CA Clarity™ PPM

Release Notes - On Premise Release 14.1.00



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 is proprietary information of CA and may not be copied, transferred, reproduced, disclosed, modified or duplicated, in whole or in part, without the prior written consent of CA.

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 © 2014 CA. All rights reserved. All trademarks, trade names, service marks, and logos referenced herein belong to their respective companies.

Contact CA Technologies

Contact CA Support

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

- 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 Technologies product documentation, you can send a message to <u>techpubs@ca.com</u>.

To provide feedback about CA Technologies product documentation, complete our short customer survey which is available on the CA Support website at http://ca.com/docs.

Contents

Chapter 1: Welcome to the New Release	7
Training	7
International Support	7
Published Fixes	8
Known Issues and Resolved Defects	8
Resolved Defects	8
Java Runtime Environment Defects	g
Supported Upgrade Paths	g
Add-ins Compatibilities	g
CA Clarity PPM Solution Pack	10
CA Business Intelligence (CABI) Release 3.3 Service Pack 2	11
Chapter 2: New Features	13
Studio Content Management	13
Microsoft Project Interface	13
Integration with VersionOne	14
Smart Sections	14
Apache Tomcat Log Analysis	15
Chapter 3: Enhanced Features	17
Security for Cross-Site Scripting (XSS) Vulnerability	17
Action Item Localization	18
Documentation	18
Release Numbering	18
Appendix A: Compatibilities	19
CA Clarity PPM Servers	19
New Installations	
Components	
Integrated Servers	
Clients	
Clarity Mobile Time Manager	
Products Included with CA Clarity PPM	
Change History	25
Changes in CA Clarity PPM Release 14.1.00	25

Changes in CA Clarity PPM Release 13.3.00	26
Changes in CA Clarity PPM Release 13.2.00	27
Changes in CA Clarity PPM Release 13.1.00	29
Changes in CA Clarity PPM Service Pack 13.0.01	30
Changes in CA Clarity PPM Version 13.0.00	31
FIPS Operating Mode Restrictions	32
IPv6 Network Compatibility Restrictions	32
CA Business Intelligence Release 3.3 SP2 - (SAP BusinessObjects Enterprise XI 3.1 Service Pack 7)	
Supported Configurations	35
Appendix B: Accessibility Features	37
Mouse	37
Keyboard	
Sound	
Set Up Accessibility for a User	
Keyboard Shortcuts	
CA Clarity Keyboard Shortcuts (Actions)	40
CA Clarity Keyboard Shortcuts (Lists)	
Keyboard Shortcuts for Time-Scaled Value Cells	
Display	42
Appendix C: Third-Party Acknowledgements	45
J	

Chapter 1: Welcome to the New Release

Important! Due to the close proximity of Release 14.1 and Release 14.2, no patches will be provided for Release 14.1. Any critical fixes that are identified will be included in Release 14.2, which should be considered the patch for Release 14.1. No fixes for Release 14.1 will be provided outside of Release 14.2. Customers that elect to go live on Release 14.1 should have plans to go to Release 14.2 immediately upon its availability. Patches will then be made available based on the standard PPM Defect Resolution Policy posted on CA Support.

This section contains the following topics:

Training (see page 7)

International Support (see page 7)

Published Fixes (see page 8)

Known Issues and Resolved Defects (see page 8)

Supported Upgrade Paths (see page 9)

Add-ins Compatibilities (see page 9)

CA Clarity PPM Solution Pack (see page 10)

CA Business Intelligence (CABI) Release 3.3 Service Pack 2 (see page 11)

Training

CA Education offers many training solutions for CA Clarity PPM. One important course you may consider explains the CA Productivity Accelerator (CA PA). To learn more about the training offerings, see the CA Education website at http://ca.com/education.

International Support

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

A translated product (sometimes referred to as a localized product) is an internationalized product that includes local language support for the user interface of the product, online help and other documentation, and local language default settings for date, time, currency, and number formats.

The product is fully localized and supports over 100 regional settings for date, time, and number formatting. The user interface is available in the following languages:

Brazilian Portuguese

Catalan

Czech

Danish

Dutch

■ English

Finnish

French

■ German

Hungarian

■ Italian

Japanese

■ Norwegian

Polish

■ Russian

Simplified Chinese

Spanish

Swedish

Traditional Chinese

Turkish

Localized versions of some CA Clarity PPM Online Help files and content are available within 90 days of the product general availability.

The most recent versions of localized product documentation are available on the <u>Documentation page of CA Support Online</u>.

Published Fixes

We recommend that you review the Solutions and Patches that Technical Support provides at <u>CA Support</u>. You can review the solutions and patches and any prerequisite published fixes that are required for the product release.

Known Issues and Resolved Defects

Known issues are treated as Knowledge Base articles. To find known issues, go to the <u>CA Clarity PPM Support by Product page</u>, click the Knowledge Base tab, and enter the search term *clarity13open* or *clarity14open*.

Resolved Defects

For information about resolved defects, see the $\underline{\text{Resolved Defects page}}$ on CA Support Online.

Java Runtime Environment Defects

The Java Runtime Environment (JRE) is updated frequently with fixes for security issues, including issues that are unknown at the time CA Clarity PPM is released. To ensure that you have the latest fixes, we recommend that you download the most recent version 7 IDK

Supported Upgrade Paths

For information about supported upgrade paths, see the *Change Impact and Upgrade Guide* and the *Installation Guide*.

Add-ins Compatibilities

The following section describes important information about upgrading installed add-ins, accelerators, and connectors.

- If you are upgrading from Version 13.0, 13.1, 13.2, or 13.3 to Release 14.1, the following add-ins are upgraded:
 - PMO Accelerator
 - Clarity Solution Pack (CSP)
 - CA Clarity Agile
- If you are upgrading from any version before Version 13.0 to Release 14.1, upgrade all installed add-ins.
- Starting with Version 13.3, a new installation process is required for add-ins, accelerators, and connectors.

Note: For more information, see the Installation Guide.

The following table shows the accelerator and connector releases that are compatible with Release 14.1.

Accelerator or Connector	New Installation 14.1	Upgrade from 12.x to 14.1	Upgrade from 13.x to 14.1
PMO Accelerator	14.1.0	14.1.0	14.1.0
Clarity Solution Pack (CSP)	14.1.0	14.1.0	14.1.0
Earned Value Manager	2.0.2	2.0.2	2.0.2
Accelerator for PRINCE2	2.0.2	2.0.2	2.0.2
Accelerator for the PMBOK	2.0.2	2.0.2	2.0.2

Accelerator or Connector	New Installation 14.1	Upgrade from 12.x to 14.1	Upgrade from 13.x to 14.1
Accelerator for New Product Development	2.0.3	2.0.3	2.0.3
PPM Essentials Accelerator	2.0.2	2.0.2	2.0.2
BRM Accelerator	3.0.2	3.0.2	3.0.2
Connector for CA Unicenter Service Desk 12.7 & CA Software Change Manager™ 12.1.0.3	2.0.1	2.0.1	2.0.1
Connector for CA Unicenter Asset Portfolio Management 11.3.4	2.0.2	2.0.2	2.0.2
Connector for Microsoft SharePoint 2013	3.0.0	3.0.0	3.0.0
Service Connect	2.0.0	2.0.0	2.0.0
Catalyst Connector	2.5.0	2.5.0	2.5.0
CA Clarity Agile	14.1.0	14.1.0	14.1.0
VersionOne Connector	14.1.0	14.1.0	14.1.0

CA Clarity PPM Solution Pack

The CA Clarity PPM Solution Pack is an add-in based on the content delivered in the PMO Accelerator and customer feedback. The Solution Pack is a collection of Xcelsius dashboards and SAP Crystal reports to be used with the PMO Accelerator add-in.

