are running to collect the configured type of events and perform suppression.

Note: Traffic from the agent to the destination CA User Activity Reporting Module server is always encrypted.

Consider the following advantages of each log collection technique:

- Direct log collection

With direct log collection, you configure the syslog listener on the default agent to receive events from the trusted sources you specify. You can also configure other connectors to collect events from any event source that is compatible with the soft appliance operating environment.

Advantage: You do not need to install an agent to collect logs from event sources that are in close network proximity to the CA User Activity Reporting Module server.

- Agentless collection

With agentless collection, there is no local agent on the event sources. Rather, an agent is installed on a dedicated collection point. Connectors for each target event source are configured on that agent.

Advantage: You can collect logs from event sources running on servers where you cannot install agents, such as servers where corporate policy prohibits agents. Delivery is guaranteed, for example, when ODBC log collection is configured properly.

- Agent-based collection

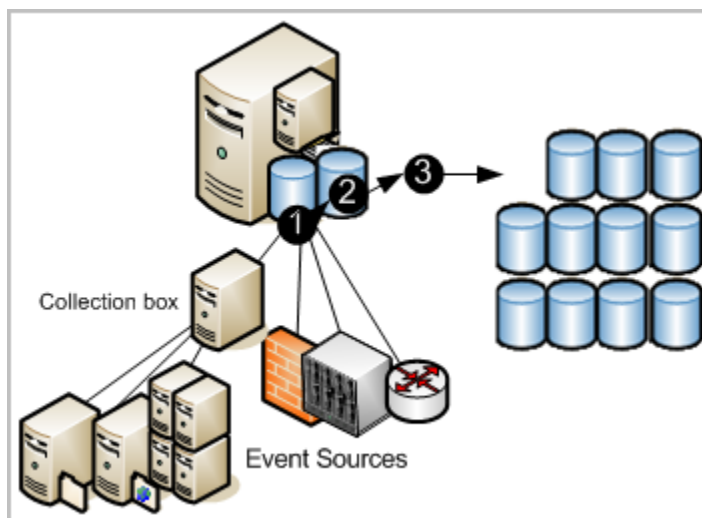
With agent-based collection, an agent is installed where one or more event sources are running and a connector is configured for each event source.

Advantage: You can gather logs from a source where the network bandwidth between that source and the CA User Activity Reporting Module is not good enough to support direct log collection. You can use the agent to filter the events and reduce the traffic sent across the network. Event delivery is guaranteed.

Note: See the *Administration Guide* for details on agent configuration.

Log Storage

CA User Activity Reporting Module provides managed embedded log storage for recently archived databases. Events collected by agents from event sources go through a storage lifecycle as illustrated by the following diagram.



The numbers on the illustration refer to these steps:

1. New events collected by any technique are sent to the CA User Activity Reporting Module. The state of incoming events depends on the technique used to collect them. Incoming events must be refined before being inserted into the database.
2. When the database of refined records reaches the configured size, all records are compressed into a database and saved with a unique name. Compressing log data reduces the cost of moving it and reduces the cost of storage. The compressed database can either be moved automatically based on auto-archive configuration or you can back it up and move it manually before it reaches the age configured for deletion. (Auto-archived databases are deleted from the source as soon as they are moved.)
3. If you configure auto-archive to move the compressed databases to a remote server on a daily basis, you can move these backup to off-site long-term log storage at your convenience. Retaining backups of logs enables you to comply with the regulations that state that logs must be securely collected, centrally stored for a certain number of years, and available for review. (You can restore database from long-term storage at any time.)

Note: See the *Implementation Guide* for details on configuring the event log store, including how to set up auto-archiving. See the *Administration Guide* for details on restoring the backups for investigation and reporting.

Standardized Presentation of Logs

Logs generated by applications, operating systems, and devices all use their own formats. CA User Activity Reporting Module refines the collected logs to standardize the way the data is reported. The standard format makes it easier for auditors and upper management to compare data collected from different sources. Technically, the CA Common Event Grammar (CEG) helps implement event normalization and classification.

The CEG provides several fields which are used to normalize various aspects of the event, including the following:

- Ideal Model (Class of technologies such as antivirus, DBMS, and firewall)
- Category (Examples include Identity Management and Network Security)
- Class (Examples include Account Management and Group Management)
- Action (Examples include Account Creation and Group Creation)
- Results (Examples include Success and Failure)

Note: See the *CA User Activity Reporting Module Administration Guide* for details on the rules and files used in event refinement. See the section on Common Event Grammar in the online help for details on the normalizing and categorizing events.

Compliance Reporting

CA User Activity Reporting Module lets you gather and process security-relevant data and turn it into reports suitable for internal or external auditors. You can interact with queries and reports for investigations. You can automate the reporting process by scheduling report jobs.

The system provides:

- Easy to use query capability with tags
- Near-real time reporting
- Centrally searchable, distributed archives of critical logs

Its focus is on compliance reporting rather than real-time correlation of events and alerts. Regulations demand reporting that demonstrates compliance with industry-related controls. CA User Activity Reporting Module provides reports with the following tags for easy identification:

- Basel II
- COBIT
- COSO
- EU Directive - Data Protection
- FISMA
- GLBA
- HIPAA
- ISO\IEC 27001\2
- JPIPA
- JSOX
- NERC
- NISPOM
- PCI
- SAS 70
- SOX

You can review predefined log reports or perform searches based on criteria you specify. New reports are provided with subscription updates.

Log view capabilities are supported by the following:

- On demand query capability with predefined or user-defined queries, where results can include up to 5000 records

- Quick search, through Prompts, for a specified host name, IP address, port number, or user name
- Scheduled and on demand reporting with out-of-the-box reporting content
- Scheduled query and alerting
- Basic reports with trending information
- Interactive, graphical event viewers
- Automated reporting with email attachment
- Automated report retention policies

Note: For details on using predefined queries and reports or creating your own, see the *CA User Activity Reporting Module Administration Guide*.

Policy Violation Alerting

CA User Activity Reporting Module lets you automate the sending of an alert when an event occurs that requires near-term attention. You can also monitor action alerts from CA User Activity Reporting Module at any time by specifying a time interval, such as from the last five minutes to the last 30 days. Alerts are automatically sent to an RSS feed that can be accessed from a web browser. Optionally, you can specify other destinations, including email addresses, a CA IT PAM process such as one that generates help desk tickets, and one or more SNMP trap destination IP addresses.

To help you get started, many predefined queries are available for scheduling as action alerts, as is. Examples include:

- Excessive user activity
- High CPU utilization average
- Low available disk space
- Security event log cleared in last 24 hours
- Windows audit policy changed in last 24 hours

Some queries use keyed lists, where you supply the values used in the query. Some keyed lists include predefined values that you can supplement. Examples include default accounts and privileged groups. Other keyed lists, such as that for business critical resources, have no default values. After you configure them, alerts can be scheduled for predefined queries such as:

- Group membership addition or removal by privileged groups
- Successful login by default account
- No events received by business critical sources

Keyed lists can be updated manually, by importing a file, or by running a CA IT PAM dynamic values process.

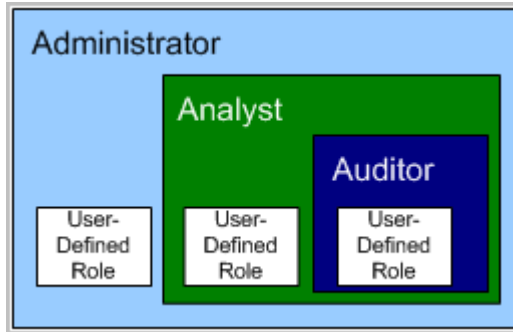
Note: See the *CA User Activity Reporting Module Administration Guide* for details on action alerts.

Role-Based Access

CA User Activity Reporting Module provides three predefined application groups or roles. Administrators assign the following roles to users to specify their access rights to CA User Activity Reporting Module features:

- Administrator
- Analyst
- Auditor

The Auditor has access to few features. The Analyst has access to all Auditor features plus more. The Administrator has access to all features. You can define a custom role with associated policies that limit user access to resources in the way that suits your business needs.



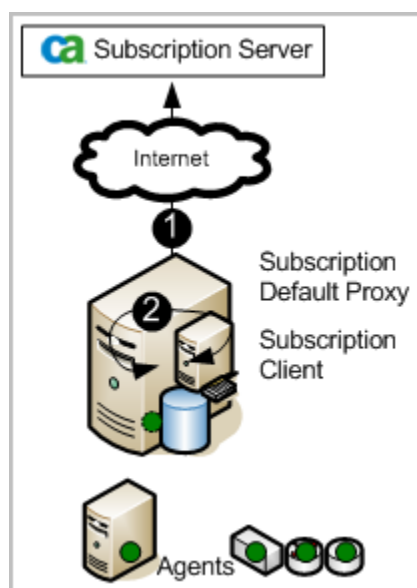
Administrators can customize access to any resource by creating a custom application group with associated policies and assigning that application group, or role, to user accounts.

Note: See the *CA User Activity Reporting Module Administration Guide* for details on planning and creating custom roles, custom policies, and access filters.

Subscription Management

The subscription module is the service that enables subscription updates from the CA Subscription Server to be automatically downloaded on a scheduled basis and distributed to CA User Activity Reporting Module servers. When a subscription update includes the module for agents, users initiate the deployment of these updates to agents. *Subscription updates* are updates to CA User Activity Reporting Module software components and operating system updates, patches, and content updates such as reports.

The following illustration depicts the simplest direct Internet connection scenario:



The numbers on the illustration refer to these steps:

1. The CA User Activity Reporting Module server, as the default subscription server, contacts the CA Subscription server for updates and downloads any new available updates. The CA User Activity Reporting Module server creates a backup, then pushes content updates to the embedded component of the management server that stores content updates for all other CA User Activity Reporting Modules.
2. The CA User Activity Reporting Module server, as a subscription client, self-installs the product and operating system updates it needs.

Note: See the *Implementation Guide* for details on planning and configuring subscription. See the *Administration Guide* for details on refining and modifying the subscription configuration and for applying updates to agents.

Support for IPv6 IP Addresses

Previously, specification of IP Addresses was limited to IPv4 dotted decimal notation. With the current release, you can now specify IPv6 addresses in any IP Address field. IPv6 uses 128-bit IP addresses instead of the 32-bit addresses used by IPv4. Any policies that are based on the IP address version support IPv6 and IPv4.

You can use IPv4-mapped IPv6 addresses or the traditional IPv6 format. The IPv4-mapped IPv6 address format allows the IPv4 address of an IPv4 node to be represented as an IPv6 address as follows:

- The preferred IPv6 form is written as eight groups of four hexadecimal digits (x:x:x:x:x:x:x). Each x is one to four hexadecimal digits of the eight 16-bit pieces of the address.
- The IPv4-mapped IPv6 address, convenient in a mixed environment of IPv4 and IPv6 nodes is 0:0:0:0:FFFF:d.d.d.d, where each d is a decimal value of the address (IPv4 dotted decimal notation).

Important! IPv4-compatible IPv6 addresses in the format 0:0:0:0:0:d.d.d.d are now deprecated, according to RFC 4291, because the current IPv6 transition mechanisms no longer use these addresses.

The following is a valid IPv6 address written in traditional format.

```
2001:0db8:85a3:08d3:1319:8a2e:0370:7334
```

If one or more four-digit groups are 0000, the zeros can be omitted and replaced with two colons (::). Leading zeros in a group can also be omitted. The following example IP addresses are equivalent:

- 2001:0db8:0000:0000:0000:0000:1428:57ab
- 2001:0db8::1428:57ab
- 2001:db8:0:0:0:0:1428:57ab
- 2001:db8::1428:57ab

If you are replacing IPv4 addresses with IPv4-mapped addresses, use the following examples as guidelines:

- 0:0:0:0:FFFF:192.168.2.128
- 0:0:0:0:FFFF:172.16.2.128

Alternatively, you can use the following compressed form:

- ::FFFF:192.168.2.128
- ::FFFF:172.16.2.128

Chapter 4: New and Changed Features in r12.5.03

This section contains the following topics:

[Catalog Database Partitioning](#) (see page 39)

[Agent Support on RHEL 5 x64-bit Systems](#) (see page 39)

[CPU Throttling](#) (see page 39)

[CA User Activity Reporting Module High Availability](#) (see page 40)

[CA User Activity Reporting Module as a Virtual Appliance](#) (see page 40)

Catalog Database Partitioning

By default, CA User Activity Reporting Module now partitions the catalog database. The feature verifies that the catalog database does not grow indefinitely in size, and reduces the disk space.

Agent Support on RHEL 5 x64-bit Systems

You can install the CA User Activity Reporting Module agent on a RHEL 5 x64-bit system.

Information about installing the agent is available in the *CA User Activity Reporting Module Agent Installation Guide*.

CPU Throttling

You can throttle the CPU usage of a connector. The CA User Activity Reporting Module logsensor receives events according to the allocated CPU usage.

For information about CPU throttling, see the *CA User Activity Reporting Module Administration Guide*.

CA User Activity Reporting Module High Availability

You can enable CA User Activity Reporting Module High Availability in your virtual environment through VMware High Availability (VMware HA). CA User Activity Reporting Module supports the VMware HA features without any configuration.

For information about the CA User Activity Reporting Module High Availability, see the *CA User Activity Reporting Module Implementation Guide*.

CA User Activity Reporting Module as a Virtual Appliance

The updated CA User Activity Reporting Module as a Virtual Appliance feature does not require manual setting of the paravirtualization settings in the provisioned CA User Activity Reporting Module server.

Information about deploying CA User Activity Reporting Module as a virtual appliance is available in the *CA User Activity Reporting Module Implementation Guide*.

Chapter 5: New and Changed Features in r12.5.02

This section contains the following topics:

[Product Name Change](#) (see page 41)

[Data Integrity Checking on Raw Events](#) (see page 41)

[External ODBC Database Connection](#) (see page 42)

[Virtual Automation API](#) (see page 42)

Product Name Change

CA Enterprise Log Manager has been renamed CA User Activity Reporting Module. All features and functionality introduced in CA Enterprise Log Manager versions up to 12.5.01 are still included.

More information:

[Screen Captures May Show CA User Activity Reporting Module Title](#) (see page 90)

Data Integrity Checking on Raw Events

You can check raw event data for tampering. CA User Activity Reporting Module uses digital signatures to validate the event data. If the database is corrupted or if its signature is missing or corrupted, the data integrity check considers the data tampered.

You can schedule integrity checks to occur at set times and on selected CA User Activity Reporting Module servers, or on demand. This functionality is an extension of the existing data integrity checking feature that only applied to archived event data.

For more information about Data Integrity Checking, see the *CA User Activity Reporting Module Online Help*.

External ODBC Database Connection

You can directly query an external ODBC database. This feature allows you to target CA User Activity Reporting Module reports and queries to ODBC databases in addition to the internal event log store.

You must configure a connection to each ODBC database you want to target. For more information on ODBC database connections, see the *CA User Activity Reporting Module Online Help*.

Virtual Automation API

You can deploy event collection for virtual machines using the Virtual Automation API for CA User Activity Reporting Module. You can use the API to trigger a preset collection profile, which contains all the information necessary to provision event collection.

For more information, see the *CA User Activity Reporting Module Virtual Automation API Guide*.

Chapter 6: New and Changed Features in r12.5.01

This section contains the following topics:

[Integration with ObserveIT](#) (see page 43)

[Keyed Lists](#) (see page 43)

[Header and Footer in Reports](#) (see page 44)

[Datetime Format](#) (see page 44)

[View Query](#) (see page 44)

[Replace IP Address of an Event Source with Hostname](#) (see page 44)

[Agent Diagnostic File](#) (see page 45)

[Considerations for CA Access Control Users](#) (see page 45)

[CA User Activity Reporting Module as a Virtual Appliance](#) (see page 45)

[Agent Support on Microsoft Windows 64-bit Systems](#) (see page 45)

Integration with ObserveIT

You can integrate CA User Activity Reporting Module with ObserveIT v5.2.50 to investigate user session recordings. CA User Activity Reporting Module provides you the option to monitor configuration activities of a user by viewing user session recordings, and generate reports.

For information about the integration of CA User Activity Reporting Module with ObserveIT, see the *CA User Activity Reporting Module Administration Guide* and *CA User Activity Reporting Module Online Help*.

Keyed Lists

This updated feature enhances the performance of keyed lists. With this feature, you can schedule keyed list updates using IT PAM dynamic value process. The IT PAM dynamic values process periodically updates the specified Users list with the latest values.

Information about the enhanced keyed lists is available in the *CA User Activity Reporting Module Administration Guide* and *Online Help*.

Header and Footer in Reports

The Report Server is updated to include a header and footer in PDFs. You can configure the Report Server to generate a header and footer, and related attributes.

Information about the Report Server is available in the *CA User Activity Reporting Module Administration Guide* and *Online Help*.

Datetime Format

You can use the CA User Activity Reporting Module locale properties files to change the default datetime format to a datetime format of your choice. The configured datetime format is displayed on the UI, query and report results.

Information about the datetime formats is available in the *CA User Activity Reporting Module Administration Guide* and *Online Help*.