Before you install the CA Clarity PPM Solution Pack add-in, verify that the compatible versions of CA Clarity PPM and the PMO Accelerator are installed. The CA Clarity PPM Solution Pack installation fails if you do not install the compatible version of the PMO Accelerator add-in before installing the solution pack.

You can find the Solution Pack release notes, product guide, overview guide, and dashboard and report source files on the <u>Solution Pack Index page of CA Support Online</u> (login required).

Important! Review the certified and supported versions chart in the CA Clarity PPM Solution Pack Release Notes to determine if an upgrade of CA Clarity PPM and the PMO Accelerator is required.

CA Business Intelligence (CABI) Release 3.3 Service Pack 2

This release of CA Clarity PPM uses CABI Release 3.3 Service Pack 2 for reports.

If you do not have CABI installed or if you have an older version, complete two steps. First, download and install CABI 3.3. Then, download and install Service Pack 2.

If you already have a CABI Release 3.3 installation, you only download and install Service Pack 2 (just perform Step 2 in the following procedure).

Follow these steps:

1. Download and install CABI Release 3.3 by completing these steps:

Note: This step is for new customers or upgrading customers with an older version of CABI.

- a. Log in to the <u>CA Clarity PPM support page on CA Support Online</u>.
- b. In the Quick Access section, click Download Center.
- c. In the Select a Product field, select the product for which you are licensed (for example, CA Clarity PPM Core License).
- d. In the *Please narrow your search results for "Products" below* section, select the appropriate release number.
- e. Click Go.
- f. Click the Download link next to the appropriate CA Business Intelligence 3.3 download for your installation.
- g. Select the appropriate download method to complete the download request.
- h. Install CABI Release 3.3.
- 2. Download and Install Service Pack 2 on the CABI Release 3.3 installation.
 - Download the CABI Release 3.3 Service Pack 2 and the Release Notes from the CA FTP site:

Windows:

ftp://ftp.ca.com/caproducts/CABI/CABI-3.x/boeXIR3_SP7/Windows/

Note: Download both the zip file and the CABI 3.3 SP2 Release Notes.

Linux:

ftp://ftp.ca.com/caproducts/CABI/CABI-3.x/boeXIR3 SP7/Linux/

b. Follow the instructions in the *CABI 3.3 SP2 Release Notes* to install Service Pack 2 on the CABI Release 3.3 instance.

Chapter 2: New Features

This section contains the following topics:

Studio Content Management (see page 13)

Microsoft Project Interface (see page 13)

Integration with VersionOne (see page 14)

Smart Sections (see page 14)

Apache Tomcat Log Analysis (see page 15)

Studio Content Management

You can collect specific Studio content in a content package. Content packages help you identify, assemble, export, and deploy content between development, test, and production systems. A content package also lets you distribute to external third parties. The content package provides an easy mechanism to import and export Studio content. Recipients can import your content as an add-in in their environments and can use your content. For example, you can develop a series of pages, portlets, and queries and can offer them to internal users and external customers.

When you export a content package, the application creates XML files for you in a package. You can transfer that package to your target system to import. Studio content management does not require you to know XML or XOG. An easy-to-use interface lets you package, download, and import Studio content between CA Clarity PPM instances. As a developer, you can design content items, package them for export, and then reimport them in another environment.

You can also import Studio content packages that were developed internally or by third parties. Studio content packages extend the functionality of the application.

Note: For more information about Studio content management and the required access rights, see the *Studio Developer Guide*.

Microsoft Project Interface

A new Microsoft Project Interface (XML-based) is available for you to select during the installation of the CA Clarity PPM Microsoft Project Interface. The existing Legacy Interface is also available for customers who are not ready to upgrade to the new interface. Both versions of the Interface are available for both 32-bit and 64-bit Microsoft Project installation environments.

Integration with VersionOne

Install the VersionOne Connector to integrate CA Clarity PPM projects with VersionOne, an agile project planning application. The integration provides CA Clarity PPM project managers near real-time visibility into agile projects and eliminates dual-time entry. Project managers can complete the following tasks effectively:

- Create projects in CA Clarity PPM and track them as initiative epics in VersionOne using agile metrics.
- Create work items (stories, defects, tasks, or tests) in VersionOne and view them in CA Clarity PPM as the project WBS.
- Enter effort in VersionOne for work items and view them in CA Clarity PPM timesheets.

Note: For more information about installing the VersionOne Connector, see the *Installation Guide*.

Smart Sections

You can now manage pages with many sections and fields more easily. A section header bar acts as a switch button. This feature also helps you identify the sections with errors quickly and easily.

The following changes improve the way page sections operate:

- To open or close all sections on a page, double-click any section header bar.
- To open or close a single section, click the section header bar once.
- The header bars for any sections that contain errors are highlighted when you save.
 If all sections are collapsed, the first highlighted section is expanded for you to make corrections. To make corrections in any remaining highlighted sections, click the section header bar to open the section.
- Any section that contains required fields displays the Required icon on the header bar. This display lets you scan collapsed sections to see which ones contain required fields.

Note: Although time-scaled values resemble sections, they are not true sections and are not included in these changes. Smart sections do not apply to the following pages: Home, Reports, Jobs page; Administration, General Settings, System Options page; pop-up dialogs. Also, if you switch browsers, the smart section state does not persist.

Apache Tomcat Log Analysis

The Tomcat Access Log Import/Analyze Job and Delete Log Analysis Data Job have been added. These jobs create and manage data that you can use to analyze performance in an Apache Tomcat environment. You can add custom portlets, queries, or externally available content to provide details regarding system performance. Although the job runs for application servers other than Tomcat, no data is created.

Chapter 3: Enhanced Features

This section contains the following topics:

Security for Cross-Site Scripting (XSS) Vulnerability (see page 17)
Action Item Localization (see page 18)
Documentation (see page 18)
Release Numbering (see page 18)

Security for Cross-Site Scripting (XSS) Vulnerability

Cross-Site Scripting (XSS) attacks insert malicious scripts into otherwise trusted web sites. An XSS attacker uses a web application to send malicious code, generally in the form of a browser side script, to an end user. These attacks succeed when a web application includes user input data in the output it generates without first validating or encoding the input data.