View Query

The updated Query Cursor feature enhances the appearance of the query results. The most recent results appear first in the results table. To view additional results, you must click the arrow keys or select a range of rows from the list. If the query results are not grouped, the list displays the row ranges you have viewed, and the next sequential range available. If the query results have been grouped, the list displays all rows ranges available in the entire results set.

Information about queries is available in the *CA User Activity Reporting Module Administration Guide* and *Online Help*.

Replace IP Address of an Event Source with Hostname

This new feature lets the agent to replace the IP address of an event source with the hostname of the event source. All the connectors within the agent inherit this feature. If you want to enable the feature for all the agents in your environment, configure each agent separately.

Information about the updated agent feature is available in the *CA User Activity Reporting Module Administration Guide* and *Online Help*.

Agent Diagnostic File

You can review the log files and configuration files of a selected CA User Activity Reporting Module agent using CA User Activity Reporting Module AgentDiagnostics utility. The utility packages system information and log files into a compressed .tar file for transmission to CA Technologies Support personnel. You can transfer this file using FTP or another file transfer method.

Information about the AgentDiagnostics utility is available in the *CA User Activity Reporting Module Administration Guide* and *Online Help*.

Considerations for CA Access Control Users

The updated Considerations for CA Access Control users contains information about securing CA User Activity Reporting Module using CA Access Control, and an updated reference to the Connector Guide for CA Access Control required to integrate CA User Activity Reporting Module with CA Access Control.

Information about the considerations for CA Access Control users is available in the *CA User Activity Reporting Module Implementation Guide*.

CA User Activity Reporting Module as a Virtual Appliance

The updated OVF template contains a new parameter, NTP Server Location.

Information about the updated OVF template is available in the *CA User Activity Reporting Module Implementation Guide*.

Agent Support on Microsoft Windows 64-bit Systems

You can install the CA User Activity Reporting Module agent on a Microsoft Windows 64-bit system.

Information about installing the agent is available in the *CA User Activity Reporting Module Agent Installation Guide*.

Chapter 7: New and Changed Features in r12.5

This section contains the following topics:

- [Event Correlation](#) (see page 47)
- [Incident Management](#) (see page 48)
- [Compliance Dashboards](#) (see page 48)
- [Data Integrity Checking](#) (see page 48)
- [Improved Subscription Monitoring](#) (see page 49)
- [Nested Category Tags](#) (see page 49)
- [CA Access Control PUPM](#) (see page 50)
- [Large Query Support](#) (see page 50)
- [CA User Activity Reporting Module Sizing Calculator](#) (see page 51)

Event Correlation

You can use event correlation rules to detect complex patterns of events that are associated with unusual or dangerous states, or with suspicious activity. CA User Activity Reporting Module provides numerous predefined correlation rules, and the ability to create custom rules or modify predefined ones.

You could deploy a predefined correlation rule to detect suspicious activity after a specified number of failed logins. For example you could use the "5 Failed Logins by a single account followed by excessive configuration management activity" rule. In this case, you could also customize the number of failed logins, or the definition of excessive activity.

For more information about Event Correlation, see the *CA User Activity Reporting Module Implementation Guide* and *CA User Activity Reporting Module Online Help*.

Incident Management

You can view and respond to incidents generated by CA User Activity Reporting Module event correlation using the Incident Management system. You can investigate the events that make up an incident, routing incident notifications, or triggering automatic workflows.

For example, you can view current incidents in your environment. You could sort them by severity to see the most severe first, and view each in turn checking to see that the assigned severity is appropriate. You can then downgrade incidents not worthy of immediate attention, and assign any incidents to an appropriate resource, or view comments attached to that incident.

For more information about Incident Management, see the *CA User Activity Reporting Module Administration Guide* and *CA User Activity Reporting Module Online Help*.

Compliance Dashboards

Compliance Dashboards let you quickly check the status of your environment with respect to specified states or regulations.

For example, you can open CA User Activity Reporting Module and view the PCI Incidents Dashboard. The dashboard shows you various high-level status displays, including:

- A summary of all PCI-standard related events found in your environment.
- A trending panel tracking PCI events over the recent past.
- A meter showing green/red/yellow overall status based on the number of events.

Data Integrity Checking

You can check archived or recataloged data for tampering, helping to secure your archived data, and meet regulatory requirements. CA User Activity Reporting Module uses digital signatures to validate the databases. If the database is corrupted or if its signature is missing or corrupted, the data integrity check considers the database tampered.

You can schedule daily data integrity checks to occur at set times and on selected CA User Activity Reporting Module servers. Any tampered databases detected by a scheduled integrity check are automatically quarantined. You can view quarantined databases and decide whether to regenerate keys to make them queryable.

For more information about Data Integrity Checking, see the *CA User Activity Reporting Module Online Help*.

Improved Subscription Monitoring

You can view the current subscription status of your global CA User Activity Reporting Module environment through the Subscription Dashboard. The Subscription Dashboard displays the progress of any updates currently being downloaded or installed by any CA User Activity Reporting Module server. For example, during a scheduled update to your global CA User Activity Reporting Module environment, you can use the Subscription Dashboard to monitor the update progress of each CA User Activity Reporting Module server, including which modules are currently downloading or installing, and the current state of the server. From the Subscription Dashboard, you can also see the state of any content updates currently in progress, as well as a list of all content updates previously installed.

You can view the current subscription status of a specific CA User Activity Reporting Module server through the global Subscription Dashboard, or through the server's local State window.

For more information about Improved Subscription Monitoring, see the *Subscription* section of the *CA User Activity Reporting Module Administration Guide*.

Nested Category Tags

You can create custom nested category tags for queries and reports. Nested tags let you organize reports and queries into detailed subcategories.

For example, CA User Activity Reporting Module provides a report category tag named Event Categories. You could add custom tags based on event categories in your environment.

For more information about nested category tags, see the *CA User Activity Reporting Module Online Help*.

CA Access Control PUPM

CA User Activity Reporting Module supports CA Access Control privileged user password management (PUPM). CA Access Control PUPM events include a check-out and check-in time, recording when a password is in use. These times are mapped to `event_start_time_gmt` and `event_end_time_gmt` in the updated CEG schema for this release.

You can use advanced drilldown to investigate user activity by choosing the new fields as advanced filters in your queries. For example, you could right-click on a user in a CA Access Control report panel, and apply a filter like the following to the report you drilling down into:

```
(event_time_gmt >= event_start_time_gmt) AND (event_time_gmt <= event_end_time_gmt)
```

This filter displays the check-out and check-in time from the selected user event.

For more information about drilldowns and filtering for CA Access events see the *CA User Activity Reporting Module Online Help*.

Large Query Support

You can set a query to search more than 5,000 event database rows, letting you make broader searches. In previous releases, the maximum number of events a query could return was 5,000.

When creating or editing a query, you can set a higher limit from the Result Conditions step of the query design wizard in either of the following ways:

- Setting the Row Limit value in the results area to a number higher than 5,000.
- Selecting the No Limit button in the results area.

Note: If a scheduled report includes a large query, you cannot publish it to PDF due to a limitation of the format.

For more information about large queries see the *CA User Activity Reporting Module Online Help*.

CA User Activity Reporting Module Sizing Calculator

The current release includes a sizing calculator which can help provide guidance for the number of CA User Activity Reporting Module servers required to meet the needs of your environment. You can input your hardware details, the various types of event sources you want to monitor, how long you must retain event data, and receive a suggested number of CA User Activity Reporting Module servers.

The calculator also includes expected event-per-second rates for all listed event sources. You can accept or adjust these default values.

The installation package includes the sizing calculator, which must be installed on Windows.

Chapter 8: New and Changed Features in r12.1 SP3

The CA User Activity Reporting Module r12.1 SP3 release contains bug fixes of CA User Activity Reporting Module r12.1 SP2.

Chapter 9: New and Changed Features in r12.1 SP2

This section contains the following topics:

[CA User Activity Reporting Module as a Virtual Appliance](#) (see page 55)

[Simplified Agent Administration](#) (see page 55)

[Role-Based Access Control in API Login Calls](#) (see page 56)

[LogSensor Help Files](#) (see page 56)

[Retain a Report Configuration](#) (see page 56)

CA User Activity Reporting Module as a Virtual Appliance

You can deploy CA User Activity Reporting Module as a virtual appliance in the Open Virtualization Format (OVF). The virtual appliance requires less time to provision than the time required to provision a CA User Activity Reporting Module server on a virtual machine.

OVF is an open standard for packaging and distributing virtual appliances. CA User Activity Reporting Module uses the Virtual Machine Disk (VMDK) file format based on OVF.

Information about deploying CA User Activity Reporting Module as a virtual appliance is available in the *Implementation Guide*.

Simplified Agent Administration

This updated feature simplifies provisioning of a new CA User Activity Reporting Module server. With this feature, you can:

- Update a list of CA User Activity Reporting Module servers at the Agent Explorer level or an individual agent group level.
- Add a new server to an existing server list, and CA User Activity Reporting Module updates the server list in each agent.

Information about this simplified agent administration is available in the *Administration Guide* and *Online Help*.

Role-Based Access Control in API Login Calls

You can perform role-based access control on a user logged on to CA User Activity Reporting Module through API. You can define the data access filters applied to the query, in XML format. You could use this specification to filter a query or report result according to your role when you use the certificate name and password authentication.

Information about the access filter XML is available in the *API Programming Guide*.

LogSensor Help Files

A LogSensor Guide for each logsensor is provided with this release. You can access a LogSensor Guide from the Integration Wizard of the UI.

Retain a Report Configuration

You can retain the configuration of a report by selecting the Retain after Expiry option in the Schedule Report wizard. After the report is generated, you can modify the report configuration and reschedule the report. This feature is valid for both the run-once and run-now reports.

Information about this simplified agent administration is available in the *Administration Guide* and *Online Help*.

Chapter 10: New and Changed Features in r12.1 SP1

This section contains the following topics:

[FIPS 140-2 Compliance Overview](#) (see page 57)

[Operating Modes](#) (see page 58)

[Encryption Libraries](#) (see page 59)

[About Certificates and Key Files](#) (see page 60)

[FIPS Support Limitations](#) (see page 61)

[Configure Microsoft Internet Explorer to Access CA User Activity Reporting Module in FIPS Mode](#) (see page 62)

[Configure Mozilla Firefox to Access CA User Activity Reporting Module in FIPS Mode](#) (see page 63)

[ISO Image for New Installations](#) (see page 64)

FIPS 140-2 Compliance Overview

The Federal Information Processing Standards (FIPS) 140-2 publication is a security standard for the cryptographic libraries and algorithms a product should use for encryption. FIPS 140-2 encryption affects the communication of all sensitive data between components of CA products and between CA products and third-party products. FIPS 140-2 specifies the requirements for using cryptographic algorithms within a security system protecting sensitive, unclassified data.

CA User Activity Reporting Module offers FIPS compatibility with event traffic secured using FIPS-compliant algorithms when operating in FIPS mode. CA User Activity Reporting Module also offers a default, non-FIPS mode in which event traffic is *not* secured with FIPS-compliant algorithms. CA User Activity Reporting Module servers in a federated network cannot mix the two operating modes. This means that a server running in non-FIPS mode cannot share query and report data with a server that is running in FIPS mode.

Information about enabling and disabling FIPS mode is available in the *Implementation Guide* section on installing CA User Activity Reporting Module, and in the online help for the System Status service.

More information:

[Operating Modes](#) (see page 58)

[Encryption Libraries](#) (see page 59)

[Algorithms Used](#) (see page 59)

[About Certificates and Key Files](#) (see page 60)

[FIPS Support Limitations](#) (see page 61)

[Configure Mozilla Firefox to Access CA User Activity Reporting Module in FIPS Mode](#) (see page 63)

Operating Modes

CA User Activity Reporting Module can operate in two modes, FIPS mode or non-FIPS mode. The cryptographic boundaries are the same in both modes, but the algorithms are different. By default, CA User Activity Reporting Module servers operate in non-FIPS mode. Users with the Administrator role can enable FIPS mode operation.

non-FIPS mode

This mode uses a mix of encryption algorithms for event transport and other communications between the CA User Activity Reporting Module and CA EEM server that do not necessarily meet FIPS 140-2 standards.

FIPS mode

This mode uses FIPS-certified encryption algorithms for event transport and other communications between the CA User Activity Reporting Module and CA EEM server.

Administrator-level users can review agent operating modes from the Agent Explorer node on the Administration tab, Log Collection subtab.

For more information about switching between FIPS and non-FIPS modes, refer to the online help for System Status Tasks, or the *Implementation Guide* section on configuring services.

More information:

[Algorithms Used](#) (see page 59)

[FIPS Support Limitations](#) (see page 61)

Encryption Libraries

The Federal Information Processing Standards (FIPS) 140-2 publication specifies the requirements for using cryptographic algorithms within a security system protecting sensitive, unclassified data.

CA User Activity Reporting Module also embeds the Crypto-C Micro Edition (ME) v2.1.0.2 cryptographic library from RSA, which has been validated as meeting the FIPS 140-2 *Security Requirements for Cryptographic Modules*. The validation certificate number for this module is 865.

Algorithms Used

Computer products that use FIPS 140-2 certified cryptographic modules in FIPS mode can use only FIPS-approved security functions. These include AES (Advanced Encryption Algorithm), SHA-1 (Secure Hash Algorithm), and higher level protocols such as TLS v1.0 as explicitly allowed in the FIPS 140-2 standard and implementation guides.

In non-FIPS mode, CA User Activity Reporting Module uses the following algorithms:

- AES 128
- Triple DES (3DES)
- SHA-1
- MD5
- SSL v3

In FIPS mode, CA User Activity Reporting Module uses the following algorithms:

- AES 128
- Triple DES (3DES)
- SHA-1
- TLS v1

CA User Activity Reporting Module uses SHA-1 as the default digest algorithm to encrypt passwords and sign server requests.

CA User Activity Reporting Module uses TLS v1.0 for communications with external LDAP directories if the LDAP connection uses TLS, communications between iTechnology components, the agent to iGateway service communication in FIPS mode, and the event channel between an agent and the logDepot service.

More information:

[FIPS Support Limitations](#) (see page 61)

About Certificates and Key Files

For FIPS 140-2 support, the upgrade to CA User Activity Reporting Module r12.1 SP1 converts existing P12 format certificates to PEM format certificates. This conversion results in the generation of the following files:

- Certificate file with a .cer extension
- Key file with a .key extension

Key files are not encrypted, and it is up to the user to secure them from unauthorized access on both server and agent hosts. The CA User Activity Reporting Module soft-appliance uses various operating system hardening techniques to protect keys and certificates stored in the file system. CA User Activity Reporting Module does not support the use of external key storage devices.

CA User Activity Reporting Module uses the following certificates and key files:

Certificate/Key File Name	Location	Description
CAELMCert	/opt/CA/SharedComponents/iTechnology (You can refer to this directory using the shorter variable name, \$IGW_LOC.)	All CA User Activity Reporting Module services use this certificate for communications between CA User Activity Reporting Module servers, and between CA User Activity Reporting Module servers and the CA EEM server. An entry for this certificate, and its corresponding key file, exists in the main configuration file, CALM.cnf. The tag pairs begin <Certificate> and <KeyFile> respectively.
CAELM_AgentCert	\$IGW_LOC on the agent host server	Agents use this certificate to communicate with any CA User Activity Reporting Module server. The CA User Activity Reporting Module Management server provides this certificate to the agent. The certificate is valid for any CA User Activity Reporting Module server within a given application instance.

Certificate/Key File Name	Location	Description
itpamcert	IT PAM server	This certificate is used for communications with IT PAM. See the CA IT PAM documentation for additional information.
rootcert	\$IGW_LOC	This certificate is a self-signed, root certificate signed by iGateway during installation.
iPozDsa	\$IGW_LOC	The CA EEM server, both local and remote, uses this certificate. See the CA EEM documentation for additional information.
iPozRouterDsa	\$IGW_LOC	The CA EEM server, both local and remote, uses this certificate. See the CA EEM documentation for additional information.
iTechPoz-trusted	/opt/CA/Directory/dxserver/ config/ssld	CA Directory uses this certificate.
iTechPoz-<hostname>- Router	/opt/CA/Directory/dxserver/ config/ssld	CA Directory uses this certificate.

FIPS Support Limitations

The following CA User Activity Reporting Module features and product interoperations do not support FIPS mode operations:

ODBC and JDBC Access to the Event Log Store

ODBC and JDBC in CA User Activity Reporting Module relies on an underlying SDK that does not support FIPS mode operations. Administrators of federated networks that require FIPS operations must manually disable the ODBC service on each CA User Activity Reporting Module server. See the section in the *Implementation Guide* about disabling ODBC and JDBC access to the event log store.

Sharing a CA EEM Server

CA User Activity Reporting Module r12.1 SP1 uses CA EEM r8.4 SP3, which is FIPS compatible. Enabling FIPS mode on the CA User Activity Reporting Module server disables the communication between the shared CA EEM and any product that does not support CA EEM r8.4 SP3.

For example, CA IT PAM is not FIPS compatible. If you upgrade your CA User Activity Reporting Module server to FIPS mode, the intergration with CA IT PAM fails.

You can share a CA EEM server between CA User Activity Reporting Module r12.1 SP1 and CA IT PAM r2.1 SP2 and r2.1 SP3 in non-FIPS mode only.