The user browser does not know that the script is malicious and executes the script. Because the browser thinks the script came from a trusted source, the malicious script can access cookies, session tokens, or other sensitive information. These scripts can even rewrite the content of the HTML page.

To address XSS vulnerability, all user-supplied input that is sent back to the browser should be verified to be safe (through input validation). Also, user input should be properly escaped before it is included in the output page. Proper output encoding ensures that the user input is always treated as text in the browser, instead of active content that can be executed.

With this release, CA Clarity PPM performs user input validation for XSS. Also, this release provides new administrative options that allow you to turn the XSS restrictions (escaping) on or off. For information about using these administrative options, see the *Installation Guide*.

Action Item Localization

CA Clarity PPM administrators can now translate the action item name and description that are associated with processes into all supported languages. When you send an action item to users working in different languages, the users see the Action Item Name and Description in their own languages.

A translation icon appears next to the Action Item Name field on the process page. Clicking this icon opens a dialog that lets you specify different language translations for the Action Item Name and Description fields.

Note: The Action Item translation icon is intended as an administrative tool and appears only for action items that are related to processes. The icon is not available to action item operations that end users perform from the Home menu.

Documentation

The CA Clarity PPM documentation improvements for this release include the following changes:

- Microsoft Project Interface. The Project Management User Guide and the Installation Guide have been updated to include the following information about the Microsoft Project Interface:
 - Improved flow of activities for installing and using the Microsoft Project Interface.
 - Responses to customer issues and requests.
- Change Impact and Upgrade. The Change Impact and Upgrade Guide was updated to include information about previous releases. This change was made to make searching for upgrade information about previous releases easier. The guide now includes relevant information about 14.1 and all 13.x releases.

Release Numbering

Starting with this release, CA Clarity PPM uses a new release numbering strategy. Release numbers now reflect the calendar year and the number of releases in that year. For example, if calendar year 2016 has two releases, the releases are numbered 16.1 and 16.2.

The advantage of this strategy is that the release numbers themselves convey information about when a particular version was distributed for use.

Appendix A: Compatibilities

This section contains the following topics:

CA Clarity PPM Servers (see page 19)

Integrated Servers (see page 22)

Clients (see page 22)

Clarity Mobile Time Manager (see page 24)

Products Included with CA Clarity PPM (see page 24)

Change History (see page 25)

FIPS Operating Mode Restrictions (see page 32)

IPv6 Network Compatibility Restrictions (see page 32)

CA Business Intelligence Release 3.3 SP2 - (SAP BusinessObjects Enterprise XI 3.1 Service

Pack 7) Supported Configurations (see page 35)

CA Clarity PPM Servers

The following table lists supported platforms for servers running CA Clarity PPM server software (application and background servers).

Some of the products listed in this appendix are not delivered with CA Clarity PPM, and you must purchase the product. For information about the software that is included with CA Clarity PPM, see Products Included with CA Clarity PPM (see page 24). Refer to your licensing agreement for more information.

New Installations

	Microsoft Windows	Linux	IBM AIX
Operating System ¹⁾	 Windows Server 2008 R2 SP1 64-bit (Standard, Enterprise Edition) Windows Server 2008 SP2 64-bit (Standard, Enterprise Edition) Windows Server 2012 64-bit (Standard) 	 Red Hat Enterprise Linux 5.10 64-bit for x86 chipsets:	■ AIX 6.1; TL8: any maintenance release ³⁾
		Server 11 SP3 64-bit for x86 chipsets: any newer service pack release ²⁾ Oracle Enterprise Linux Server 6u2 64-bit for x86	
		chipsets; any newer update release. ³⁾	

Notes:

- ¹⁾CA Clarity PPM is supported on any localized version of the supported operating systems.
- ²⁾CA Clarity PPM on OEL connecting to Microsoft SQL Server database is not currently supported.
- ³⁾Support for AIX will be dropped in CA Clarity PPM Release 16.1 (first release in calendar year 2016).

Components

٠	See the CA Support Statement for Virtualization. Log in to <u>CA Support Online</u> , go to the CA Clarity Project & Portfolio Manager Support page, navigate to the Product Status content type, select CA Clarity Project and Portfolio Manager Compatibility Information, and click the Virtualization
	Support information link.

Database ⁴⁾	■ Oracle 11.2 Standard and Enterprise Edition: version 11.2.0.3.x or higher patch level ^{4a, 4b)}
	■ Oracle 11.2 Standard and Enterprise Edition: version 11.2.0.4.x or higher patch level ^{4a, 4b)}
	■ Microsoft SQL Server 2008 R2 Enterprise Edition: Any service pack ^{4c, 4d)}
	■ Microsoft SQL Server 2012 Enterprise Edition: Any service pack
Database Interface	■ CA Clarity PPM DataDirect Type 5 (v5.1.1) Drivers for Oracle and SQL Server (included in CA Clarity PPM distribution).
Java Runtime	■ Oracle Java SE JDK 1.7 update 55 (64-bit) or higher patch level ^{5,6)}
	■ IBM Java 7 (64-bit): 7.0.0.100 (SR5) or higher patch level ^{5, 6)}
Application	■ Apache Tomcat 7.0.52 or higher patch level (64-bit)
Server	■ IBM WebSphere Application Server v8.5.5 ^{6a, 7)}
Report Server	CA Business Intelligence™ Release 3.3 SP2 (BOXI 3.1 SP 7). For more information, see <u>CA Business</u> Intelligence Release 3.3 (see page 35).
Mail Server	Any SMTP/IMAPI/POP3 mail server can be used. CA Clarity PPM does not explicitly support any one vendor.

Notes:

- ⁴⁾Databases can be run on any vendor-supported operating system. Production databases are not supported on software virtualized operating systems; examples include VMware vSphere, Microsoft Hyper-V, and Citrix XenServer. AIX LPARS, HP-UX VPARS and Solaris containers do not fall into this category and remain supported. It is also recommended that any downstream environments that are intended for performance or high concurrency testing match what is used in production.
 - ^{a)}Oracle Real Application Cluster (RAC) is supported.
 - b) Where (x) represents the patch level supported. (For example, 11.2.0.5 is a new release and is <u>not</u> inherently supported).
 - c)SQL Server Named Instances are supported. SQL Server Clustering is supported with manual intervention after a database failure to restart failed background processes.
 - d)Any Microsoft SQL Server deployment that expands beyond five thousand users must be approved by CA Technologies, otherwise Oracle is a requirement due to scalability limitations associated with Microsoft SQL Server and how it handles OLTP (Online Transaction Processing) products like CA Clarity PPM.

- ⁵⁾CA recommends running the latest patch level.
- ⁶⁾CA Clarity PPM is supported on any localized version of the supported application servers.
 - a)WebSphere is only supported on AIX OS.
- ⁷⁾Support for WebSphere will be dropped in CA Clarity PPM Release 16.1 (first release in calendar year 2016).