If your CA IT PAM installation is not sharing the same CA EEM server, CA User Activity Reporting Module r12.1 SP1 can run in FIPS mode and it can communicate with CA IT PAM; however, those communication channels are not FIPS compatible.

LDAP Bind Requires Match of Operating Modes

Successful communication with an external user store depends on the following:

- The CA User Activity Reporting Module servers and their managing CA EEM server must be in the same FIPS mode, and
- The CA EEM server must be in the same FIPS mode as a FIPS-enabled external user store when using TLS v 1.0 for the connection.

Note: FIPS-compatibility is not available when using unencrypted communications between the CA EEM server and the external user store, or when the CA EEM server and user store are in different FIPS modes.

SNMP Traps

You can send SNMP events using either SNMP V2 or SNMP V3. Both are supported in non-FIPS mode.

If the SNMP Trap Destination server is FIPS enabled you must choose V3 Security and then choose SHA as the authentication protocol and AES as the encryption protocol. You make these choices on the Destination page of the Schedule Action Alerts wizard.

Configure Microsoft Internet Explorer to Access CA User Activity Reporting Module in FIPS Mode

Your browser may require some additional configuration before it can display the CA User Activity Reporting Module server user interface when running in FIPS mode. Use the following procedure to set the required options to access CA User Activity Reporting Module in Microsoft Internet Explorer 7 or 8.

To configure Microsoft Internet Explorer 7 or 8

1. Open the browser and select the Tools, Internet Options.
2. Select the Advanced tab and scroll down to the Security section.
3. Select each of the following options:
 - Use SSL 2.0
 - Use SSL 3.0
 - Use TLS 1.0
4. Click OK.

Configure Mozilla Firefox to Access CA User Activity Reporting Module in FIPS Mode

Your browser may require some additional configuration before it can display the CA User Activity Reporting Module server user interface when running in FIPS mode. Use the following procedure to set the required options in Mozilla Firefox 3.5.8 or later browser to access a CA User Activity Reporting Module server running in FIPS mode.

Note: Access to CA User Activity Reporting Module requires installation of the Mozilla Firefox plug-in for Adobe Flash 9 or 10.

To configure Mozilla Firefox

1. Open the browser and select Tools, Options.
2. Click the Advanced tab and then click the Encryption subtab.
3. Select both of the following options:
 - Use SSL 3.0
 - Use TLS 1.0.
4. Select the Security subtab, and then select the option to use a Master Password.
5. Click Change Master Password... and provide a suitable password when the window appears, then click OK.
6. Select the Advanced subtab.
7. Click Security Devices.
The Device Manager window appears.

8. Select the NSS Internal PKCS #11 Module in the left pane.
This action populates the right pane.
9. Select the line, Module NSS Internal FIPS PKCS #11 Module, and click Enable FIPS.
10. Type the Master Password you created in a previous step when prompted, and then click OK.
11. Click OK in the Device Manager window.
12. Click OK in the Options window.
13. Restart the browser.

ISO Image for New Installations

To help you quickly deploy CA User Activity Reporting Module or to add a new CA User Activity Reporting Module server to an existing deployment, we are providing an ISO image for the service pack. The ISO image is available from the Downloads area on Support Online.

We recommend that you use the most recent ISO image in the following cases:

- Deploying CA User Activity Reporting Module. Installing from the latest ISO image minimizes the number of required subscription upgrades you must apply and speeds your deployment.
- Adding a new CA User Activity Reporting Module server after you have upgraded the servers in your existing deployment. First establish that the servers and agents in your current deployment are successfully upgraded and receiving events. Then install new servers using the ISO image to add more capacity and minimize the number of subscription updates to apply.

Note: The installation procedure has changed. A new prompt asks whether you want to install with FIPS mode enabled. When adding a new CA User Activity Reporting Module server to an existing FIPS deployment (the CA User Activity Reporting Module management server or remote CA EEM server are in FIPS mode), enable FIPS mode during the installation. Otherwise the new server cannot register and you must reinstall. See the *Implementation Guide* for more information about FIPS mode.

Chapter 11: New and Changed Features in r12.1

This section contains the following topics:

[Open API Access](#) (see page 65)

[Actionable Alerts: CA IT PAM Integration](#) (see page 66)

[Actionable Alerts: SNMP Integration with NSM Products](#) (see page 66)

[ODBC and JDBC Access](#) (see page 66)

[Identity and Asset Relevance: CA IT PAM Integration](#) (see page 67)

[Extended Direct Log Collection by Default Agent](#) (see page 67)

[Automated Update Schedules for Subscription Clients](#) (see page 68)

Open API Access

CA User Activity Reporting Module allows you to use API calls to access data from the event repository using the query and report mechanism, and display it in a web browser. You can also use the API to embed CA User Activity Reporting Module queries or reports in a CA or third-party product interface.

CA User Activity Reporting Module API features include:

- Authenticated, secure APIs
- Product registration for single sign-on (SSO)
- Retrieval of a query or report list, filtered by tag
- Display of a query or report in the interactive CA User Activity Reporting Module interface, allowing filtering, and embedding in a user interface

You can find more information about the API in the *API Programming Guide* and online help.

Actionable Alerts: CA IT PAM Integration

Through scheduled alerts that query volumes of log records, CA User Activity Reporting Module detects potential control violations and suspicious IT activity. CA User Activity Reporting Module notifies the IT security staff who investigates each alert to determine whether remediation action is required. Typical investigation activities are often routine and well-suited for automation. Through a tight integration between CA User Activity Reporting Module and CA IT PAM, these routine response actions can be performed automatically. IT security staff are free from repetitious tasks to focus on only the most important issues.

CA IT PAM integration lets you create requests in CA Service Desk by running a predefined CA IT PAM event/alert output process from alerts. You can also run custom IT PAM event/alert output processes from CA User Activity Reporting Module that automate other responses to suspicious events.

For details, see the "Working with CA IT PAM Event/Alert Processes" section in the Action Alerts chapter of the CA User Activity Reporting Module *Administration Guide*.

Actionable Alerts: SNMP Integration with NSM Products

Alerts are generated when scheduled queries retrieve events indicating suspicious activity. You can automate the sending of such alerts as SNMP traps to network security monitoring (NSM) products such as CA Spectrum or CA NSM. You prepare the destination products to receive and interpret SNMP traps from CA User Activity Reporting Module, configure the destination locations, then specify the event information to send.

For details, see the "Working with SNMP Traps" section in the Action Alerts chapter of the CA User Activity Reporting Module *Administration Guide*.

ODBC and JDBC Access

CA User Activity Reporting Module allows read-only access to collected event log information using ODBC and JDBC. You can use this access to do things like the following:

- Create customer reports using tools like BusinessObjects Crystal Reports
- Retrieve selected log information for use with a correlation engine
- Examine logs for intrusion or malware detection

The ODBC and JDBC access features use a client that you install on an appropriate server in your network. The CA User Activity Reporting Module server automatically installs its server-side components during subscription update and installation processing.

You can find installation information in the *Implementation Guide*. You can find configuration information and examples in the *Administration Guide*.

Identity and Asset Relevance: CA IT PAM Integration

CA IT PAM integration lets you maintain updated values for a given key by running a CA IT PAM dynamic values process. A dynamic values process is one that retrieves the current values from repositories that store current data. If you create a process that retrieves values for critical assets from your assets file or database, you can update the Critical_Assets key in predefined reports and queries with the click of a button.

For details, see the "Enabling Dynamic Values Import" section in the Queries and Reports chapter of the CA User Activity Reporting Module *Administration Guide*.

Extended Direct Log Collection by Default Agent

At the CA User Activity Reporting Module installation, the Syslog listener, named Syslog_Connector, is deployed on the default agent to enable the collection of syslog events. The Linux_localsyslog integration, with the associated connector, Linux_localsyslog_Connector, is also available to collect syslog events.

The default agent can now directly collect more than syslog events. Using the WinRm connector, the default agent can collect events from products running on Microsoft Windows platforms, such as Active Directory Certificate Services and Microsoft Office Communication Server. Using the ODBC connector, the default agent can collect events from multiple databases such as Oracle9i and SQL Server 2005, and applications that store their events in these databases.

Automated Update Schedules for Subscription Clients

When you install your first CA User Activity Reporting Module server, you configure global settings for all services, including subscription. For subscription purposes, the first server you install is the default subscription proxy. You configure the update start time and the frequency with which this proxy checks the CA Subscription Server for updates. When you install additional servers, they are installed as subscription clients, by default. When you configure additional servers, you do so at the local level. Configuration at the local level is done by selecting the name of the server to configure and then overriding selected global configurations.

By default, the update start time of subscription clients is inherited from the global setting. When the inherited setting is not overridden manually to force a delay, problems arise. To prevent this problem, the update schedule for clients is now automated with a 15 minute delay. The update schedule for subscription clients no longer requires manual configuration.

Chapter 12: Known Issues

This section contains the following topics:

[Agents and CA Adapters](#) (see page 69)

[Appliance \(non-UI\)](#) (see page 76)

[Event Correlation](#) (see page 77)

[Event Refinement](#) (see page 78)

[Queries and Reports](#) (see page 79)

[Subscription](#) (see page 81)

[User and Access Management](#) (see page 82)

[Virtualization](#) (see page 83)

[Miscellaneous](#) (see page 83)

[LogSensors and Listeners](#) (see page 95)

Agents and CA Adapters

The following are the known issues related to agents and CA adapters.

Agentconfig Script Fails on AIX

Symptom:

The agenfconfig utility fails on AIX with a segmentation error.

Solution:

You can resolve this issue by exporting the following values before running the agentconfig utility:

```
export MALLOCMULTIHEAP=true
```

```
export AIXTHREAD_STK=756000
```

Agent Installation Dependency on Red Hat Linux 4

Symptom:

When you install the CA User Activity Reporting Module agent on Red Hat Enterprise Linux 4 systems the installation fails and displays an error message about required dependencies.

Solution:

The CA User Activity Reporting Module agent on Red Hat Enterprise Linux 4 requires the Legacy Software Development Package. Install the Legacy Software Development Package before you install the agent.

Bulk Connector Deployment with IPv6 Address Is Not Correct

Symptom:

Deployment of connectors from the Bulk Connector Deployment wizard providing the Server address in IPV6 format is not working as expected. After some time, the connector status displays as Running. When you edit the connector, you can see that the Server name displays only the first four digits in the IPV6 address. The user name, password, and domain fields display blanks.

Solution:

The CA User Activity Reporting Module user interface currently sends the source file contents using :: as the delimiter that separates every source. Since the IPv6 address contains the double-colon characters ::, it is processed as a delimiter. The connector record is not saved properly.

Do not use IPv6 addresses to perform bulk connector deployment. You *can* use hostnames to configure connectors for bulk deployment. You can also configure an IPv6 connector from the New Connector Creation wizard using the normal instructions.

centOS Agent Appears as RHEL5 in Connector Deployment Screens

Symptom:

The centOS agent does not appear to be available for use in connector deployment after download.

Solution:

The centOS agent appears by the proper name in the Download Agent Binaries list. Once you have downloaded it, it appears in deployment screens as "RHEL5". Select RHEL5 for the centOS agent.

Domain Level Event Source Configuration Fails

Symptom:

Configuring any connector to access a Windows event source and read its logs involves creating a low-privileged user account and assigning it the needed permissions. When the event source is a Windows Server 2003 SP1 host, one of the steps is to set the local security policy, *Impersonate a client after authentication*. When this user right is set locally, no problem occurs. However, if this setting is applied as a domain policy to all servers, the global application has the affect of removing the existing local assignments for other users, namely Administrators and SERVICE.

A Microsoft support article states that "... problems occur when a Group Policy setting that defines the Impersonate a client after authentication user right is linked to the domain. This user right should be linked only to a site or to an organizational unit (OU)."

Solution:

See the Microsoft Knowledge Base article ID 930220 for the recommendation to restore full unsecured TCP/IP connectivity by disabling the IPSec services and restarting the computer and the steps to add back the Administrators and SERVICE groups as a Group Policy setting. Try the following link:

<http://support.microsoft.com/kb/930220>

Microsoft also recommends the following methods to resolve problems caused by applying the setting Impersonate a client after authentication as a group policy:

- Method 1: Modify Group Policy settings
- Method 2: Modify the Registry

See the Microsoft Knowledge Base article ID: 911801 for the steps to implement both recommended resolutions. Try the following link:

<http://support.microsoft.com/kb/911801>

Limitation on Port Configuration

Symptom:

When the syslog listener is configured with the default UDP port on an agent running as a non-root user on a Linux host, UDP port 514 (default for syslog) is not opened and no syslog events are collected on that port.

Solution:

If the agent is running as a non-root user on a UNIX system, change the syslog listener ports to port numbers above 1024 or change the service to run as root.

Message Parsing Files Fail to Appear in Integration Wizard

Symptom:

After upgrading CA User Activity Reporting Module, when you open the integration wizard to edit an existing integration, or create a new one, Message Parsing files fail to appear. The XMP shuttle control where MP files normally appear is blank.

Solution:

You can increase the java heap size to eliminate this issue, and display MP files in the Integration Wizard.

1. Navigate to the iTechnology Directory at /opt/CA/SharedComponents/iTechnology and stop iGateway:

```
./S99gateway stop
```

2. Open the caelm-agentmanager.group file and locate the max heap size value as shown in bold in the following example:

```
<JVMSettings>
    <loadjvm>true</loadjvm>
    <javahome>/usr/java/latest/jre</javahome>
    <Properties
name="java.endorsed.dirs=/opt/CA/SharedComponents/iTechnology/endorsed" >

<system-properties>java.endorsed.dirs=/opt/CA/SharedComponents/iTechnology/en
dorsed</system-properties>

    </Properties>
    <Properties name="initial heap size" >
        <jvm-property>-Xms512m</jvm-property>
    </Properties>
    <Properties name="max heap size" >
        <jvm-property>-Xmx768m</jvm-property>
    </Properties>
</JVMSettings>
```

3. Change the value as illustrated:

```
<jvm-property>-Xmx1024m</jvm-property>
```

4. Save and close the file, and restart iGateway:

```
./S99gateway start
```

OPSEC Connector Password Cannot Contain a "\$"

Symptom:

When you apply an OPSEC connector in your environment, it fails with the following error:

```
[ConnectorFW::AddConnector] DllLoad Failed, Hence terminating the Connector
```

Solution:

The OPSEC password cannot contain the "\$" character. Remove the character from the password and redeploy the connector.

Removing Server from Federation Does Not Remove Default Agent

Symptom:

When removing a CA User Activity Reporting Module server from a group of federated servers, the deleted server's default agent is not removed from its related agent group.

Solution:

Manually delete the agent from its group in the Agent Explorer sub-tab.

Reports with Data Collected from the CA SAPI Collector Are Not Displaying Events Properly

Symptom:

Events collected using the CA Audit SAPI Collector do not have all the event fields properly populated. This results in most of the reports not displaying the data in the expected manner.

Solution:

Use the CA Audit SAPI Router to collect events from your existing CA Audit infrastructure.

More information about configuring the SAPI Router is available in the *Implementation Guide* in the section, Considerations for CA Audit Users.

The Text File Log Sensor Running on a Solaris Agent System Stops Receiving Events

Symptom:

The Text File log sensor running on a Solaris agent system stops receiving events.

If you review the log file for the connector, it contains an error indicating that a library file, libssl.so.0.9.7, failed to open:

```
[4] 07/20/10 18:55:50 ERROR :: [ProcessingThread::DllLoad] :Error is: ld.so.1: caelmconnector: fatal: libssl.so.0.9.7: open failed: No such file or directory [4]
07/20/10 18:55:50 ERROR :: [ProcessingThread::run] Dll Load and Initialize failed,
stopping the connector ...
[3] 07/20/10 18:55:50 NOTIFY :: [CommandThread::run] Cmd_Buff received is START
```

Solution:

Identify the location of the library to enable the agent to receive events.

To resolve the error on the Solaris agent system

1. Navigate to /etc folder. For example:

```
cd /etc
```
2. Open profile file in the etc folder. For example:

```
vi /etc/profile
```
3. Add the following two lines at the end of the profile file:

```
LD_LIBRARY_PATH=/usr/sfw/lib:$LD_LIBRARY_PATH
export LD_LIBRARY_PATH
```
4. Close the current session of the Solaris agent system.
5. Open a new session of the Solaris agent system.
6. Stop the CA User Activity Reporting Module agent on the Solaris system. For example:

```
/opt/CA/ELMagent/bin/S99elmagent stop
```
7. Start the CA User Activity Reporting Module agent on Solaris system. For example:

```
/opt/CA/ELMagent/bin/S99elmagent start
```

The Text File log sensor starts receiving events and the error is no longer displayed in the log file.

Very High Event Flow Causes the Agent to Become Unresponsive

Symptom:

A CA User Activity Reporting Module agent becomes unresponsive and stops accepting events. The following error message appears in the caelmdispatcher.log file:

```
[275] 07/12/10 14:32:05 ERROR :: FileQueue::PutEvents Unable to write to new event file
```

```
[275] 07/12/10 14:32:05 ERROR :: WriterThread::run Unable to push events to FileQueue, Retrying
```

```
[275] 07/12/10 14:32:10 NOTIFY :: FileQueue::UpdateCurrentWriterFile Reached Max files configured limit=10, Not creating any new files for now
```

Solution:

This indicates that there is a very high rate of incoming events for the hardware in the environment. You can address this issue by reconfiguring the agent, using the following procedure:

1. Click Administration, the Log Collection subtab, and expand the Agent Explorer folder.
2. Select the agent you want to reconfigure, click Edit, and adjust the following parameters:

Max Number of Files

Sets the maximum number of files that can be created in the event reception file queue. The Max Number limit is 1000 files. The default setting is 10.