Integrated Servers

The following table lists supported software for servers integrating with CA Clarity PPM.

Single Sign On CA SiteMinder 12.0 SP3 and CA SiteMinder 12.51 CR1 Server	
LDAP Server	Supports any LDAP v3 compliant directory server (such as CA Directory, Microsoft Active Directory, Novell eDirectory, Oracle Directory Server, Sun One Directory).
Microsoft SharePoint Server MS SharePoint Server 2010 SP2 ⁸⁾ , 2013 (64-bit), Enterprise Edition ⁹⁾	

Notes:

- 8)CA Clarity PPM SharePoint 2010 Connector Setup version 2.0.2 for MS SharePoint server 2010 SP2.
- ⁹⁾CA Clarity PPM SharePoint 2013 Connector Setup version 3.0 for MS SharePoint server 2013.

Clients

The following table lists supported software for client computers accessing CA Clarity PPM.

	Microsoft Windows	Apple Mac OS	Desktop Linux
Operating System	 Microsoft Windows XP Professional: SP3 or higher Microsoft Windows 7 SP1 32-bit and 64-bit, all editions Microsoft Windows 8.1 32-bit and 64-bit 	■ Mac OS X: Release 10.9.1 or higher patch level	Any vendor or version with support for browsers listed under the Web Browser section.

	Microsoft Windows	Apple Mac OS	Desktop Linux
Web Browser	 Microsoft Internet Explorer 10.0 and 11.0 and higher patch level (Microsoft Windows 7 and 8.1)¹⁷⁾ Microsoft Internet Explorer 9.0 and higher patch level Microsoft Internet Explorer 8.0 and higher patch level¹²⁾ Firefox 30.0 and higher release¹¹⁾ Firefox ESR 24.2.0 and higher patch level¹¹⁾ Google Chrome 35 or higher release¹¹⁾ 	 Safari 7.0 and higher patch level Firefox 30 and higher release¹¹⁾ 	■ Firefox 30 and higher release ¹¹⁾
Client Applications ¹⁰⁾	 Microsoft Excel 2010-2013 32-bit & 64-bit, all editions. Microsoft PowerPoint 2010-2013 32-bit & 64-bit, all editions. Microsoft Project 2010 SP2 and 2013 32-bit & 64-bit, all editions Java 7 Runtime Environment: 1.7 update 45 or higher update level¹³⁾ Adobe Flash Player 11.9 or higher¹⁴⁾ Adobe Acrobat Reader 7.0 or higher¹⁵⁾ CA Open Workbench 2.1.2 Crystal Reports 2008 Designer Client SP5¹⁶⁾ 	 Microsoft Office Excel 2011 Adobe Flash Player 11 or higher 14 (1) Mac OS Preview PDF viewer 15 (1) No Microsoft Project support No CA Open Workbench support No Crystal Reports Designer support 	 Adobe Acrobat Reader 7.0 or higher¹⁵⁾ Adobe Flash Player 11 or higher¹⁴⁾ No Excel Export support No Microsoft Project support No CA Open Workbench support No Crystal Reports Designer support
Third-party SOAP Integration Toolkits	Microsoft Visual Studio 2013 (.NET Framework 4.5.1)Apache AXIS 1.6	■ Apache AXIS 1.6	■ Apache AXIS 1.6

Notes:

- Using multiple versions of third-party software concurrently is not supported as it can cause out-of-sync and compatibility issues. CA Technologies supports only versions of third-party software that the vendor supports.
- New Firefox and Chrome releases may be supported with minimal testing after being released.
- Support for IE 8.0 and its associated patches will be dropped in Release 15.1.
- ¹³⁾ Required for Open Workbench, CA Clarity PPM Microsoft Project interface, and XOG Client.
- ¹⁴⁾ For viewing Xcelsius dashboards.
- ¹⁵⁾ For reading CA Clarity PPM installation guides, technical manuals, user guides, and offline reports.
- Required only for custom report development.
- ¹⁷⁾ If you are using Internet Explorer 11 with CA Clarity PPM, the browser is automatically set to run in the Internet Explorer 10 compatibility mode for the CA Clarity PPM session. The setting is for the CA Clarity PPM session only and does not affect any other Internet Explorer 11 browser activity.

Clarity Mobile Time Manager

The following table lists the mobile operating system platforms that are supported for the Clarity Mobile Time Manager app.

	iOS	Android
Mobile Operating System	■ Apple iOS 7.0 or higher	■ Google Android OS 4.0 or higher

Products Included with CA Clarity PPM

The following table lists third-party software that is licensed and delivered with CA Clarity PPM. All of the following software is included on the CA Clarity PPM installation media.

Component	Notes
Java Runtime	The JDK installers for all supported operating systems.
Application Server	Apache Tomcat for all supported operating systems.

Component	Notes
Report Server	CA Business Intelligence Release 3.3 Service Pack 2
Client Applications	Xcelsius Designer 2008 Service Pack 6, Fix Pack 3 Crystal Reports Designer 2008 Service Pack 5

Notes:

■ IBM WebSphere is not included with CA Clarity PPM. To use this server over Tomcat, you must purchase the license independent of CA Clarity PPM.

Change History

Changes in CA Clarity PPM Release 14.1.00

Component	Description
	■ Added support for Windows Server 2012 64-bit (Standard).
	■ Added support for Red Hat Enterprise Linux 5.10 64-bit (supports releases 5.5 to 5.10)
	■ Added support for Red Hat Enterprise Linux 6.4 (supports releases 6.0 to 6.4)
Operating	■ Added support for SUSE Linux Enterprise Server 11 SP3 64-bit
Systems	■ Added support for Windows 8.1.
	■ Dropped support for Solaris.
	■ Dropped support for HP UX.
	■ Updated support for Mac OS X; Release 10.9.1
Server Java	■ Added support for Oracle Java SE JDK 1.7 update 55 (64-bit)
Runtime	■ Dropped support for HP JDK 7 (64 bit): 7.0.01 or higher patch level
Products	■ Added Crystal Reports Designer 2008 Service Pack 5.
Included	■ Updated Xcelsius 2008, SP6, Fix Pack 3.
Mobile Operating Systems ¹⁾	■ Dropped support for Apple iOS 6.
Database Server	■ Dropped support for Oracle 11.2 Standard and Enterprise Edition, version 11.2.0.2x or higher patch level.
	 Added support for Oracle 11.2 Standard and Enterprise Edition, version 11.2.0.4x or higher patch level.
	■ Dropped support for MS SQL Server 2008.

Component	Description
Application Server	 Updated support for Apache Tomcat 7.0.50. Dropped support for Oracle Weblogic Server 12.1.1.
Report Server	■ Updated support for CA Business Intelligence r3.3 SP2 (BOXI 3.1 SP7).
Client Browser	■ Updated support for new releases of Firefox, Chrome, and Safari browsers.
Client Applications	•) ' ' U '- ' ' U 'h h ' ' '
Integrated Servers	■ Added support for CA SiteMinder 12.5 cr01.

Changes in CA Clarity PPM Release 13.3.00

Component	Description	
	■ Added support for Windows Server 2008 SP2 64-bit (Standard, Enterprise).	
	■ Added support for Red Hat Enterprise Linux 5.95 64-bit i.e. supports releases 5.5 to 5.9.	
	■ Added support for Red Hat Enterprise Linux 6.4 i.e. supports releases 6.0 to 6.4	
Operating	■ Added support for SUSE Linux Enterprise Server 11 SP2 64-bit	
Systems	Added support for Oracle Enterprise Linux Server 6.46u2 64-bit i.e. supports releases 6.2 to 6.4.	
	■ Added support for AIX 6.1; TL82	
	■ Added support for AIX 7.1; TL20	
	■ Added support for Mac OS X; Release 10.8.4	
Server Java	■ Added support for Oracle Java SE JDK 1.7 update 25 (64-bit)	
Runtime	■ Updated the IBM Java version to 7.0.0.100 (SR5)	
Mobile Operating	■ Added support for Apple iOS 6.1.4 and iOS 7	
Systems ¹⁾	■ Added support for Google Android OS 4.2.2 (Jelly Bean)	
Database Server	■ No Changes	
Application Server	■ Dropped support for Apache Tomcat 7.0.33	
	■ Added support for Apache Tomcat 7.0.40	
	■ Added support for IBM WebSphere Application Server v8.5.5	
Report Server	■ Dropped support for CA Business Intelligence r3.3.	
neport server	■ Added support for CA Business Intelligence r3.3 SP1 (BOXI 3.1 SP6).	

Component	Description
Client Browser	■ Added support for Firefox 19.0.2 22 for Microsoft Windows
	 Added support for Google Chrome 31.x.x.x for Microsoft Windows. Also added a footnote regarding known issues with version 29, 30, and 31
	■ Added support for Safari 6.0.52 for Apple Mac OS
	■ Added support for Adobe Flash Player version 11
Client Applications	■ Dropped support for Microsoft Project 2007
	■ Added support for CA Open Workbench 2.1.1
	■ Dropped support for CA Open Workbench 2.1
Database	■ No Changes
Integrated Servers	■ Added support for SharePoint Server 2013
	■ Added Sharepoint Connector 2.0.3
	■ Added footnote "CA SiteMinder 12.0 SP3 is certified. Additionally SiteMinder 12.51 CR1 is supported."

Changes in CA Clarity PPM Release 13.2.00

Component	Description	
	■ Added support for Microsoft Windows XP, SP3.	
	■ Dropped support for Microsoft Windows XP, SP2.	
	■ Added support for Microsoft Windows 8, 32-bit and 64-bit, all editions.	
Operating	■ Dropped support for Microsoft Windows Vista, all editions.	
Systems	■ Dropped support for Microsoft Windows Server 2008 (non-R2).	
	■ Added support for Mac OS X 10.8.2.	
	■ Dropped support for Mac OS X 10.4.	
	■ Added support for Oracle Enterprise Linux 6u2.	
Server Java Runtime	■ Added support for Java JDK 1.7 update 21 and higher.	
Mobile	■ Added support for Apple iOS 6.0 and higher.	
Operating Systems 1)	Added support for Google Android 4.0 (Ice Cream Sandwich) and higher.	
Database Server	Added support for Oracle 11.2.0.3 Standard and Enterprise Editions.	
	■ Added support for Microsoft SQL Server 2012 Enterprise Edition.	

Component	Description
Application Server	■ Added support for Tomcat 7.0.33 or higher patch level (64-bit).
	■ Dropped support for Tomcat 7.0.26 or higher patch level (64-bit).
Report Server	■ No changes.
	Note: CA Technologies only supports browser versions that are supported by their associated third-party vendors.
	■ Added support for Firefox 19.0.2.
	■ Added support for Firefox ESR 17.0.4.
Client Browser	■ Dropped support for Firefox ESR 10.0.5.
	■ Added support for Microsoft Internet Explorer 10 (Windows 8 only).
	■ Added support for Chrome 25.0.1364.172m.
	■ Added support for Apple Safari 6.0.2 (on Mac OSX 10.8.2 or higher).
	■ Added support for Xcelsius Designer 2008 Service Pack 6.
	■ Dropped support for Xcelsius Designer 2008 Service Pack 5.
Client	■ Added support for Microsoft Project 2010-2013 32-bit and 64-bit, all editions.
Applications	■ Added support for Microsoft Excel 2010-2013 64-bit,all editions.
	■ Added support for Microsoft PowerPoint 2010-2013 64-bit, all editions.
	■ Added support for CA Open Workbench 2.1.
	■ Dropped support for CA Open Workbench 2.0.
Database	■ Clarified support around running databases on software virtualized operating systems.
	■ Dropped support for Oracle 10.2.0.5.
Integrated Servers	■ Added support for Sharepoint Connector 2.0.2.

Notes:

■ ¹⁾This support is for the Clarity Mobile Time Management application only.

Changes in CA Clarity PPM Release 13.1.00

Component	Description		
	■ Added support for OEL Server 6u2.		
	■ Added support for Red Hat Enterprise Linux 5.5 64-bit for x86 chipsets: any maintenance release.		
	■ Dropped support for Red Hat Enterprise Linux 5 64-bit for x86 chipsets: any maintenance release.		
	■ Added support for Microsoft Windows Server 2008 R2 Service Pack 1.		
	■ Dropped support for Microsoft Windows Server 2008 R2 (64-bit) Standard Edition or Enterprise Edition.		
	■ Dropped support for Microsoft Windows Server 2003 64-bit Standard Edition or Enterprise Edition up to Service Pack 2.		
Operating Systems	 Added support for SUSE Linux Enterprise Server 10 Service Pack 4 (64-bit) for x86 chipsets. 		
	■ Dropped support for SUSE Linux Enterprise Server 10 (64-bit) for x86 chipsets: any maintenance release.		
	■ Added support for Windows Server 2008, SP2.		
	■ Added support for AIX 7.1: any maintenance release.		
	■ Dropped support for AIX 5.3: any maintenance release.		
	■ Added support for Microsoft Windows Vista Service Pack 2, all editions.		
	■ Dropped support for Microsoft Windows Vista, all editions.		
	■ Added support for Microsoft Windows 7 Service Pack 1, 32-bit and 64-bit, all editions.		
	■ Dropped support for Microsoft Windows 7, 32-bit and 64-bit, all editions.		
	■ Added support for Oracle Java SE JDK 1.7.0_4 or higher patch level (64-bit).		
	■ Added support for HP JDK v7: 7.0.01 or higher patch level (64-bit).		
Server Java Runtime	■ Dropped support for HP JDK 6: 6.0.05 or higher patch level (64-bit).		
	■ Added support for IBM Java 7.0.0 64-bit: SR10 or higher patch level (64-bit).		
	■ Dropped support for IBM Java 6 64-bit: SR6 or higher patch level (64-bit).		
	■ Dropped support for Sun J2SDK 1.6.0: version 1.6.0_20 or higher patch level (64-bit).		