Max Size per File

Sets the maximum size, in MB, for each file in the event reception file queue. When a file reaches the maximum size, CA User Activity Reporting Module creates a new file. The Max Size limit is 2048 MB. The default setting is 100 MB.

You can adjust these parameters upwards as required by your environment and event per second rate.

CPU Throttling Is Not Supported on HP-UX PA-RISC and HP-UX Itanium Agents

Symptom:

When you enable the CPU throttling feature on machines that run the HP-UX PA-RISC and HP-UX Itanium agents, the CPU usage is not throttled.

Solution:

CA User Activity Reporting Module 12.5.03 does not support the CPU throttling feature on machines that run the HP-UX PA-RISC and HP-UX Itanium agents.

Agent on a RHEL 5 x64-bit System Runs Multiple Agent Services

Symptom:

When you edit the configuration of a CA User Activity Reporting Module agent on a RHEL 5 x64-bit system, the agent services such as agent, dispatcher, connector, and watchdog are run multiple times on the system.

Solution:

You can resolve this issue by performing the following steps:

1. Navigate to the `/opt/CA/ELMAgent/bin` directory.
2. Stop the agent by executing the following command:

```
./S99eImagent stop
```
3. Verify if any agent service is running by executing the following command:

```
ps -ef | grep ./caelm
```
4. Kill the agent service, if any, by executing the following command:

```
kill -9 <PID>
```
5. Start the agent by executing the following command:

```
./S99eImagent start
```

Appliance (non-UI)

The following are the known issues related to the soft-appliance (not the CA User Activity Reporting Module user interface).

Cannot Log into CA User Activity Reporting Module Server Using EiamAdmin User Name

Symptom:

EiamAdmin user name and password are not recognized when trying to log into the CA User Activity Reporting Module server (not through the user interface).

Solution:

To perform maintenance-related tasks, such as configuring archiving, the installation creates another user name, caelmadmin, and assigns it the same password as the installer provided for EiamAdmin. Use the caelmadmin user name and password to log into the CA User Activity Reporting Module server.

For more information, see Default User Accounts in the *Implementation Guide*.

Event Correlation

The following are the known issues related to event correlation.

Correlation Ignores Events Marked Ahead of the Server Time

Symptom:

The correlation engine ignores events with timestamps more than 5 minutes ahead of the CA User Activity Reporting Module server time.

Solution:

Such events are not considered for incident inclusion, regardless of the Correlation Event Span values.

Correlation Service Fails to Initialize on Startup

Symptom:

The correlation engine fails to initialize on startup. When this happens CA User Activity Reporting Module generates a Correlation Service log entry, and a self-monitoring event with the following text:

```
Unable to initialize service CorrelationService: java.lang.RuntimeException:  
com.ca.elm.common.repository.RepositoryException: Error authenticating to EEM  
<hostname>
```

Solution:

To resolve this issue, restart ELM Services using the following procedure:

1. Click the Administration tab, then the Services subtab, and expand the System Status node.
2. Select the CA User Activity Reporting Module server where you want to restart services.
3. Click Restart Services.

Correlation Rule Filters Fail to Identify Incident Events

Symptom:

An event correlation rule filter fails to identify events as expected when using wildcards. For example, a rule set to match the value "test*" does not return values beginning with "test", such as "testa"

Solution:

The correlation engine uses strict regular expression syntax as regards wildcards. So in this example, you would have to use "test.*" to return the results you want.

Line Break Does Not Function in Correlation Wizard Fields

Symptom:

In certain correlation rule field wizards, a line break cannot be created using "</BR>". This issue applies to the following fields:

- Incident Description in the Details step
- Incident Remediation in the Details step
- Subject in the Email tab of the Notifications step
- Text in the Email tab of the Notifications step

Solution:

The "<" character is not currently allowed in the listed fields, so the line break cannot be entered.

Rule Test Interface Does Not Show Completed State

Symptom:

When you test a state transition correlation rule, the service completes the test and shows the results, but the test interface continues to display the "Finishing" state and not the "Completed" state.

Solution:

The test has completed properly when results appear. This issue is purely cosmetic.

Event Refinement

The following are the known issues related to event refinement.

Block Mapping String and Numeric Values Require Different Operators

Symptom:

When using the Mapping Wizard, block mapping values for numeric or text string columns do not respond as expected.

Solution:

When creating block mappings, the 'Equal' operator can only be used with numeric columns. Use the 'Match' operator for all text string columns.

Message Parsing Rules Produce an Error When Modified

Symptom:

If you copy the rules from subscription and try to modify their content, an error occurs.

Solution:

This error occurs because the content in the rules is unordered in a subscription. If you want to modify a rule, you must reposition the rules.

If a rule requires a mapping variable of a mapping block, you must define the mapping variable before you use it in either that mapping block or its preceding mapping block. The following is the order of precedence of the mapping blocks:

1. Direct Mapping
2. Functional Mapping
3. Conditional Mapping
4. Block Mapping

Queries and Reports

The following are the known issues related to queries and reports.

Event Data With Non-UTF8 Characters Does Not Display in XML or PDF

Symptom:

Query or report results that contain non-UTF8 characters cannot be exported to XML or PDF formats. This issue applies only to events collected before updating to r12.5.

Solution:

Non-UTF8 characters in historical event data causes XML parsing to fail, which also prevents PDF export. Historical data without non-UTF8 characters exports properly to XML and PDF.

You can also export event data containing non-UTF8 characters as an MS Excel spreadsheet.

Query and Reports Pages Are Displaying Error Messages When the UI is Loading

Symptom:

When a CA User Activity Reporting Module server is loading the Queries and Reports pages, the following error is displayed on the UI:

Error getting query/report results: HTTP request error

Solution:

This error occurs if you have used a medium configuration for collection and reporting servers using CA User Activity Reporting Module as a virtual appliance. In a Hub and Spoke model, we highly recommend that you use a medium deployment configuration for a collection server and a large deployment configuration for a reporting server.

Queries and Reports Fail to Find Host

Symptom:

When you run queries or reports, the following error appears:

Error getting query results: Run Query: Host does not exist

Solution:

This error occurs when you launch a query or report after restarting the igateway, but before UI spindle initialization is complete. Wait at least 5 minutes after restarting igateway before running queries or reports. The delay allows the initialization to finish.

Subscription

The following are the known issues related to subscription.

Keyed List Updates Disabled After Upgrade

Symptom:

Scheduled keyed list upgrades are disabled after you upgrade to release 12.5.02 using the subscription system.

Solution:

If you had scheduled keyed list upgrades enabled before the upgrade, you can simply reenable them from the Alerting Service interface screen.

Offline Subscription Files Are Unavailable on Offline Proxy

Symptom:

After upgrading to CA User Activity Reporting Module version 12.5, and manually installing an offline subscription package on an offline proxy server, you cannot access the offline package through the CA User Activity Reporting Module user interface. In Subscription Service Configuration for the offline server, when you choose the offline package in the File dropdown, and click Browse, a timeout message appears.

Solution:

A .jar file in the IGW folder of the proxy server needs to be deleted. To delete the file, do the following:

1. On the proxy server, navigate to the \$IGW_LOC directory.
2. Stop igateway using the command
`./S99igateway stop`
3. Delete the file subscription.jar using the command
`rm -rf Subscription.jar`
4. Start igateway using `./S99igateway start`.

Subscription Schedule is Reset after Upgrading the Subscription Server

Symptom:

When you configure the schedule for a subscription update, the schedule is reset after the subscription server is upgraded. The subscription clients are not upgraded.

Solution:

You can resolve this issue by performing the following steps:

1. Select each subscription client you want to upgrade.
2. Click Upgrade Now.

User and Access Management

The following are the known issues related to user and access management.

Custom Administrators Not Confined by Access Policies

Symptom:

If you create a custom administrator and assign users to that administrator, attempts to set access policies to confine the custom administrator to viewing only those users fails. A custom administrator can view any user regardless of identity access policy.

Solution:

This behavior occurs due to a user store management issue. You cannot presently create a custom administrator with rights to view only a certain subset of users.

Limitation on Calendar Use with Access Policies

Symptom:

You have limited user or group access to CA User Activity Reporting Module during the times and days specified on a calendar with a policy that explicitly grants access. However, the calendar does not function as expected with a policy that explicitly denies access.

Solution:

Use the explicit grant policy type to limit the times you want to grant a group access rather than using an explicit deny policy.

Virtualization

The following are the known issues related to virtualization.

VAPP Provisioning on ESX Server Fails

Symptom:

Provisioning the CA User Activity Reporting Module VAPP for 12.5.02 fails with the following error:

Error: Host CPU is incompatible with the virtual machine's requirements at CPUID level 0x8000001 register 'edx'

Solution:

This error occurs when the host VT (Virtualization Technology) is not enabled. To resolve the issue, enable VT in BIOS for the ESX server before provisioning. Consult your host computer hardware documentation for information on enabling VT in your environment.

Performance Problems on ESX Server

Symptom:

When running CA User Activity Reporting Module in an ESX environment you may encounter performance problems. These problems can apply to CA User Activity Reporting Module, as well as other virtual application servers running on the same ESX server.

Solution:

This issue has been resolved in some cases by installing VMware tools on the CA User Activity Reporting Module appliance. VMware tools is not officially supported, so this solution may not work in all environments.

Miscellaneous

The following are the miscellaneous known issues.

CA User Activity Reporting Module Is Sometimes Non-Responsive

Symptom:

Sometimes CA User Activity Reporting Module is non-responsive. That is, the user interface does not respond to user requests and internal requests from the agent to agent manager stop. However, log collection continues.

Solution:

Use the following procedure to stop the iGateway process and restart it:

1. Log on to the non-responsive CA User Activity Reporting Module server through ssh as the caelmadmin user.
2. Switch users to the root account with the following command and provide the root password:

```
su -
```

3. Navigate to the \$IGW_LOC directory.

By default, iGateway resides in the directory,
/opt/CA/SharedComponents/iTechnology.

4. Stop the iGateway process with the following command:

```
./S99igateway stop
```

5. Start the iGateway process with the following command:

```
./S99igateway start
```

Custom ODBC Database Connection Fails

Symptom:

A custom connection set up to allow you to query an ODBC database fails.

Solution:

This issue occurs when ODBC Schema names are entered in lower-case letters during configuration. Make sure that when you configure an ODBC connection in the Report Service interface, you enter any schema names in all capital letters.

Display Time is Wrong

Symptom:

Display time is wrong after CA User Activity Reporting Module server is provisioned using the Virtual Appliance.

Solution:

Use the following workaround to resolve this issue:

1. Stop the iGateway.
2. Set the display time manually.
3. Restart the iGateway.

Event Collection Profiles Fail to Appear on Upgrade

Symptom:

After you upgrade to the 12.5.02 release from a previous release, subscription Event Collection Profiles fail to appear in the user interface.

Solution:

This issue occurs when the Content upgrade module is not the final module installed. To resolve the issue, repeat the upgrade process with only the Content module selected. When the content-only upgrade is complete, the Event Collection profiles appear properly.

More information:

[Upgrading to CA User Activity Reporting Module Version 12.5 through Subscription](#) (see page 13)

[Upgrading to CA User Activity Reporting Module Version 12.5 through Offline Subscription](#) (see page 17)

High Contrast Settings for Monitor

Symptom:

In Windows, the only supported high contrast setting is High Contrast Black; the other three high contrast options are not supported. High contrast options include High Contrast #1, High Contrast #2, High Contrast Black, and High Contrast White.

Solution:

Select the High Contrast Black setting, when a high contrast setting is needed. To set this option, select Display from the Control Panel. This accessibility option is set on the Display Properties dialog, Appearance tab, Color scheme drop-down list.

iGateway Continuously Stopping and Restarting

Symptom:

The CA User Activity Reporting Module interface occasionally stops responding during operations. Checking the CA User Activity Reporting Module server reveals that the iGateway process is stopping and restarting but failing to stay up. Use the following process to check the iGateway process:

1. Access a command prompt on the CA User Activity Reporting Module server.
2. Log in with the caelmadmin account credentials.
3. Switch users to the root account with the following command:

```
su - root
```

4. Use the following command to verify that the iGateway process is running:

```
ps -ef | grep igateway
```

The operating system returns the iGateway process information and a list of processes running under iGateway.

Solution:

Use the following workaround to resolve the problem:

1. Go to \$IGW_LOC (/opt/CA/SharedComponents/iTechnology), and locate the following file:

```
saf_epSIM.*
```

There are multiple versions, numbered sequentially, for example, saf_epSIM.1, saf_epSIM.2, saf_epSIM.3, and so on.

2. Rename the lowest-numbered file and save it in another location for transmission to CA support.
3. If iGateway does not automatically restart, restart it:
 - a. Log in as the root user.
 - b. Access a command prompt and enter the following command:

```
/opt/CA/SharedComponents/iTechnology/S99igateway start
```

Keyed Lists Configured Locally Fail to Appear After Upgrade

Symptom:

After upgrading to CA User Activity Reporting Module version r12.5, when you examine the available Keyed Value list under Administration > Library > Keyed Lists > Subscription, some Keyed Values no longer appear.

Solution:

In CA User Activity Reporting Module version r12.5, Keyed Value lists have been moved from Services to Library, under Administration. If you had previously specified a Keyed Value as local to a specific server, rather than global for your entire CA User Activity Reporting Module environment, that Keyed Value is not retained after upgrade to version r12.5.

To avoid losing Keyed Values, before upgrading to version r12.5, set all Keyed Values to global configuration.

Max Disk Space for Virtual CA User Activity Reporting Module Is Too Small

Symptom:

Not able to create a virtual machine with an allocated disk space of 512 GB in VMware ESX Server v3.5. My virtual CA User Activity Reporting Module server needs more than the 256 GB maximum to handle event volume.

Solution:

VMWare ESX Server uses a default Block Size of 1 MB, and calculates the maximum disk space using this value. When the block size is set to 1 MB, the maximum disk space defaults to 256 GB. If you want to configure more than 256 GB of virtual disk space, you can increase the default block size.

To create a larger virtual disk

1. Access the service console on the VMware ESX Server.
2. Increase the Block Size to 2 MB with the following command:

```
vmkfstools --createfs vmfs3 --blocksize 2M vmhba0:0:0:3
```

In this command, the value 2M means 512 GB (2 x 256).
3. Restart the VMware ESX Server.
4. Create a new virtual machine with disk space set to 512 GB.

More information about this command and other commands is available in the VMware ESX Server documentation.

Out of Memory Error on Machines with Low Memory

Symptom:

The download of a subscription update to a computer with less than the recommended 8 GB of memory fails with a Java out of memory error.

Solution:

If you install CA User Activity Reporting Module on hardware with less than the recommended 8 GB of memory, change the JVM heap size setting by editing the caelm-java.group file.

To change the JVM heap size setting

1. Log on to the CA User Activity Reporting Module server as caelmadmin.
2. Navigate to the iGateway folder.

3. Open the caelm-java.group file and locate the the JVM settings section.
4. Add the new line, as shown in the following illustration in bold:

```
<JVMSettings>
    <loadjvm>>true</loadjvm>
    <javahome>/usr/java/latest/jre</javahome>
    <Properties
name="java.endorsed.dirs=/opt/CA/SharedComponents/iTechnology/endorsed">

<system-properties>java.endorsed.dirs=/opt/CA/SharedComponents/iTechnology/en
dorsed</system-properties>

    </Properties>
    <Properties
name="maxmemory"><jvm-property>-Xmx1250M</jvm-property></Properties>
</JVMSettings>
```

5. Save and close the caelm-java.group file

Important! Setting the JVM heap size can cause problems when using the Export to PDF option with large data sets. Thus, this option is best used on only small computers, which run with less than the recommended RAM and processing power.

Refreshing Browser Logs User Out of CA User Activity Reporting Module

Symptom:

Refreshing your browser while logged in to CA User Activity Reporting Module ends your session, logging you out.

Solution:

CA User Activity Reporting Module does not support browser refresh because of Flex limitations. Avoid refreshing your browser.

EE_POZERROR Repository Error Appears on Login When Using Remote EEM

Symptom:

When you open the CA User Activity Reporting Module interface in an environment using a remote EEM server, the interface may fail to display properly. Instead an "EE_POZERROR Repository Error" appears.

Solution:

Close and reopen the browser to resolve the issue.

Screen Captures May Show CA User Activity Reporting Module Title

Screen captures included in the 12.5.02 release documentation may show the CA Enterprise Log Manager title, rather than the CA User Activity Reporting Module title. This change is purely cosmetic. Navigation and functionality are unchanged.

Service or Explorer Interface Error May Occur After iGateway Restart

Symptom:

If you click on an object in the CA User Activity Reporting Module interface services or explorer trees immediately after an iGateway restart, you may see an error message reading "Network error on receive" rather than the requested content.

Solution:

This error occurs if you attempt to access one of the specified objects while they are still being reloaded after the iGateway restart. Wait five minutes to allow the reload to finish and click the services or explorer item you want.

Uploads and Imports Fail with any Non-IE Browser

Symptom:

When you browse to CA User Activity Reporting Module with Mozilla Firefox, Safari, or Chrome, you can perform most CA User Activity Reporting Module tasks successfully. However, any upload or import tasks fail when using any of these browsers. Examples follow:

- Importing a query definition fails with an "IO Error: Request Failure" message.
- Uploading a CSV file with the bulk connector deployment wizard fails, despite the message, "Uploading file."

Solution:

Browse to CA User Activity Reporting Module with Microsoft Internet Explorer when you want to upload or import files.

User Interface Unexpectedly Fails to Display Properly on Installation with Remote EEM

Symptom:

When installing CA User Activity Reporting Module with a remote EEM server, the user interface occasionally fails to display properly on initial login. Reviewing the iGateway log files reveals that the agentmanager, calmreporter, subscclient and subscproxy services have not started.

You may see log file syntax similar to this:

```
[1087523728] 09/23/09 20:35:32 ERROR :: Certificate::loadp12 : etpki_file_to_p12
failed [ errorcode : -1 ]

[1087523728] 09/23/09 20:35:32 ERROR :: Certificate::loadp12 : etpki_file_to_p12
failed [ errorcode : -1 ]

[1087523728] 09/23/09 20:35:32 ERROR :: Certificate::loadp12 : etpki_file_to_p12
failed [ errorcode : -1 ]

[1087527824] 09/23/09 17:00:07 ERROR ::
OutProcessSponsorManager::stopSponsorGroup : terminating safetynet process for
SponsorGroup [ caelm-msgbroker ] didn't respond OK for the termination call

[1087527824] 09/23/09 17:00:07 ERROR ::
OutProcessSponsorManager::stopSponsorGroup : terminating safetynet process for
SponsorGroup [ caelm-oaserver ] didn't respond OK for the termination call

[1087527824] 09/23/09 17:00:07 ERROR ::
OutProcessSponsorManager::stopSponsorGroup : terminating safetynet process for
SponsorGroup [ caelm-sapicollector ] didn't respond OK for the termination call

[1087527824] 09/23/09 17:07:46 ERROR :: OutProcessSponsorManager::start :
SponsorGroup [ caelm-java ] failed to start ]

[1087527824] 09/23/09 17:07:49 ERROR :: SponsorManager::start : Sponsor [
agentmanager ] failed to load

[1087527824] 09/23/09 17:07:49 ERROR :: SponsorManager::start : Sponsor [
calmreporter ] failed to load

[1087527824] 09/23/09 17:07:49 ERROR :: SponsorManager::start : Sponsor [
subscclient ] failed to load

[1087527824] 09/23/09 17:07:49 ERROR :: SponsorManager::start : Sponsor [
subscproxy ] failed to load
```

Solution:

You can resolve this problem by restarting iGateway, and logging in to the interface again.

To restart the iGateway service

1. Click the Administration tab and then click the Services subtab.
2. Expand the System Status entry.
3. Select a specific CA User Activity Reporting Module server.
4. Click the service's Administration tab.
5. Click Restart iGateway.

Upgrade to CA Audit Required for Interoperation with CA User Activity Reporting Module

Symptom:

The installation of a CA User Activity Reporting Module server uses an existing CA Embedded Entitlements Manager server installed with CA Audit r8 SP2. When accessing the Audit Administrator user interface, an attempt to edit agent details returns the error message:

"Warning: There are no Log Manager Servers available."

All the fields in the Audit Administrator's Edit Agent Details page have blank values.

The caused is an incompatible interaction between the r8.1 CA EEM server and the r8.4 CA EEM client present in CA User Activity Reporting Module r12.1. The older version does not support a function called by the newer SDK.

Solution:

To resolve the version mismatch and to use CA User Activity Reporting Module with CA Audit r8 SP2, upgrade the existing CA Audit implementation to CA Audit r8 SP2 CR1. You can then use the CA User Activity Reporting Module Agent and Agent Manager features with CA Audit.

Upgrade to 12.5.x From Earlier Versions Fails

Symptom:

When you update CA User Activity Reporting Module from a release before 12.5.0 to release 12.5.0 or later using the CA User Activity Reporting Module subscription system, you may experience errors or upgrade failure.

Solution:

To avoid these errors, you can manually install the 12.5 preupgrade package, using the following procedure. This procedure can be used for both Subscription and Offline upgrades. It replaces the preupgrade package installation procedures described in the appropriate sections of this document.

To install the CA User Activity Reporting Module 12.5.x preupgrade package manually

1. Navigate to the FTP offline subscription site:

```
ftp://ftp.ca.com/pub/elm/connectors/ftp/outgoing/pub/elm/ELM_Offline_Subscription
```

The directory index displays a folder for each major CA User Activity Reporting Module release.
2. Select the 12.5_Offline_Subscription folder, and the Pre_12.5_Upgrade folder.
3. Download the pre-12.5 offline subscription update package. The file name follows the following format:

```
subscription_12_5_xx_yy.tar
```
4. Using physical media such as a disk, or using scp, manually copy the .tar file to the CA User Activity Reporting Module appliance. We recommend a partition with a large amount of available space, such as /data/temp.
5. Untar the subscription file in your chosen directory.
The main .tar file package contains four update.zip files:
 - iGateway
 - Java
 - EEM
 - ELM binary
6. Manually open each of these zip files using jar -xf. You can do so in any order, but the ELM binary package must be last.
Each zip file contains an update shell script that installs the contents of the package. For example, EEM_update.sh
7. Locate and run each of these update scripts, ending with the ELM update, Upgrade_Server.sh.
A message containing the target update version appears.

8. Enter yes to continue, and wait for the upgrade to complete.

Return to the CA User Activity Reporting Module interface to confirm the upgrade.

When you have finished this procedure, you can complete your [Subscription upgrade](#) (see page 13) or [Offline upgrade](#) (see page 17).

An Undefined Server Name Replaces the Primary CA User Activity Reporting Module Server Name

Symptom:

When you deploy CA User Activity Reporting Module as a virtual appliance, the name of the primary CA User Activity Reporting Module server is displayed as ca-elm on the Subscription Dashboard.

Solution:

You can resolve this issue by performing the following steps:

1. Click the Administration tab, the Services subtab, and the Subscription Service folder.
The Global Service Configuration: Subscription Service page is displayed.
2. Type the name of the primary CA User Activity Reporting Module server in Default Subscription Proxy.
3. Select the name of the primary CA User Activity Reporting Module server from the Subscription Proxy(s) for Client Updates.
4. Select the name of the primary CA User Activity Reporting Module server from the Subscription Proxy(s) for Content Updates.
5. Click Save.

DSN Creation Fails on a Windows 64-bit Machine

Symptom:

When you install the ODBC DataDirect installer on a 64-bit machine, you cannot add a DSN from the ODBC Data Sources.

Solution:

You can resolve this issue by performing the following steps:

1. Navigate to C:\Windows\sysWOW64\odbcad32.dll.
2. Add the DSN.

The Path /opt/CA/LogManager/help Contains Connector Guides for Unsupported Integrations

Symptom:

The path /opt/CA/LogManager/help contains connector guides for integrations that are not supported in CA User Activity Reporting Module 12.5.03.

Solution:

CA User Activity Reporting Module 12.5.03 supports limited integrations to align with the Identify and Access Management strategy, so the UI displays the connector guides for only the supported integrations. However, the path /opt/CA/LogManager/help contains the connector guides for unsupported integrations too because CA User Activity Reporting Module stores the connector guides for all the integrations supported by CA User Activity Reporting Module 12.0 through 12.5.03 in /opt/CA/LogManager/help.

Changes to Few Fields of the Event Log Store and the Incident Service Requires iGateway Restart

Symptom:

When you edit the following fields of the Event Log Store and the Incident Service, the changes are not reflected in the following fields:

- Event Log Store
 - Max Archive Days
 - Archive Disk Space
 - Export Policy
- Incident Service
 - Maximum Rows
 - Archive Disk Space

Solution:

You can resolve this issue by restarting iGateway when you edit the fields.

LogSensors and Listeners

The following are the known issues related to the logsensors and listeners.

Repeated Events Appear in CA User Activity Reporting Module

Symptom:

CA User Activity Reporting Module receives repeated events when you reboot the event source computer from which the WMI logsensor is receiving events.

Solution:

This is a known issue. A fix for this issue will be available in a future release of CA User Activity Reporting Module.

User Credentials Authentication Fails on WMI LogSensor

Symptom:

CA User Activity Reporting Module fails to authenticate a user when you deploy a WMI logsensor to receive events from a local computer. The WMI logsensor is able to receive events from the local computer.

Solution:

This is default behavior. Microsoft Windows does not validate user credentials when you deploy a WMI logsensor on the local computer.

Connector Deployment Fails for a Cisco Router Integration

Symptom:

When you deploy a connector using the syslog listener for Cisco Router 12.1 or Cisco Router 12.2 integrations, the connector deployment fails intermittently.

Solution:

This is a known issue. A fix for this issue will be available in a future release of CA User Activity Reporting Module.

Chapter 13: Fixed Issues

This section contains the following topics:

[Issues List](#) (see page 97)

Issues List

The following customer-reported issues have been fixed in CA User Activity Reporting Module r12.5.03:

- 20291800
- 20246928-05
- 20437868-01
- 20336782-01
- 20490815-02
- 20291800-01
- 20518903
- 20527183
- 20527183
- 20536225
- 20357475-01
- 20365262-02
- 20512472
- 20595820-01
- 20117024
- 20356608-01

Chapter 14: Documentation

This section contains the following topics:

[Bookshelf](#) (see page 99)

[How to Access the Bookshelf](#) (see page 100)

Bookshelf

The Bookshelf provides access to all CA User Activity Reporting Module 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

Note: When searching for purely numeric terms, precede the search value with an asterisk.

- Breadcrumbs that link you to higher level topics
- Single index across all guides
- Links to PDF versions of guides for printing

How to Access the Bookshelf

CA product documentation bookshelves are available for download in ZIP files titled All Guides Including a Searchable Index.

To access the CA User Activity Reporting Module bookshelf

1. Go to [Search Documentation](#) / Guides.
2. Type CA Enterprise Log Manager for the product, select a release and language and click Go.
3. Download the ZIP file to your desktop or other location.
4. Open the zip file and drag the bookshelf folder to your desktop or extract it to another location.
5. Open the bookshelf folder.
6. Open the bookshelf:
 - Open Bookshelf.hta if the bookshelf is on the local system and you are using Internet Explorer.
 - Open Bookshelf.html if the bookshelf is on a remote system or if you are using Mozilla Firefox.

The bookshelf opens.

Appendix A: Third-Party Acknowledgements

This section contains the following topics:

[Adaptive Communication Environment \(ACE\) 5.5.10](#) (see page 102)

[Adobe Flex SDK 3.5](#) (see page 103)

[Software under the Apache License](#) (see page 104)

[Boost 1.39.0](#) (see page 108)

[Connector for ODBC 6 SP1](#) (see page 108)

[CentOS 5.5](#) (see page 109)

[DataDirect OpenAccess 6.0](#) (see page 109)

[dom4j 1.6.1](#) (see page 109)

[Google Protocol Buffers 2.3.0](#) (see page 110)

[Jackson 1.7.4](#) (see page 112)

[Jaxen 1.1](#) (see page 115)

[JAXP 1.2.0-FCS](#) (see page 117)

[JDOM 1.0](#) (see page 119)

[Jersey 1.5](#) (see page 120)

[Red Hat Enterprise Linux 5.5](#) (see page 127)

[SNMP4J 1.9.3d](#) (see page 131)

[Sun JDK 1.6.0_19](#) (see page 135)

[Sun JDK 1.6.0_25](#) (see page 140)

[Tomcat 7.0.11](#) (see page 141)

[PCRE 6.3](#) (see page 145)

[TPSR--POI 3.0](#) (see page 146)

[POI 3.6](#) (see page 151)

[Zlib 1.2.3](#) (see page 157)

[ZThread 2.3.2](#) (see page 158)

Adaptive Communication Environment (ACE) 5.5.10

Copyright and Licensing Information for ACE(TM), TAO(TM), CIAO(TM), and CoSMIC(TM)

ACE(TM), TAO(TM), CIAO(TM), and CoSMIC(TM) (henceforth referred to as "DOC software") are copyrighted by Douglas C. Schmidt and his research group at Washington University, University of California, Irvine, and Vanderbilt University, Copyright (c) 1993-2008, all rights reserved. Since DOC software is open-source, freely available software, you are free to use, modify, copy, and distribute--perpetually and irrevocably--the DOC software source code and object code produced from the source, as well as copy and distribute modified versions of this software. You must, however, include this copyright statement along with any code built using DOC software that you release. No copyright statement needs to be provided if you just ship binary executables of your software products.

You can use DOC software in commercial and/or binary software releases and are under no obligation to redistribute any of your source code that is built using DOC software. Note, however, that you may not do anything to the DOC software code, such as copyrighting it yourself or claiming authorship of the DOC software code, that will prevent DOC software from being distributed freely using an open-source development model. You needn't inform anyone that you're using DOC software in your software, though we encourage you to let us know so we can promote your project in the DOC software success stories.

The ACE, TAO, CIAO, and CoSMIC web sites are maintained by the DOC Group at the Institute for Software Integrated Systems (ISIS) and the Center for Distributed Object Computing of Washington University, St. Louis for the development of open-source software as part of the open-source software community. Submissions are provided by the submitter ``as is|&"&| with no warranties whatsoever, including any warranty of merchantability, noninfringement of third party intellectual property, or fitness for any particular purpose. In no event shall the submitter be liable for any direct, indirect, special, exemplary, punitive, or consequential damages, including without limitation, lost profits, even if advised of the possibility of such damages. Likewise, DOC software is provided as is with no warranties of any kind, including the warranties of design, merchantability, and fitness for a particular purpose, noninfringement, or arising from a course of dealing, usage or trade practice. Washington University, UC Irvine, Vanderbilt University, their employees, and students shall have no liability with respect to the infringement of copyrights, trade secrets or any patents by DOC software or any part thereof. Moreover, in no event will Washington University, UC Irvine, or Vanderbilt University, their employees, or students be liable for any lost revenue or profits or other special, indirect and consequential damages.

DOC software is provided with no support and without any obligation on the part of Washington University, UC Irvine, Vanderbilt University, their employees, or students to assist in its use, correction, modification, or enhancement. A number of companies around the world provide commercial support for DOC software, however.

DOC software is Y2K-compliant, as long as the underlying OS platform is Y2K-compliant. Likewise, DOC software is compliant with the new US daylight savings rule passed by Congress as "The Energy Policy Act of 2005," which established new daylight savings times (DST) rules for the United States that expand DST as of March 2007. Since DOC software obtains time/date and calendaring information from operating systems users will not be affected by the new DST rules as long as they upgrade their operating systems accordingly.

The names ACE(TM), TAO(TM), CIAO(TM), CoSMIC(TM), Washington University, UC Irvine, and Vanderbilt University, may not be used to endorse or promote products or services derived from this source without express written permission from Washington University, UC Irvine, or Vanderbilt University. This license grants no permission to call products or services derived from this source ACE(TM), TAO(TM), CIAO(TM), or CoSMIC(TM), nor does it grant permission for the name Washington University, UC Irvine, or Vanderbilt University to appear in their names.

If you have any suggestions, additions, comments, or questions, please let me know.

Douglas C. Schmidt

Adobe Flex SDK 3.5

Adobe Flex SDK v. 4.0

This Product is distributed with portions of Adobe Flex SDK v 4.0. Adobe has provided additional copyright notices and information that may be applicable to portions of the SDK in files that accompanies the SDK, and also at http://www.adobe.com/products/eula/third_party/.

Software under the Apache License

This product makes use of the following Apache software:

- Ant 1.6.5
- Formatting Objects Processor (FOP) 0.95 and FOP 1.0
- Java Caching System (JCS) 1.3
- Jakarta POI 3.0
- Log4cplus 1.0.2
- Log4j 1.2.15
- Qpid 0.5.0
- Qpid 0.6.0
- Quartz 1.5.1
- Super CSV 1.52
- Xerces-C 2.6.0
- XMLBeans 2.5.0

Portions of this product include software developed by the Apache Software Foundation. The Apache software is distributed in accordance with the following license agreement:

Apache License

Version 2.0, January 2004

<http://www.apache.org/licenses/>

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

'License' shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

'Licensor' shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

'Legal Entity' shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, 'control' means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

'You' (or 'Your') shall mean an individual or Legal Entity exercising permissions granted by this License.

'Source' form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

'Object' form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and versions to other media types.

'Work' shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

'Derivative Works' shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

'Contribution' shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, 'submitted' means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as 'Not a Contribution.'