Component	Description
	■ Added support for Tomcat 7.0.26 or higher patch level (64-bit).
	■ Dropped support for Tomcat 6.0.35.
Application	■ Added support for Oracle Weblogic Server 12.1.1: any service pack (64-bit).
Server	■ Dropped support for Oracle WebLogic Server 10.3: any service pack (64-bit).
	■ Added support for IBM WebSphere Application Server 8.5 (64-bit).
	■ Dropped support for IBM WebSphere Application Server 7.0.0.7 (64-bit).
Report Server	■ Added support for CA Business Intelligence Release 3.3 (BOXI 3.1 Service Pack 5).
neport server	■ Dropped support for CA Business Intelligence Release 3.2 (BOXI 3.1 Service Pack 3).
	Note: CA Technologies only supports browser versions that are supported by their associated third-party vendors.
	■ Added support for Firefox ESR 10.0.5 and higher release level.
Client Browser	■ Added support for Firefox 13.0 and higher release level.
	■ Dropped support for Firefox 3.5.
	■ Dropped support for Firefox 8.0.
	■ Added support for Chrome 18.0.1.25.152m and higher release level.
	■ Added support for Xcelsius Designer 2008 Service Pack 5.
Client	■ Dropped support for Xcelsius Designer 2008 Service Pack 3.
Applications	■ Added support for Crystal Reports Designer 2008 Service Pack 5.
	■ Dropped support for Crystal Reports Designer 2008 Service Pack 3.
Database	■ Clarified support around running databases on software virtualized operating systems.
Database	■ Dropped support for Oracle 10.2.0.5.

Changes in CA Clarity PPM Service Pack 13.0.01

Component	Description
	■ Added support for Firefox 10.0.
Client Browser	■ Dropped support for Firefox 8.0.
	■ Added support for Firefox 3.6.
	■ Dropped support for Firefox 3.5.
Application	■ Added support for Tomcat 6.0.35.
Server	■ Dropped support for Tomcat 6.0.26.

Changes in CA Clarity PPM Version 13.0.00

Component	Description
	 CA Technologies provides support only for upgrading customers with pre-existing installations on Solaris and HP-UX.
Server Operating System	■ Added support for SUSE Enterprise Linux 11.
	■ Added support for RHEL 6.0.
	■ Dropped 32-bit operating systems.
Server DB	■ Added Microsoft SQL Server 2008 R2.
	■ Dropped support for Microsoft SQL Server 2005.
Server Java Runtime	■ Dropped 32-bit support.
Application Server	■ Dropped 32-bit support.
	■ Added support for CA Business Intelligence Release 3.2.
Report Server	■ Dropped support for Actuate.
	■ Dropped support for CA Business Intelligence Release 3.0.
	■ Added support for Firefox 8.0.
Client Browser	■ Added support for Safari 5.1.1.
Circle Diovise.	■ Added support for IE 9.0.
	■ Dropped support for IE6 and IE7.
Client	■ Dropped support for Microsoft Project 2000, 2002 and 2003.
Applications	■ Defined support for Crystal Reports Designer 2008 as SP3 or higher (instead of any service pack).
SharePoint	■ Added support for SharePoint Server 2010.
Server	■ Dropped support for SharePoint Server 2007.

FIPS Operating Mode Restrictions

Not all CA Clarity PPM platforms support RSA BSAFE Crypto-J for FIPS 140-2 certification. The following table displays the compatible platforms and operating systems that RSA documents. While other platforms are likely to function correctly, CA Technologies cannot verify support for Crypto-J on any other than those platforms listed here.

Platform	Operating System	Number of Bits	Release
Microsoft Windows	2008 R2 Server	64	Oracle JDK 1.7 update 55
Red Hat Linux	Advanced Server 6.0	64	Oracle JDK 1.7 update 55
IBM AIX	AIX 6.1	64	IBM Java 7 (64-bit)

Notes:

- The file 'java.security' under '<JAVA_HOME>/jre/lib/security' lists all the security providers along with their preference order. CA Clarity PPM automatically places the Crypto-J provider above the SunJCE provider's location in the providers list. To use the Crypto-J provider with CA Clarity PPM, you must explicitly set the security provider entry in the first index position: security.provider.1=com.sun.crypto.provider.SunJCE. The index numbers for the other positions must be adjusted accordingly. Verify that the SunJCE security provider is the first one.
- If you are using the IBM FIPS provider on AIX, you do not need to make the changes described in the previous bullet. AIX uses the IBM FIPS provider for FIPS mode.

IPv6 Network Compatibility Restrictions

CA Clarity PPM is certified to operate in an IPv6 networking environment with restrictions. Other configurations of CA Clarity PPM using IPv6 are likely to work but have not been certified. For mixed IPv6/IPv4 environments, it is assumed that the server instance uses two network interface cards, one configured for IPv6 and the other for IPv4.

Clarity Installations on a Microsoft Windows Configuration

Configuration	App Server	OS for App Server	Database	OS for Database	Status
1	Apache Tomcat 7.0.52 (64-bit)		MSSQL 2008 R2	Windows 2008 R2	Supported in IPv6 mixed mode and in pure mode.

Configuration	App Server	OS for App Server	Database	OS for Database	Status
2	Apache Tomcat 7.0.52 (64-bit)		Oracle Enterprise Edition 11.2.0.3	Windows 2008 R2	Supported in pure IPv6 and mixed mode.

Mail Server on a Microsoft Windows Configuration

Configuration	App Server	OS for App Server	Database	OS for Database	Mail Server	Status
3	Apache Tomcat 7.0.52 (64-bit)	Windows 2008 R2	Oracle Enterprise Edition 11.2.0.3	Windows 2008 R2	MIRAK ⁵⁾ 10.3.1	Supported in pure IPv6 and mixed mode.

Business Objects Testing CABI 3.3 SP2 on a Microsoft Windows Configuration

Configuration	App Server	OS for App Server	Database	OS for Database	ВО	Status
4	Apache Tomcat 7.0.52 (64-bit)	Windows 2008 R2	MSSQL 2008 R2	Windows 2008 R2	CABI 3.3 SP2	Supported in IPv6 mixed mode and in pure mode.
5	Apache Tomcat 7.0.52 (64-bit)	Windows 2008 R2	Oracle Enterprise Edition 11.2.0.3	Windows 2008 R2	CABI 3.3 SP2	Supported in pure IPv6 and mixed mode.