'Contributor' shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a 'NOTICE' text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an 'AS IS' BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

Boost 1.39.0

This product includes Boost v.1.39.0, which is distributed in accordance with the following license:

Boost Software License - Version 1.0 - August 17th, 2003

Permission is hereby granted, free of charge, to any person or organization obtaining a copy of the software and accompanying documentation covered by this license (the "Software") to use, reproduce, display, distribute, execute, and transmit the Software, and to prepare derivative works of the Software, and to permit third-parties to whom the Software is furnished to do so, all subject to the following:

The copyright notices in the Software and this entire statement, including the above license grant, this restriction and the following disclaimer, must be included in all copies of the Software, in whole or in part, and all derivative works of the Software, unless such copies or derivative works are solely in the form of machine-executable object code generated by a source language processor.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. IN NO EVENT SHALL THE COPYRIGHT HOLDERS OR ANYONE DISTRIBUTING THE SOFTWARE BE LIABLE FOR ANY DAMAGES OR OTHER LIABILITY, WHETHER IN CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Connector for ODBC 6 SP1

Portions of this documentation are excerpted documentation originally written by Progress Software Corporation, 1991-2008.

CentOS 5.5

CentOS 5.5

This product is distributed with CentOS 5.5 (the "Third Party Software"), the use of which is governed by the following terms:

The Third Party Software is open source software that is used with this CA software program (the "CA Product"). The Third Party Software is not owned by CA, Inc. (CA). Use, copying, distribution and modification of the Third Party Software is governed by the GNU General Public License (GPL) version 2.0. A copy of the GPL license can be found in the same directory where the Third Party Software is located. Additionally, a copy of the GPL license can be found at <http://www.opensource.org/licenses/gpl-2.0.php> or write to the Free Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA. CA makes the source code for the Third Party Software available at http://opensrcd.ca.com/ips/09346_4/. Use of the CA Product is governed solely by the CA license agreement (EULA), not by the GPL license. You cannot use, copy, modify or redistribute any CA Product code except as may be expressly set forth in the EULA. The Third Party Software is provided AS IS WITHOUT WARRANTY OR CONDITION OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Further details of the disclaimer of warranty with respect to the Third Party Software can be found in the GPL license itself. To the full extent permitted under applicable law, CA disclaims all warranties and liability arising from or related to any use of the Third Party Software.

DataDirect OpenAccess 6.0

The Licensed Program contains the technology OpenAccess ODBC from Progress Software Corporation ("Progress") for which the following applies. In no event will Progress or its suppliers be liable for any damages including direct, special, consequential, and indirect damages.

dom4j 1.6.1

This product includes dom4j 1.6.1, which is distributed in accordance with the following terms:

BSD style license

Redistribution and use of this software and associated documentation ("Software"), with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain copyright statements and notices. Redistributions must also contain a copy of this document.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. The name "DOM4J" must not be used to endorse or promote products derived from this Software without prior written permission of MetaStuff, Ltd. For written permission, please contact dom4j-info@metastuff.com.
4. Products derived from this Software may not be called "DOM4J" nor may "DOM4J" appear in their names without prior written permission of MetaStuff, Ltd. DOM4J is a registered trademark of MetaStuff, Ltd.
5. Due credit should be given to the DOM4J Project - <http://www.dom4j.org>

THIS SOFTWARE IS PROVIDED BY METASTUFF, LTD. AND CONTRIBUTORS ``AS IS" AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL METASTUFF, LTD. OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Copyright 2001-2005 (C) MetaStuff, Ltd. All Rights Reserved.

Google Protocol Buffers 2.3.0

This product includes Protocol Buffers 2.3.0, which is distributed in accordance with the following terms:

Copyright 2008, Google Inc.

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of Google Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Code generated by the Protocol Buffer compiler is owned by the owner of the input file used when generating it. This code is not standalone and requires a support library to be linked with it. This support library is itself covered by the above license.

Jackson 1.7.4

This product includes Jackson 1.7.4 which was acquired by CA under the Apache Software License v2.0 and is distributed in accordance with the following license agreement:

Portions of this product include software developed by the Apache Software Foundation. The Apache software is distributed in accordance with the following license agreement:

Apache License

Version 2.0, January 2004

<http://www.apache.org/licenses/>

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

'License' shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

'Licensor' shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

'Legal Entity' shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, 'control' means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

'You' (or 'Your') shall mean an individual or Legal Entity exercising permissions granted by this License.

'Source' form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

'Object' form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and versions to other media types.

'Work' shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

'Derivative Works' shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

'Contribution' shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, 'submitted' means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as 'Not a Contribution.'

'Contributor' shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a 'NOTICE' text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an 'AS IS' BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

Jaxen 1.1

This product includes Jaxen 1.1, which is distributed in accordance with the following terms:

/*

\$Id: LICENSE.txt,v 1.5 2006/02/05 21:49:04 elharo Exp \$

Copyright 2003-2006 The Werken Company. All Rights Reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of the Jaxen Project nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

*/

JAXP 1.2.0-FCS

This product includes JAXP 1.2.0-FCS which was developed by the Apache Software Foundation (<http://www.apache.org/>). This software is distributed in accordance with the following license agreement:

The Apache Software License, Version 1.1

Copyright (c) 2000 The Apache Software Foundation. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. The end-user documentation included with the redistribution, if any, must include the following acknowledgment:

"This product includes software developed by the Apache Software Foundation (<http://www.apache.org/>)."

Alternately, this acknowledgment may appear in the software itself, if and wherever such third-party acknowledgments normally appear.
4. The names "Apache" and "Apache Software Foundation" must not be used to endorse or promote products derived from this software without prior written permission. For written permission, please contact apache@apache.org.
5. Products derived from this software may not be called "Apache", nor may "Apache" appear in their name, without prior written permission of the Apache Software Foundation.

THIS SOFTWARE IS PROVIDED ``AS IS|&"&| AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE APACHE SOFTWARE FOUNDATION OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

=====

This software consists of voluntary contributions made by many individuals on behalf of the Apache Software Foundation. For more information on the Apache Software Foundation, please see <http://www.apache.org/>.

Portions of this software are based upon public domain software originally written at the National Center for Supercomputing Applications, University of Illinois, Urbana-Champaign.

*/

JDOM 1.0

This product includes software developed by the JDOM Project (<http://www.jdom.org/>). The JDOM software is distributed in accordance with the following license agreement.

Copyright (C) 2000-2004 Jason Hunter & Brett McLaughlin. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions, and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions, and the disclaimer that follows these conditions in the documentation and/or other materials provided with the distribution.
3. The name "JDOM" must not be used to endorse or promote products derived from this software without prior written permission. For written permission, please contact .
4. Products derived from this software may not be called "JDOM", nor may "JDOM" appear in their name, without prior written permission from the JDOM Project Management .

In addition, we request (but do not require) that you include in the end-user documentation provided with the redistribution and/or in the software itself an acknowledgement equivalent to the following: "This product includes software developed by the JDOM Project (<http://www.jdom.org/>)." Alternatively, the acknowledgment may be graphical using the logos available at <http://www.jdom.org/images/logos>.

THIS SOFTWARE IS PROVIDED "AS IS" AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE JDOM AUTHORS OR THE PROJECT CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

This software consists of voluntary contributions made by many individuals on behalf of the JDOM Project and was originally created by Jason Hunter and Brett McLaughlin . For more information on the JDOM Project, please see <http://www.jdom.org>.

Jersey 1.5

Jersey 1.5

Jersey 1.5 was obtained under the CDDL v.1.0 license, the terms and conditions of which are set forth below. Jersey 1.5 is distributed by CA for use with this CA product in unmodified, object code form, under the CA license agreement. Any provisions in the CA license agreement that differ from the CDDL are offered by CA alone and not by any other party. The third party licensors of this component provide it on an "AS-IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE, and disclaim liability for any claim or loss, including, without limitation, direct, indirect, special, punitive, exemplary or consequential damages. CA makes the source code for Jersey 1.5 available at http://opensrcd.ca.com/ips/09346_1/ under the terms of the CDDL v.1.0. license:

COMMON DEVELOPMENT AND DISTRIBUTION LICENSE (CDDL)Version 1.1

1. Definitions.

1.1. "Contributor" means each individual or entity that creates or contributes to the creation of Modifications.

1.2. "Contributor Version" means the combination of the Original Software, prior Modifications used by a Contributor (if any), and the Modifications made by that particular Contributor.

1.3. "Covered Software" means (a) the Original Software, or (b) Modifications, or (c) the combination of files containing Original Software with files containing Modifications, in each case including portions thereof.

1.4. "Executable" means the Covered Software in any form other than Source Code.

1.5. "Initial Developer" means the individual or entity that first makes Original Software available under this License.

1.6. "Larger Work" means a work which combines Covered Software or portions thereof with code not governed by the terms of this License.

1.7. "License" means this document.

1.8. "Licensable" means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently acquired, any and all of the rights conveyed herein.

1.9. "Modifications" means the Source Code and Executable form of any of the following:

- A. Any file that results from an addition to, deletion from or modification of the contents of a file containing Original Software or previous Modifications;
- B. Any new file that contains any part of the Original Software or previous Modification; or
- C. Any new file that is contributed or otherwise made available under the terms of this License.

1.10. "Original Software" means the Source Code and Executable form of computer software code that is originally released under this License.

1.11. "Patent Claims" means any patent claim(s), now owned or hereafter acquired, including without limitation, method, process, and apparatus claims, in any patent Licensable by grantor.

1.12. "Source Code" means (a) the common form of computer software code in which modifications are made and (b) associated documentation included in or with such code.

1.13. "You" (or "Your") means an individual or a legal entity exercising rights under, and complying with all of the terms of, this License. For legal entities, "You" includes any entity which controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.

2. License Grants.

2.1. The Initial Developer Grant.

Conditioned upon Your compliance with Section 3.1 below and subject to third party intellectual property claims, the Initial Developer hereby grants You a world-wide, royalty-free, non-exclusive license:

(a) under intellectual property rights (other than patent or trademark) Licensable by Initial Developer, to use, reproduce, modify, display, perform, sublicense and distribute the Original Software (or portions thereof), with or without Modifications, and/or as part of a Larger Work; and

(b) under Patent Claims infringed by the making, using or selling of Original Software, to make, have made, use, practice, sell, and offer for sale, and/or otherwise dispose of the Original Software (or portions thereof).

(c) The licenses granted in Sections 2.1(a) and (b) are effective on the date Initial Developer first distributes or otherwise makes the Original Software available to a third party under the terms of this License.

(d) Notwithstanding Section 2.1(b) above, no patent license is granted: (1) for code that You delete from the Original Software, or (2) for infringements caused by: (i) the modification of the Original Software, or (ii) the combination of the Original Software with other software or devices.

2.2. Contributor Grant.

Conditioned upon Your compliance with Section 3.1 below and subject to third party intellectual property claims, each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license:

(a) under intellectual property rights (other than patent or trademark) Licensable by Contributor to use, reproduce, modify, display, perform, sublicense and distribute the Modifications created by such Contributor (or portions thereof), either on an unmodified basis, with other Modifications, as Covered Software and/or as part of a Larger Work; and

(b) under Patent Claims infringed by the making, using, or selling of Modifications made by that Contributor either alone and/or in combination with its Contributor Version (or portions of such combination), to make, use, sell, offer for sale, have made, and/or otherwise dispose of: (1) Modifications made by that Contributor (or portions thereof); and (2) the combination of Modifications made by that Contributor with its Contributor Version (or portions of such combination).

(c) The licenses granted in Sections 2.2(a) and 2.2(b) are effective on the date Contributor first distributes or otherwise makes the Modifications available to a third party.

(d) Notwithstanding Section 2.2(b) above, no patent license is granted: (1) for any code that Contributor has deleted from the Contributor Version; (2) for infringements caused by: (i) third party modifications of Contributor Version, or (ii) the combination of Modifications made by that Contributor with other software (except as part of the Contributor Version) or other devices; or (3) under Patent Claims infringed by Covered Software in the absence of Modifications made by that Contributor.

3. Distribution Obligations.

3.1. Availability of Source Code.

Any Covered Software that You distribute or otherwise make available in Executable form must also be made available in Source Code form and that Source Code form must be distributed only under the terms of this License. You must include a copy of this License with every copy of the Source Code form of the Covered Software You distribute or otherwise make available. You must inform recipients of any such Covered Software in Executable form as to how they can obtain such Covered Software in Source Code form in a reasonable manner on or through a medium customarily used for software exchange.

3.2. Modifications.

The Modifications that You create or to which You contribute are governed by the terms of this License. You represent that You believe Your Modifications are Your original creation(s) and/or You have sufficient rights to grant the rights conveyed by this License.

3.3. Required Notices.

You must include a notice in each of Your Modifications that identifies You as the Contributor of the Modification. You may not remove or alter any copyright, patent or trademark notices contained within the Covered Software, or any notices of licensing or any descriptive text giving attribution to any Contributor or the Initial Developer.

3.4. Application of Additional Terms.

You may not offer or impose any terms on any Covered Software in Source Code form that alters or restricts the applicable version of this License or the recipients' rights hereunder. You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Software. However, you may do so only on Your own behalf, and not on behalf of the Initial Developer or any Contributor. You must make it absolutely clear that any such warranty, support, indemnity or liability obligation is offered by You alone, and You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of warranty, support, indemnity or liability terms You offer.

3.5. Distribution of Executable Versions.

You may distribute the Executable form of the Covered Software under the terms of this License or under the terms of a license of Your choice, which may contain terms different from this License, provided that You are in compliance with the terms of this License and that the license for the Executable form does not attempt to limit or alter the recipient's rights in the Source Code form from the rights set forth in this License. If You distribute the Covered Software in Executable form under a different license, You must make it absolutely clear that any terms which differ from this License are offered by You alone, not by the Initial Developer or Contributor. You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of any such terms You offer.

3.6. Larger Works.

You may create a Larger Work by combining Covered Software with other code not governed by the terms of this License and distribute the Larger Work as a single product. In such a case, You must make sure the requirements of this License are fulfilled for the Covered Software.

4. Versions of the License.

4.1. New Versions.

Oracle is the initial license steward and may publish revised and/or new versions of this License from time to time. Each version will be given a distinguishing version number. Except as provided in Section 4.3, no one other than the license steward has the right to modify this License.

4.2. Effect of New Versions.

You may always continue to use, distribute or otherwise make the Covered Software available under the terms of the version of the License under which You originally received the Covered Software. If the Initial Developer includes a notice in the Original Software prohibiting it from being distributed or otherwise made available under any subsequent version of the License, You must distribute and make the Covered Software available under the terms of the version of the License under which You originally received the Covered Software. Otherwise, You may also choose to use, distribute or otherwise make the Covered Software available under the terms of any subsequent version of the License published by the license steward.

4.3. Modified Versions.

When You are an Initial Developer and You want to create a new license for Your Original Software, You may create and use a modified version of this License if You: (a) rename the license and remove any references to the name of the license steward (except to note that the license differs from this License); and (b) otherwise make it clear that the license contains terms which differ from this License.

5. DISCLAIMER OF WARRANTY.

COVERED SOFTWARE IS PROVIDED UNDER THIS LICENSE ON AN "AS IS" BASIS, WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES THAT THE COVERED SOFTWARE IS FREE OF DEFECTS, MERCHANTABILITY, FIT FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE COVERED SOFTWARE IS WITH YOU. SHOULD ANY COVERED SOFTWARE PROVE DEFECTIVE IN ANY RESPECT, YOU (NOT THE INITIAL DEVELOPER OR ANY OTHER CONTRIBUTOR) ASSUME THE COST OF ANY NECESSARY SERVICING, REPAIR OR CORRECTION. THIS DISCLAIMER OF WARRANTY CONSTITUTES AN ESSENTIAL PART OF THIS LICENSE. NO USE OF ANY COVERED SOFTWARE IS AUTHORIZED HEREUNDER EXCEPT UNDER THIS DISCLAIMER.

6. TERMINATION.

6.1. This License and the rights granted hereunder will terminate automatically if You fail to comply with terms herein and fail to cure such breach within 30 days of becoming aware of the breach. Provisions which, by their nature, must remain in effect beyond the termination of this License shall survive.

6.2. If You assert a patent infringement claim (excluding declaratory judgment actions) against Initial Developer or a Contributor (the Initial Developer or Contributor against whom You assert such claim is referred to as “Participant”) alleging that the Participant Software (meaning the Contributor Version where the Participant is a Contributor or the Original Software where the Participant is the Initial Developer) directly or indirectly infringes any patent, then any and all rights granted directly or indirectly to You by such Participant, the Initial Developer (if the Initial Developer is not the Participant) and all Contributors under Sections 2.1 and/or 2.2 of this License shall, upon 60 days notice from Participant terminate prospectively and automatically at the expiration of such 60 day notice period, unless if within such 60 day period You withdraw Your claim with respect to the Participant Software against such Participant either unilaterally or pursuant to a written agreement with Participant.

6.3. If You assert a patent infringement claim against Participant alleging that the Participant Software directly or indirectly infringes any patent where such claim is resolved (such as by license or settlement) prior to the initiation of patent infringement litigation, then the reasonable value of the licenses granted by such Participant under Sections 2.1 or 2.2 shall be taken into account in determining the amount or value of any payment or license.

6.4. In the event of termination under Sections 6.1 or 6.2 above, all end user licenses that have been validly granted by You or any distributor hereunder prior to termination (excluding licenses granted to You by any distributor) shall survive termination.