Upgrade from v12.1.1 to v13.3 on a Microsoft Windows Configuration

Configuration	App Server	OS for App Server	Database	OS for Database	Status
6	Apache Tomcat 7.0.52 (64-bit)	Windows 2008 R2	MSSQL 2008 R2	Windows 2008 R2	Supported in mixed mode.
7	Apache Tomcat 7.0.52 (64-bit)	Windows 2008 R2	Oracle Enterprise Edition 11.2.0.3	Windows 2008 R2	Supported in mixed mode.

Installation on a Hybrid CA Clarity PPM Configuration with a different OS for APP and DB

Configuration	App Server	OS for App Server	Database	OS for Database	Status
8	Apache Tomcat 7.0.52 (64-bit)	Windows 2008 R2	Oracle Enterprise Edition 11.2.0.3	RH6	Supported in pure IPv6 and mixed mode.

Mail Server on a Hybrid CA Clarity PPM Configuration with a different OS for APP and DB

Configuration	App Server	OS for App Server	Database	OS for Database	Mail Server	Status
9	Apache Tomcat 7.0.52 (64-bit)	Windows 2008 R2	Oracle Enterprise Edition 11.2.0.3	RH6	MIRAK 10.3.1 ¹⁾	Supported in mixed mode.

Note: ¹⁾MIRAK is an open source mail server used for testing purposes.

Business Objects Testing CA BI 3.3 SP2 on a Hybrid CA Clarity PPM Configuration with a different OS for APP and DB

Configuration	App Server	OS for App Server	Database	OS for Database	ВО	Status
10	Apache Tomcat 7.0.52 (64-bit)	Windows Server 2008 R2 SP1	Oracle Enterprise Edition 11.2.0.3	RH6	CA BI 3.3 SP2	Supported in mixed mode.

Upgrade from v12.1.1 to v13.3 on a Hybrid CA Clarity PPM Configuration with a different OS for APP and DB

Configuration	App Server	OS for App Server	Database	OS for Database	Status
11	Apache Tomcat 7.0.52 (64-bit)	Windows 2008 R2	Oracle Enterprise Edition 11.2.0.3	RH6	Supported in mixed mode.

CA Business Intelligence Release 3.3 SP2 - (SAP BusinessObjects Enterprise XI 3.1 Service Pack 7) Supported Configurations

The following Business Objects configurations are supported for CA Clarity PPM. Additional information, such as minimum CA Business Intelligence (CABI) release 3.3 SP 2 hardware requirements, can be found in the CABI documentation. For information about virtualization support, refer to the following SAP document: Business Objects Support Statement – VMWare ESX Server.

The application servers listed in the following table indicate the minimum releases tested for CABI 3.3 (BOXI release 3.1 SP7) in integration with CA Clarity PPM. Subsequent releases (indicated by the last number in the name) are supported, but not necessarily tested in integration with CA Clarity PPM. The same applies to the application server JDKs.

Note: If there are network editions of any application servers listed in the following table, those network editions are not supported. Unless otherwise specified, only 32-bit versions of the application servers (with their underlying JDK) can be used.

Running CABI release 3.3 SP2 has not been tested on a CA Clarity PPM system using a UNIX or Linux operating system and configured with SQL Server. In such cases, we recommend running CABI release 3.3 SP2 on a separate Windows server.

Operating System	Server Version	CABI 3.3 Application Server/JDK	CMS & Audit Database Provider/Data Connector
Microsoft Windows	 Windows Server 2012 R2 Windows Server 2008 SP2 Standard or Enterprise Edition (32-bit and 64-bit) ^{1), 2)} Windows Server 2008 R2 64-bit ^{1), 2)} 	■ Tomcat 6.0 (OEM provided)/JDK 1.6.0_xx	 MS SQL Server 2008/ODBC SQL Native Client 10, MS SQL Server 2008 JDBC (Sqljdbc.jar 3.0), OLE DB SQL (Native Client) 10 MS SQL Server/Microsoft JDBC 1.2 for SQL Server 2005, Microsoft ODBC SNAC (Native Client), Microsoft OLEDB SNAC (Native Client)
			 Oracle 11g R2/Oracle Net Client 11g R2, Oracle JDBC 11g R2 (Use 32-bit Oracle client installer.)

Operating System	Server Version	CABI 3.3 Application Server/JDK	CMS & Audit Database Provider/Data Connector
Linux	 Red Hat Enterprise Server 5 (64-bit)³⁾ Red Hat Enterprise Server 6 (64-bit)⁴⁾ 	■ Tomcat 6.0 (OEM provided); JDK 1.6.0_xx	■ Oracle 11g R2/Oracle Net Client 11g R2 (11.2), Oracle JDBC 11g R2 (Use 32-bit Oracle client installer.)
	SUSE Enterprise Linux 10 Service Pack 2 (64-bit)		
	■ SUSE Enterprise Linux 11 (64-bit)		
AIX	 AIX 6.1 (64-bit) ⁵⁾ AIX 7.1 (64-bit) ⁶⁾ 	■ Tomcat 6.0 (OEM provided)/JDK 1.6.0_xx	 Oracle 11g R2/Oracle Net Client 11g R2 (11.2), Oracle JDBC 11g R2 (Use 32-bit Oracle client installer.)
HP-UX	Not supported.		

Notes:

- ¹⁾Business Objects supports and recommends installation of all Microsoft critical patches for the operating systems listed.
- ²⁾If utilizing Query as a WebService (QaaWs), .NET Framework 2.0 is required.
- Minimum patch level for Red Hat Enterprise Server 5: Required minimum operating system install plus RHBA-2007:0619-3
- Minimum patch requirements for RHEL 6: compat-libstdc++-33-3.2.3-69.el6.i686 (compatibility standard C++ library from GCC 3.3.4); glibc-2.12-1 (RedHat advisory RHBA-2007:0619-3); libXext.i386; libncurses.so.5
- Minimum patch requirements for AIX 6.1: Technology Level 2 SP1; IBM C++ Runtime Environment Components for AIX => xlC.aix61.rte:10.1.0.0.
- Minimum patch requirements for AIX 7.1: Technology Level 7.1.0.0 / 7100-00-00-0000; IBM C++ Runtime Environment Components for AIX => xIC.aix61.rte:11.1.0.1.

Appendix B: Accessibility Features

CA Technologies is committed to ensuring all customers can successfully use its products and supporting documentation to accomplish business tasks. Enable the accessibility mode to optimize contrast in the user interface and assist a screen reader for those users who need assistance.

CA Clarity PPM accessibility features are best when used with the Mozilla Firefox 13 browser and the Job Access With Speech (JAWS) screen reader.

CA Clarity PPM inherits accessibility enhancements from Windows-based and Macintosh-based environments in the following areas:

- Display
- Sound
- Keyboard
- Mouse

Note: The information in the following topics applies to Windows-based and Macintosh-based applications. Java applications run on many host operating systems, some of which already have assistive technologies available to them. For these existing assistive technologies to provide access to programs written in JPL, they need a bridge between themselves in their native environments and the Java Accessibility support that is available from within the Java Virtual Machine (Java VM). This bridge has one end in the Java VM and the other on the native operating systems, so it will be slightly different for each platform it bridges to. Oracle is currently developing both the JPL and the Win32 sides of this bridge.