7. LIMITATION OF LIABILITY.

UNDER NO CIRCUMSTANCES AND UNDER NO LEGAL THEORY, WHETHER TORT (INCLUDING NEGLIGENCE), CONTRACT, OR OTHERWISE, SHALL YOU, THE INITIAL DEVELOPER, ANY OTHER CONTRIBUTOR, OR ANY DISTRIBUTOR OF COVERED SOFTWARE, OR ANY SUPPLIER OF ANY OF SUCH PARTIES, BE LIABLE TO ANY PERSON FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES, EVEN IF SUCH PARTY SHALL HAVE BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. THIS LIMITATION OF LIABILITY SHALL NOT APPLY TO LIABILITY FOR DEATH OR PERSONAL INJURY RESULTING FROM SUCH PARTY'S NEGLIGENCE TO THE EXTENT APPLICABLE LAW PROHIBITS SUCH LIMITATION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS EXCLUSION AND LIMITATION MAY NOT APPLY TO YOU.

8. U.S. GOVERNMENT END USERS.

The Covered Software is a “commercial item,” as that term is defined in 48 C.F.R. 2.101 (Oct. 1995), consisting of “commercial computer software” (as that term is defined at 48 C.F.R. § 252.227-7014(a)(1)) and “commercial computer software documentation” as such terms are used in 48 C.F.R. 12.212 (Sept. 1995). Consistent with 48 C.F.R. 12.212 and 48 C.F.R. 227.7202-1 through 227.7202-4 (June 1995), all U.S. Government End Users acquire Covered Software with only those rights set forth herein. This U.S. Government Rights clause is in lieu of, and supersedes, any other FAR, DFAR, or other clause or provision that addresses Government rights in computer software under this License.

9. MISCELLANEOUS.

This License represents the complete agreement concerning subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. This License shall be governed by the law of the jurisdiction specified in a notice contained within the Original Software (except to the extent applicable law, if any, provides otherwise), excluding such jurisdiction’s conflict-of-law provisions. Any litigation relating to this License shall be subject to the jurisdiction of the courts located in the jurisdiction and venue specified in a notice contained within the Original Software, with the losing party responsible for costs, including, without limitation, court costs and reasonable attorneys’ fees and expenses. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not apply to this License. You agree that You alone are responsible for compliance with the United States export administration regulations (and the export control laws and regulation of any other countries) when You use, distribute or otherwise make available any Covered Software.

10. RESPONSIBILITY FOR CLAIMS.

As between Initial Developer and the Contributors, each party is responsible for claims and damages arising, directly or indirectly, out of its utilization of rights under this License and You agree to work with Initial Developer and Contributors to distribute such responsibility on an equitable basis. Nothing herein is intended or shall be deemed to constitute any admission of liability.

NOTICE PURSUANT TO SECTION 9 OF THE COMMON DEVELOPMENT AND DISTRIBUTION LICENSE (CDDL)

The code released under the CDDL shall be governed by the laws of the State of California (excluding conflict-of-law provisions). Any litigation relating to this License shall be subject to the jurisdiction of the Federal Courts of the Northern District of California and the state courts of the State of California, with venue lying in Santa Clara County, California.

Red Hat Enterprise Linux 5.5

This CA product is distributed with Red Hat Enterprise Linux Version 5.5 (the "Red Hat Software"), the use of which is governed by the following terms:

The Red Hat Software is open source software that is used with this CA software program (the "CA Product"). The Red Hat Software is not owned by CA, Inc. ("CA"). Use, copying, distribution and modification of the Red Hat Software are governed by the End User License Agreement Red Hat Enterprise Linux and Red Hat Applications ("Red Hat License") and related license agreements referenced therein, including the GNU General Public License version 2 (the "GPL"). A copy of the GPL license can be found in a directory within the Red Hat Software. Additionally, a copy of the GPL license can be found at <http://www.gnu.org/licenses/gpl-2.0.html> or write to the Free Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA. The terms of the Red Hat License Agreement are set forth below. CA makes the source code for the Red Hat Software available at http://opensrcd.ca.com/ips/04237_5/. Use of the CA Product is governed solely by the CA end user license agreement ("EULA"), not by the Red Hat License or the GPL license. You cannot use, copy, modify or redistribute any CA Product code except as may be expressly set forth in the EULA. The Red Hat Software is provided 'AS IS' WITHOUT WARRANTY OR CONDITION OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Further details of the disclaimer of warranty with respect to the Red Hat Software can be found in the Red Hat License and in the GPL license itself. To the full extent permitted under applicable law, CA disclaims all warranties and liability arising from or related to any use of the Red Hat Software.

LICENSE AGREEMENT

RED HAT® ENTERPRISE LINUX®

AND RED HAT® APPLICATIONS

This end user license agreement ("EULA") governs the use of any of the versions of Red Hat Enterprise Linux, any Red Hat Applications (as set forth at www.redhat.com/licenses/products), and any related updates, source code, appearance, structure and organization (the "Programs"), regardless of the delivery mechanism.

1. License Grant. Subject to the following terms, Red Hat, Inc. ("Red Hat") grants to you ("User") a perpetual, worldwide license to the Programs pursuant to the GNU General Public License v.2. The Programs are either a modular operating system or an application consisting of hundreds of software components. With the exception of certain image files identified in Section 2 below, the license agreement for each software component is located in the software component's source code and permits User to run, copy, modify, and redistribute (subject to certain obligations in some cases) the software component, in both source code and binary code forms. This EULA pertains solely to the Programs and does not limit User's rights under, or grant User rights that supersede, the license terms of any particular component.

2. Intellectual Property Rights. The Programs and each of their components are owned by Red Hat and others and are protected under copyright law and under other laws as applicable. Title to the Programs and any component, or to any copy, modification, or merged portion shall remain with the aforementioned, subject to the applicable license. The "Red Hat" trademark and the "Shadowman" logo are registered trademarks of Red Hat in the U.S. and other countries. This EULA does not permit User to distribute the Programs or their components using Red Hat's trademarks, regardless of whether the copy has been modified. User should read the information found at <http://www.redhat.com/about/corporate/trademark/> before distributing a copy of the Programs. User may make a commercial redistribution of the Programs only if, (a) a separate agreement with Red Hat authorizing such commercial redistribution is executed or other written permission is granted by Red Hat or (b) User modifies any files identified as "REDHAT-LOGOS" to remove and replace all images containing the "Red Hat" trademark or the "Shadowman" logo. Merely deleting these files may corrupt the Programs.

3. Limited Warranty. Except as specifically stated in this Section 3, a separate agreement with Red Hat, or a license for a particular component, to the maximum extent permitted under applicable law, the Programs and the components are provided and licensed "as is" without warranty of any kind, expressed or implied, including the implied warranties of merchantability, non-infringement or fitness for a particular purpose. Red Hat warrants that the media on which the Programs and the components are furnished will be free from defects in materials and manufacture under normal use for a period of 30 days from the date of delivery to User. Red Hat does not warrant that the functions contained in the Programs will meet User's requirements or that the operation of the Programs will be entirely error free, appear precisely as described in the accompanying documentation, or comply with regulatory requirements. This warranty extends only to the party that purchases services pertaining to the Programs from Red Hat or a Red Hat authorized distributor.

4. Limitation of Remedies and Liability. To the maximum extent permitted by applicable law, User's exclusive remedy under this EULA is to return any defective media within 30 days of delivery along with a copy of User's payment receipt and Red Hat, at its option, will replace it or refund the money paid by User for the media. To the maximum extent permitted under applicable law, neither Red Hat, any Red Hat authorized distributor, nor the licensor of any component provided to User under this EULA will be liable to User for any incidental or consequential damages, including lost profits or lost savings arising out of the use or inability to use the Programs or any component, even if Red Hat, such authorized distributor or licensor has been advised of the possibility of such damages. In no event shall Red Hat's liability, an authorized distributor's liability or the liability of the licensor of a component provided to User under this EULA exceed the amount that User paid to Red Hat under this EULA during the twelve months preceding the action.

5. Export Control. As required by the laws of the United States and other countries, User represents and warrants that it: (a) understands that the Programs and their components may be subject to export controls under the U.S. Commerce Department's Export Administration Regulations ("EAR"); (b) is not located in a prohibited destination country under the EAR or U.S. sanctions regulations (currently Cuba, Iran, Iraq, North Korea, Sudan and Syria, subject to change as posted by the United States government); (c) will not export, re-export, or transfer the Programs to any prohibited destination or persons or entities on the U.S. Bureau of Industry and Security Denied Parties List or Entity List, or the U.S. Office of Foreign Assets Control list of Specially Designated Nationals and Blocked Persons, or any similar lists maintained by other countries, without the necessary export license(s) or authorization(s); (d) will not use or transfer the Programs for use in connection with any nuclear, chemical or biological weapons, missile technology, or military end-uses where prohibited by an applicable arms embargo, unless authorized by the relevant government agency by regulation or specific license; (e) understands and agrees that if it is in the United States and exports or transfers the Programs to eligible end users, it will, to the extent required by EAR Section 740.17(e), submit semi-annual reports to the Commerce Department's Bureau of Industry and Security, which include the name and address (including country) of each transferee; and (f) understands that countries including the United States may restrict the import, use, or export of encryption products (which may include the Programs and the components) and agrees that it shall be solely responsible for compliance with any such import, use, or export restrictions.

6. Third Party Programs. Red Hat may distribute third party software programs with the Programs that are not part of the Programs. These third party programs are not required to run the Programs, are provided as a convenience to User, and are subject to their own license terms. The license terms either accompany the third party software programs or can be viewed at <http://www.redhat.com/licenses/thirdparty/eula.html>. If User does not agree to abide by the applicable license terms for the third party software programs, then User may not install them. If User wishes to install the third party software programs on more than one system or transfer the third party software programs to another party, then User must contact the licensor of the applicable third party software programs.

7. General. If any provision of this agreement is held to be unenforceable, that shall not affect the enforceability of the remaining provisions. This agreement shall be governed by the laws of the State of New York and of the United States, without regard to any conflict of laws provisions. The rights and obligations of the parties to this EULA shall not be governed by the United Nations Convention on the International Sale of Goods.

Copyright © 2003 Red Hat, Inc. All rights reserved. "Red Hat" and the Red Hat "Shadowman" logo are registered trademarks of Red Hat, Inc. "Linux" is a registered trademark of Linus Torvalds. All other trademarks are the property of their respective owners.

SNMP4J 1.9.3d

This product includes SNMP4J 1.9.3d and is distributed in accordance with the following license agreement:

Apache License

Version 2.0, January 2004

<http://www.apache.org/licenses/>

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

'License' shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

'Licensor' shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

'Legal Entity' shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, 'control' means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

'You' (or 'Your') shall mean an individual or Legal Entity exercising permissions granted by this License.

'Source' form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

'Object' form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and versions to other media types.

'Work' shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

'Derivative Works' shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

'Contribution' shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, 'submitted' means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as 'Not a Contribution.'

'Contributor' shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a 'NOTICE' text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an 'AS IS' BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

Sun JDK 1.6.0_19

This Product is distributed with Sun JDK 1.6.0_19 (JAVA SE DEVELOPMENT KIT (JDK), VERSION 6) (Sun JDK). The Sun JDK is distributed in accordance with the Sun Microsystems, Inc. (Sun) Binary Code License Agreement set forth below. As noted in Section G of the Supplemental License Terms of this license, Sun has provided additional copyright notices and license terms that may be applicable to portions of the Sun JDK in the THIRDPARTYLICENSEREADME.txt file that accompanies the Sun JDK.

Sun Microsystems, Inc. Binary Code License Agreement for the JAVA SE DEVELOPMENT KIT (JDK), VERSION 6

SUN MICROSYSTEMS, INC. ("SUN") IS WILLING TO LICENSE THE SOFTWARE IDENTIFIED BELOW TO YOU ONLY UPON THE CONDITION THAT YOU ACCEPT ALL OF THE TERMS CONTAINED IN THIS BINARY CODE LICENSE AGREEMENT AND SUPPLEMENTAL LICENSE TERMS (COLLECTIVELY "AGREEMENT"). PLEASE READ THE AGREEMENT CAREFULLY. BY DOWNLOADING OR INSTALLING THIS SOFTWARE, YOU ACCEPT THE TERMS OF THE AGREEMENT. INDICATE ACCEPTANCE BY SELECTING THE "ACCEPT" BUTTON AT THE BOTTOM OF THE AGREEMENT. IF YOU ARE NOT WILLING TO BE BOUND BY ALL THE TERMS, SELECT THE "DECLINE" BUTTON AT THE BOTTOM OF THE AGREEMENT AND THE DOWNLOAD OR INSTALL PROCESS WILL NOT CONTINUE.

1. DEFINITIONS. "Software" means the identified above in binary form, any other machine readable materials (including, but not limited to, libraries, source files, header files, and data files), any updates or error corrections provided by Sun, and any user manuals, programming guides and other documentation provided to you by Sun under this Agreement. "General Purpose Desktop Computers and Servers" means computers, including desktop, laptop and tablet computers, or servers, used for general computing functions under end user control (such as but not specifically limited to email, general purpose Internet browsing, and office suite productivity tools).

The use of Software in systems and solutions that provide dedicated functionality (other than as mentioned above) or designed for use in embedded or function-specific software applications, for example but not limited to: Software embedded in or bundled with industrial control systems, wireless mobile telephones, wireless handheld devices, kiosks, TV/STB, Blu-ray Disc devices, telematics and network control switching equipment, printers and storage management systems, and other related systems are excluded from this definition and not licensed under this Agreement. "Programs" means Java technology applets and applications intended to run on the Java Platform Standard Edition (Java SE) platform on Java-enabled General Purpose Desktop Computers and Servers.

2. LICENSE TO USE. Subject to the terms and conditions of this Agreement, including, but not limited to the Java Technology Restrictions of the Supplemental License Terms, Sun grants you a non-exclusive, non-transferable, limited license without license fees to reproduce and use internally Software complete and unmodified for the sole purpose of running Programs. Additional licenses for developers and/or publishers are granted in the Supplemental License Terms.

3. **RESTRICTIONS.** Software is confidential and copyrighted. Title to Software and all associated intellectual property rights is retained by Sun and/or its licensors. Unless enforcement is prohibited by applicable law, you may not modify, decompile, or reverse engineer Software. You acknowledge that Licensed Software is not designed or intended for use in the design, construction, operation or maintenance of any nuclear facility. Sun Microsystems, Inc. disclaims any express or implied warranty of fitness for such uses. No right, title or interest in or to any trademark, service mark, logo or trade name of Sun or its licensors is granted under this Agreement. Additional restrictions for developers and/or publishers licenses are set forth in the Supplemental License Terms.

4. **LIMITED WARRANTY.** Sun warrants to you that for a period of ninety (90) days from the date of purchase, as evidenced by a copy of the receipt, the media on which Software is furnished (if any) will be free of defects in materials and workmanship under normal use. Except for the foregoing, Software is provided "AS IS". Your exclusive remedy and Sun's entire liability under this limited warranty will be at Sun's option to replace Software media or refund the fee paid for Software. Any implied warranties on the Software are limited to 90 days. Some states do not allow limitations on duration of an implied warranty, so the above may not apply to you. This limited warranty gives you specific legal rights. You may have others, which vary from state to state.

5. **DISCLAIMER OF WARRANTY.** UNLESS SPECIFIED IN THIS AGREEMENT, ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT ARE DISCLAIMED, EXCEPT TO THE EXTENT THAT THESE DISCLAIMERS ARE HELD TO BE LEGALLY INVALID.

6. **LIMITATION OF LIABILITY.** TO THE EXTENT NOT PROHIBITED BY LAW, IN NO EVENT WILL SUN OR ITS LICENSORS BE LIABLE FOR ANY LOST REVENUE, PROFIT OR DATA, OR FOR SPECIAL, INDIRECT, CONSEQUENTIAL, INCIDENTAL OR PUNITIVE DAMAGES, HOWEVER CAUSED REGARDLESS OF THE THEORY OF LIABILITY, ARISING OUT OF OR RELATED TO THE USE OF OR INABILITY TO USE SOFTWARE, EVEN IF SUN HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. In no event will Sun's liability to you, whether in contract, tort (including negligence), or otherwise, exceed the amount paid by you for Software under this Agreement. The foregoing limitations will apply even if the above stated warranty fails of its essential purpose. Some states do not allow the exclusion of incidental or consequential damages, so some of the terms above may not be applicable to you.

7. **TERMINATION.** This Agreement is effective until terminated. You may terminate this Agreement at any time by destroying all copies of Software. This Agreement will terminate immediately without notice from Sun if you fail to comply with any provision of this Agreement. Either party may terminate this Agreement immediately should any Software become, or in either party's opinion be likely to become, the subject of a claim of infringement of any intellectual property right. Upon Termination, you must destroy all copies of Software.

8. EXPORT REGULATIONS. All Software and technical data delivered under this Agreement are subject to US export control laws and may be subject to export or import regulations in other countries. You agree to comply strictly with all such laws and regulations and acknowledge that you have the responsibility to obtain such licenses to export, re-export, or import as may be required after delivery to you.