This section contains the following topics:

Mouse (see page 37)
Keyboard (see page 38)
Sound (see page 38)
Set Up Accessibility for a User (see page 39)
Keyboard Shortcuts (see page 40)
Display (see page 42)

Mouse

You can use the following options to make your mouse faster and easier to use:

Click Speed

Lets you choose how fast to click the mouse button to make a selection.

Click Lock

Lets you highlight or drag without holding down the mouse button.

Reverse Action

Lets you reverse the functions controlled by the left and right mouse keys.

Blink Rate

Lets you choose how fast the cursor blinks or if it blinks at all.

Pointer Options

Let you do the following:

- Hide the pointer while typing
- Show the location of the pointer
- Set the speed that the pointer moves on the screen
- Choose the pointer's size and color for increased visibility
- Move the pointer to a default location in a dialog box

Keyboard

You can make the following keyboard adjustments:

Repeat Rate

Lets you set how quickly a character repeats when a key is pressed.

Tones

Lets you hear tones when pressing certain keys.

Sticky Keys

Lets those who type with one hand or finger choose alternative keyboard layouts.

Sound

Use sound as a visual alternative or to make computer sounds easier to hear or distinguish by adjusting the following options:

Volume

Lets you turn the computer sound up or down.

Text-to-Speech

Lets you hear command options and text read aloud.

Warnings

Lets you display visual warnings.

Notices

Gives you aural or visual cues when accessibility features are enabled or disabled.

Schemes

Lets you associate computer sounds with specific system events.

Captions

Lets you display captions for speech and sounds.

Set Up Accessibility for a User

Use these steps to set up accessibility for a user.

Follow these steps:

- 1. Open Administration, and from Organization and Access, click Resources.
- 2. Click the name of the resource.

The properties page appears.

3. Select the appropriate Accessibility check boxes:

Screen Reader Optimized UI

Determines whether the user interface is optimized so that a screen reader can better recognize the features. Select this check box for any visually impaired user who is using a screen reader.

Default: Cleared

High Contrast Color Mode

Determines whether a specific UI theme to assist color-deficient users is used. If selected, the user sees the High Contrast UI theme.

Default: Cleared

- 4. Save your changes.
- 5. (Optional) If you selected the Screen Reader Optimized UI, verify that the screen reader software is running on the user's computer.
- 6. If the user is logged in to CA Clarity PPM, instruct the user to log out and log back in.

Keyboard Shortcuts

The following table shows the keyboard shortcuts for basic features available on all CA Clarity PPM pages.

Feature	Key Combination
Home Menu	Ctrl+Alt+h
Administration Menu	Ctrl+Alt+a
Favorites Menu	Ctrl+Alt+f
Back	Ctrl+Alt+b or Alt+Left Arrow
Home Page	Ctrl+Alt+Home
Refresh	Ctrl+Alt+F5
Search	Ctrl+Alt+s
History	Ctrl+Alt+v
Help	F1

CA Clarity Keyboard Shortcuts (Actions)

The following table shows keyboard shortcuts for actions on CA Clarity PPM pages.

Action	Key Combination	Alternate Accessibility Key Combination
Activate a field editor (for example, a date picker)	Enter	Alt+Enter
Close a popup	Esc	Shift+Esc
Open a tab menu	Enter	Alt+Enter
Move left, right, up, or down in a menu	Left Arrow Right Arrow Up Arrow Down Arrow	Alt+Up Arrow Alt+Down Arrow Alt+Up Arrow Alt+Down Arrow
Select a highlighted menu item	Enter	Alt+Enter
Open a link in a list page	Ctrl+Enter	

Action	Key Combination	Alternate Accessibility Key Combination
Select or clear a check box Note: Focus must be on the checkbox.	Space Bar	
Expand a hierarchical list Note: Focus must be on the + in the hierarchical list.	Space Bar	

CA Clarity Keyboard Shortcuts (Lists)

The following table shows the keyboard shortcuts for lists.

Action	Mode	Keyboard Combination
Switch between edit and display mode in a list	Display, Edit	Enter
Move from cell to cell through a list (grid)	Display	Left Arrow Right Arrow Up Arrow Down Arrow
Move to different areas within a list: portlet icons, column headers, body of list, buttons	Display	Tab (Forward) Shift+Tab (Back)
Switch to display mode	Edit	Esc or Enter
Move left or right within a cell	Edit	Left Arrow Right Arrow
Move from editable cell to editable cell	Edit	Tab (Forward) Shift+Tab (Back)
Move to the end of a row Note: If the action is on a TSV row, repeat the keyboard combination to leave the TSV section.	Edit	Ctrl+Right Arrow
Move to the beginning of a row	Edit	Ctrl+Left Arrow
Page up or down	Display, Edit	Ctrl+Alt+Up Arrow Ctrl+Alt+Down Arrow
Move to the top or bottom of a list Note : If the action is in a TSV cell, repeat the keyboard combination to leave the TSV section.	Display, Edit	Ctrl+Up Arrow Ctrl+Down Arrow

Action	Mode	Keyboard Combination
Open a drop-down list or a date selector	Edit	Enter
Move through selection items in a drop-down	Edit	Up Arrow Down Arrow
Select a highlighted value in a drop-down or a date selector	Edit	Enter
Highlight a date in a date selector	Edit	Down Arrow
Add a new line in a long text area	Edit	Ctrl+Enter

Keyboard Shortcuts for Time-Scaled Value Cells

The following table shows the keyboard shortcuts for time-scaled value cells in a list.

Action	Key Combination	Alternate Accessibility Key Combination
Select a TSV row	Shift+Ctrl+Right Arrow	
Select a TSV column	Shift+Ctrl+Down Arrow	
Select a single cell to the left or right of the current cell	Shift+Right Arrow Shift+Left Arrow	
Select a single row above or below the current cell	Shift+Up Arrow Shift+Down Arrow	
Copy a TSV cell	Ctrl+c	
Paste a TSV cell	Ctrl+v	
Cut a TSV cell	Ctrl+x	
Undo a cut, copy, or paste operation	Ctrl+z	
Copy from Excel to a TSV cell	Ctrl+c and Ctrl+v	

Display

To increase visibility on your computer display, you can adjust the following options:

Font style, color, and size of items

Lets you choose font color, size, and other visual combinations.

Screen resolution

Lets you change the pixel count to enlarge objects on the screen.

Cursor width and blink rate

Lets you make the cursor easier to find or minimize its blinking.

Icon size

Lets you make icons larger for visibility or smaller for increased screen space.

High contrast schemes

Lets you select color combinations that are easier to see.

Appendix C: Third-Party Acknowledgements

The license information for third-party utilities and software that CA Clarity PPM uses is available by clicking the View TXT link on the bookshelf.