9. TRADEMARKS AND LOGOS. You acknowledge and agree as between you and Sun that Sun owns the SUN, SOLARIS, JAVA, JINI, FORTE, and iPLANET trademarks and all SUN, SOLARIS, JAVA, JINI, FORTE, and iPLANET-related trademarks, service marks, logos and other brand designations ("Sun Marks"), and you agree to comply with the Sun Trademark and Logo Usage Requirements currently located at <http://www.sun.com/policies/trademarks>. Any use you make of the Sun Marks inures to Sun's benefit.

10. U.S. GOVERNMENT RESTRICTED RIGHTS. If Software is being acquired by or on behalf of the U.S. Government or by a U.S. Government prime contractor or subcontractor (at any tier), then the Government's rights in Software and accompanying documentation will be only as set forth in this Agreement; this is in accordance with 48 CFR 227.7201 through 227.7202-4 (for Department of Defense (DOD) acquisitions) and with 48 CFR 2.101 and 12.212 (for non-DOD acquisitions).

11. GOVERNING LAW. Any action related to this Agreement will be governed by California law and controlling U.S. federal law. No choice of law rules of any jurisdiction will apply.

12. SEVERABILITY. If any provision of this Agreement is held to be unenforceable, this Agreement will remain in effect with the provision omitted, unless omission would frustrate the intent of the parties, in which case this Agreement will immediately terminate.

13. INTEGRATION. This Agreement is the entire agreement between you and Sun relating to its subject matter. It supersedes all prior or contemporaneous oral or written communications, proposals, representations and warranties and prevails over any conflicting or additional terms of any quote, order, acknowledgment, or other communication between the parties relating to its subject matter during the term of this Agreement. No modification of this Agreement will be binding, unless in writing and signed by an authorized representative of each party.

SUPPLEMENTAL LICENSE TERMS

These Supplemental License Terms add to or modify the terms of the Binary Code License Agreement. Capitalized terms not defined in these Supplemental Terms shall have the same meanings ascribed to them in the Binary Code License Agreement. These Supplemental Terms shall supersede any inconsistent or conflicting terms in the Binary Code License Agreement, or in any license contained within the Software.

A. Software Internal Use and Development License Grant. Subject to the terms and conditions of this Agreement and restrictions and exceptions set forth in the Software "README" file incorporated herein by reference, including, but not limited to the Java Technology Restrictions of these Supplemental Terms, Sun grants you a non-exclusive, non-transferable, limited license without fees to reproduce internally and use internally the Software complete and unmodified for the purpose of designing, developing, and testing your Programs.

B. License to Distribute Software. Subject to the terms and conditions of this Agreement and restrictions and exceptions set forth in the Software README file, including, but not limited to the Java Technology Restrictions of these Supplemental Terms, Sun grants you a non-exclusive, non-transferable, limited license without fees to reproduce and distribute the Software, provided that (i) you distribute the Software complete and unmodified and only bundled as part of, and for the sole purpose of running, your Programs, (ii) the Programs add significant and primary functionality to the Software, (iii) you do not distribute additional software intended to replace any component(s) of the Software, (iv) you do not remove or alter any proprietary legends or notices contained in the Software, (v) you only distribute the Software subject to a license agreement that protects Sun's interests consistent with the terms contained in this Agreement, and (vi) you agree to defend and indemnify Sun and its licensors from and against any damages, costs, liabilities, settlement amounts and/or expenses (including attorneys' fees) incurred in connection with any claim, lawsuit or action by any third party that arises or results from the use or distribution of any and all Programs and/or Software.

C. License to Distribute Redistributables. Subject to the terms and conditions of this Agreement and restrictions and exceptions set forth in the Software README file, including but not limited to the Java Technology Restrictions of these Supplemental Terms, Sun grants you a non-exclusive, non-transferable, limited license without fees to reproduce and distribute those files specifically identified as redistributable in the software "README" file ("Redistributables") provided that: (i) you distribute the Redistributables complete and unmodified, and only bundled as part of Programs, (ii) the Programs add significant and primary functionality to the Redistributables, (iii) you do not distribute additional software intended to supersede any component(s) of the Redistributables (unless otherwise specified in the applicable README file), (iv) you do not remove or alter any proprietary legends or notices contained in or on the Redistributables, (v) you only distribute the Redistributables pursuant to a license agreement that protects Sun's interests consistent with the terms contained in the Agreement, (vi) you agree to defend and indemnify Sun and its licensors from and against any damages, costs, liabilities, settlement amounts and/or expenses (including attorneys' fees) incurred in connection with any claim, lawsuit or action by any third party that arises or results from the use or distribution of any and all Programs and/or Software.

D. Java Technology Restrictions. You may not create, modify, or change the behavior of, or authorize your licensees to create, modify, or change the behavior of, classes, interfaces, or subpackages that are in any way identified as "java", "javax", "sun" or similar convention as specified by Sun in any naming convention designation.

E. Distribution by Publishers. This section pertains to your distribution of the Software with your printed book or magazine (as those terms are commonly used in the industry) relating to Java technology ("Publication"). Subject to and conditioned upon your compliance with the restrictions and obligations contained in the Agreement, in addition to the license granted in Paragraph 1 above, Sun hereby grants to you a non-exclusive, nontransferable limited right to reproduce complete and unmodified copies of the Software on electronic media (the "Media") for the sole purpose of inclusion and distribution with your Publication(s), subject to the following terms: (i) You may not distribute the Software on a stand-alone basis; it must be distributed with your Publication(s); (ii) You are responsible for downloading the Software from the applicable Sun web site; (iii) You must refer to the Software as Java™ SE Development Kit 6; (iv) The Software must be reproduced in its entirety and without any modification whatsoever (including, without limitation, the Binary Code License and Supplemental License Terms accompanying the Software and proprietary rights notices contained in the Software); (v) The Media label shall include the following information: Copyright 2006, Sun Microsystems, Inc. All rights reserved. Use is subject to license terms. Sun, Sun Microsystems, the Sun logo, Solaris, Java, the Java Coffee Cup logo, J2SE, and all trademarks and logos based on Java are trademarks or registered trademarks of Sun Microsystems, Inc. in the U.S. and other countries. This information must be placed on the Media label in such a manner as to only apply to the Sun Software; (vi) You must clearly identify the Software as Sun's product on the Media holder or Media label, and you may not state or imply that Sun is responsible for any third-party software contained on the Media; (vii) You may not include any third party software on the Media which is intended to be a replacement or substitute for the Software; (viii) You shall indemnify Sun for all damages arising from your failure to comply with the requirements of this Agreement. In addition, you shall defend, at your expense, any and all claims brought against Sun by third parties, and shall pay all damages awarded by a court of competent jurisdiction, or such settlement amount negotiated by you, arising out of or in connection with your use, reproduction or distribution of the Software and/or the Publication. Your obligation to provide indemnification under this section shall arise provided that Sun: (a) provides you prompt notice of the claim; (b) gives you sole control of the defense and settlement of the claim; (c) provides you, at your expense, with all available information, assistance and authority to defend; and (d) has not compromised or settled such claim without your prior written consent; and (ix) You shall provide Sun with a written notice for each Publication; such notice shall include the following information: (1) title of Publication, (2) author(s), (3) date of Publication, and (4) ISBN or ISSN numbers. Such notice shall be sent to Sun Microsystems, Inc., 4150 Network Circle, M/S USCA12-110, Santa Clara, California 95054, U.S.A , Attention: Contracts Administration.

F. Source Code. Software may contain source code that, unless expressly licensed for other purposes, is provided solely for reference purposes pursuant to the terms of this Agreement. Source code may not be redistributed unless expressly provided for in this Agreement.

G. Third Party Code. Additional copyright notices and license terms applicable to portions of the Software are set forth in the THIRDPARTYLICENSEREADME.txt file. In addition to any terms and conditions of any third party opensource/freeware license identified in the THIRDPARTYLICENSEREADME.txt file, the disclaimer of warranty and limitation of liability provisions in paragraphs 5 and 6 of the Binary Code License Agreement shall apply to all Software in this distribution.

H. Termination for Infringement. Either party may terminate this Agreement immediately should any Software become, or in either party's opinion be likely to become, the subject of a claim of infringement of any intellectual property right.

I. Installation and Auto-Update. The Software's installation and auto-update processes transmit a limited amount of data to Sun (or its service provider) about those specific processes to help Sun understand and optimize them. Sun does not associate the data with personally identifiable information. You can find more information about the data Sun collects at <http://java.com/data/>.

For inquiries please contact: Sun Microsystems, Inc., 4150 Network Circle, Santa Clara, California 95054, U.S.A.

Sun JDK 1.6.0_25

JDK v.1.6

This Product is distributed with JDK v.1.6. Oracle has provided additional copyright notices and information that may be applicable to portions of the JDK in the THIRDPARTYLICENSEREADME.txt file that accompanies the JDK files.

Tomcat 7.0.11

This product includes Apache Tomcat 7.0.11 and certain third-party software components that were obtained from the Apache Software Foundation under various licenses set forth below, and are distributed by CA for use with this CA product in object code form, under the CA license agreement. The following information sets out certain notices, attributions and/or other information CA is required to provide to you by the third party licensors of these components. The terms contained in the CA license agreement are offered by CA alone and not by the third party licensors. The contents set forth below are for informational purposes only and do not modify the terms of the license agreement between you and CA. The third party licensors of these components provide them on an "AS-IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE, and disclaim liability for any claim or loss, including, without limitation, direct, indirect, special, punitive, exemplary or consequential damages. Source code for Apache Tomcat may be obtained from <http://tomcat.apache.org>. In addition, CA makes the source code for certain components contained in Apache Tomcat available at http://opensrcd.ca.com/ips/09346_3 under the terms of their respective open source licenses. Apache Tomcat and the accompanying third-party software components are distributed in accordance with the following license agreements:

Portions of this product include software developed by the Apache Software Foundation. The Apache software is distributed in accordance with the following license agreement:

Apache License

Version 2.0, January 2004

<http://www.apache.org/licenses/>

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

'License' shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

'Licensor' shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

'Legal Entity' shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, 'control' means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

'You' (or 'Your') shall mean an individual or Legal Entity exercising permissions granted by this License.

'Source' form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

'Object' form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and versions to other media types.

'Work' shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

'Derivative Works' shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

'Contribution' shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, 'submitted' means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as 'Not a Contribution.'

'Contributor' shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a 'NOTICE' text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an 'AS IS' BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

PCRE 6.3

Portions of this product include software developed by Philip Hazel. The University of Cambridge Computing Service software is distributed in accordance with the following license agreement.

THE BASIC LIBRARY FUNCTIONS

Written by: Philip Hazel

Email local part: ph10

Email domain: cam.ac.uk

University of Cambridge Computing Service,

Cambridge, England. Phone: +44 1223 334714.

Copyright (c) 1997-2006 University of Cambridge

All rights reserved.

THE C++ WRAPPER FUNCTIONS

Contributed by: Google Inc.

Copyright (c) 2006, Google Inc.

All rights reserved.

THE "BSD" LICENCE

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

- Neither the name of the University of Cambridge nor the name of Google Inc. nor the names of their contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

TPSR--POI 3.0

This product includes Apache POI v.3.0 which is distributed in accordance with the following license agreement:

Portions of this product include software developed by the Apache Software Foundation. The Apache software is distributed in accordance with the following license agreement:

Apache License

Version 2.0, January 2004

<http://www.apache.org/licenses/>

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

'License' shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

'Licensor' shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

'Legal Entity' shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, 'control' means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

'You' (or 'Your') shall mean an individual or Legal Entity exercising permissions granted by this License.

'Source' form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

'Object' form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and versions to other media types.

'Work' shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

'Derivative Works' shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

'Contribution' shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, 'submitted' means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as 'Not a Contribution.'

'Contributor' shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a 'NOTICE' text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an 'AS IS' BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APACHE POI SUBCOMPONENTS:

Apache POI includes subcomponents with separate copyright notices and license terms. Your use of these subcomponents is subject to the terms and conditions of the following licenses:

Office Open XML schemas (ooxml-schemas-1.0.jar)

The Office Open XML schema definitions used by Apache POI are a part of the Office Open XML ECMA Specification (ECMA-376, [1]). As defined in section 9.4 of the ECMA bylaws [2], this specification is available to all interested parties without restriction:

9.4 All documents when approved shall be made available to all interested parties without restriction.

Furthermore, both Microsoft and Adobe have granted patent licenses to this work [3,4,5].

- <http://www.ecma-international.org/publications/standards/Ecma-376.htm>
- <http://www.ecma-international.org/memento/Ecmabylaws.htm>
- <http://www.microsoft.com/interop/osp/>
- <http://www.ecma-international.org/publications/files/ECMA-ST/Ecma%20PATE%20NT/ECMA-376%20Edition%201%20Microsoft%20Patent%20Declaration.pdf>
- <http://www.ecma-international.org/publications/files/ECMA-ST/Ecma%20PATE%20NT/ga-2006-191.pdf>

DOM4J library (dom4j-1.6.1.jar)

Copyright 2001-2005 (C) MetaStuff, Ltd. All Rights Reserved.

Redistribution and use of this software and associated documentation ("Software"), with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain copyright statements and notices. Redistributions must also contain a copy of this document.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. The name "DOM4J" must not be used to endorse or promote products derived from this Software without prior written permission of MetaStuff, Ltd. For written permission, please contact dom4j-info@metastuff.com.
4. Products derived from this Software may not be called "DOM4J" nor may "DOM4J" appear in their names without prior written permission of MetaStuff, Ltd. DOM4J is a registered trademark of MetaStuff, Ltd.
5. Due credit should be given to the DOM4J Project - <http://www.dom4j.org>

THIS SOFTWARE IS PROVIDED BY METASTUFF, LTD. AND CONTRIBUTORS ``AS IS'' AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL METASTUFF, LTD. OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

POI 3.6

This product includes Apache POI 3.6 which is distributed in accordance with the following license agreements:

Portions of this product include software developed by the Apache Software Foundation. The Apache software is distributed in accordance with the following license agreement:

Apache License

Version 2.0, January 2004

<http://www.apache.org/licenses/>

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

'License' shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

'Licensor' shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

'Legal Entity' shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, 'control' means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

'You' (or 'Your') shall mean an individual or Legal Entity exercising permissions granted by this License.

'Source' form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

'Object' form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and versions to other media types.

'Work' shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

'Derivative Works' shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

'Contribution' shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, 'submitted' means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as 'Not a Contribution.'

'Contributor' shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a 'NOTICE' text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an 'AS IS' BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APACHE POI SUBCOMPONENTS:

Apache POI includes subcomponents with separate copyright notices and license terms. Your use of these subcomponents is subject to the terms and conditions of the following licenses:

Office Open XML schemas (ooxml-schemas-1.0.jar)

The Office Open XML schema definitions used by Apache POI are a part of the Office Open XML ECMA Specification (ECMA-376, [1]). As defined in section 9.4 of the ECMA bylaws [2], this specification is available to all interested parties without restriction:

9.4 All documents when approved shall be made available to all interested parties without restriction.

Furthermore, both Microsoft and Adobe have granted patent licenses to this work [3,4,5].

- <http://www.ecma-international.org/publications/standards/Ecma-376.htm>
- <http://www.ecma-international.org/memento/Ecmabylaws.htm>
- <http://www.microsoft.com/interop/osp/>
- <http://www.ecma-international.org/publications/files/ECMA-ST/Ecma%20PATE%20NT/ECMA-376%20Edition%201%20Microsoft%20Patent%20Declaration.pdf>
- <http://www.ecma-international.org/publications/files/ECMA-ST/Ecma%20PATE%20NT/ga-2006-191.pdf>

DOM4J library (dom4j-1.6.1.jar)

Copyright 2001-2005 (C) MetaStuff, Ltd. All Rights Reserved.

Redistribution and use of this software and associated documentation ("Software"), with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain copyright statements and notices. Redistributions must also contain a copy of this document.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. The name "DOM4J" must not be used to endorse or promote products derived from this Software without prior written permission of MetaStuff, Ltd. For written permission, please contact dom4j-info@metastuff.com.
4. Products derived from this Software may not be called "DOM4J" nor may "DOM4J" appear in their names without prior written permission of MetaStuff, Ltd. DOM4J is a registered trademark of MetaStuff, Ltd.
5. Due credit should be given to the DOM4J Project - <http://www.dom4j.org>

THIS SOFTWARE IS PROVIDED BY METASTUFF, LTD. AND CONTRIBUTORS ``AS IS'' AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL METASTUFF, LTD. OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Zlib 1.2.3

This product includes zlib developed by Jean-loup Gailly and Mark Adler.

```
/* zlib.h -- interface of the 'zlib' general purpose compression library version 1.2.1,  
November 17th, 2003
```

Copyright (C) 1995-2003 Jean-loup Gailly and Mark Adler

This software is provided 'as-is', without any express or implied warranty. In no event will the authors be held liable for any damages arising from the use of this software.

Permission is granted to anyone to use this software for any purpose, including commercial applications, and to alter it and redistribute it freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not claim that you wrote the original software. If you use this software in a product, an acknowledgment in the product documentation would be appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Jean-loup Gailly jloup@gzip.org

Mark Adler madler@alumni.caltech.edu

```
*/
```

ZThread 2.3.2

Portions of this product include software developed by Eric Crahen. The ZThread software is distributed in accordance with the following license agreement.

Copyright (c) 2005, Eric Crahen

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.