



Release Notes

Day CRX 1.4.2.PS1

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1 Release Information

1.1 Details

| | |
|---------|--------------------------------------|
| Product | Content Repository Extreme 1.4.2.PS1 |
| Version | 1.4.2.PS1.20090707 |
| Date | July 17, 2009 |
| Type | Update Release |

1.2 Trivia

The release cycle for this release of Content Repository Extreme (CRX) started on May 20, 2009, went through 4 iterations of development, quality assurance and bug fixing, and ended on July 7, 2009. The total number of bugs fixed in this release is 9.

Content Repository Extreme 1.4.2.PS1 is generally available since July 17, 2009.

1.2.1 Document Changes

July 17, 2009:

- Base Version

2 What's New

2.1 Executive Summary

Day CRX is a content repository fully compliant with the new Java Content Repository API (JCR) standard that makes your high value content easily accessible for any application. Day CRX is a packaged version of Apache Jackrabbit enriched with unique enterprise features for high availability, superior performance, reliability, scalability, security, and desktop integration. Easy to install and configure, Day CRX manages both structured and unstructured content and enables content-centric business applications to take advantage of the repository's content services and the flexible and extensible content storage. Using this standard compliant content repository protects your investment in content and applications and makes your content infrastructure future-proof and sustainable.

CRX 1.4.2.PS1 is an update release for the CRX 1.4.2 code base. The "PS1" stands for "Patch Set 1", and means that the focus of this release was to address high-priority customer issues with CRX 1.4.2 without implementing software enhancements or new features.

This release provides key customer and general bug fixes oriented toward product stabilization. It also includes all fixes to CRX 1.4.2 provided by Day Software as hot fix packs.

2.1.1 Leverage Customer Focused Development Model

Day has the procedures and processes in place to enable collection, prioritization, and tracking of customer focused bug resolution and enhancement request development. The DayCare Issue Tracking System is loosely integrated with the Day Enhancement and Bug Tracking System. Customer issues are identified and resolved in DayCare where possible. When escalated to R&D, all customer information is captured, and used for prioritization and reporting purposes. Priority is given in development to paid support and warrantee issues and paid customer enhancements. The result of this process of prioritization is a significant increase of quality and stability.

2.1.2 Leverage Open Source Development Model

Day has the procedures and processes in place to allow for maximizing the business value through varied interactions with the open source community. The result of this processes is a significant increase of quality and stability as well as a public domain of knowledge and knowledge carries on specific open source projects included in CRX.

CRX is a commercial grade drop in replacement for jackrabbit, providing key enhancements in the functional and non-functional areas to the pure open source, backed by the industry JCR leader: Day Software and its collection of Service offerings.

2.1.3 Provides Key Software Infrastructure

- Makes high value content easily accessible for all applications
- Protects investment in content and applications
- Provides freedom of choice, avoiding vendor lock-in

2.1.4 Unlocks Critical Information Locked in “Air Tight” Departmental Silos

- Allows to easily manage and share content across large-scale enterprises
- Provides standardized access to unstructured content
- Avoids “rip and replace” of existing content, data, systems, etc.

2.1.5 Delivers a Solution Based on Widely Accepted Industry Standards

- Open: J2EE Java Standard – Completely independent of specific platforms
- Fully JCR compliant: provides sophisticated functionality such as versioning, locking, transactions access control and events
- Widely accepted: standard specification led by Day and supported by most important software vendors.

2.2 Overview of Day CRX Main Features

- Fully Compliant JCR Implementation
- Designed for Enterprise Production
- Easy to Install and Manage
- Native Support For Any Content: Unstructured and Structured
- Virtual Repository Support
- Providing a series of Connector products
- Content Accessible By Any Application or Desktop
- Enterprise-Class Security and Single Sign-On
- RESTful Rapid Application Development Framework

2.3 Key Enhancements since Day CRX 1.4.2

With continuous improvements in reliability, scalability and performance, Day CRX 1.4.2.PS1 provides enterprises with a solid standardized Java Content Repository designed for enterprise production.

This release focuses on enhancements in product stability. Key enhancements to the product since the last release are outlined in the sections below.

2.3.1 Startup Stability Improved

The stability of CRX instance startup has been improved by an upgrade to the Apache Felix OSGi Framework, version 1.8. The older version of this framework used in CRX Launchpad module could sometimes lead to bundle loading problems.

2.3.2 Other Bug Fixes

Other problems resolved in this release include:

- CRX Login sessions are now garbage collected when login attempt fails
- Data Store Garbage Collection has additional checks before removing a file that might be still used by CRX instance
- The intermittent problem with content package uploads to a newly installed instance has been fixed
- FileVault upgraded to version 1.3.2 from 1.2.6 provided in the previous release. The changes between the two releases were mostly minor bugfixes and enhancements.
- Day embedded servlet engine, CQSE, has been upgraded from version 4.1.5 to 4.1.6.

2.3.3 Improvements in Apache Sling, Jackrabbit, and Felix Libraries

This version incorporates improvements in Apache Felix project used by CRX. See Section 3.2, *Versions of External Libraries*, to see the updates in the external components in this release.

2.3.4 Improvement and Bug Fixes

A list of bug fixes and enhancements requests reported by customers or partners is available in [Changes](#).

3 Important Notes

3.1 Installation and Upgrade

Installation and upgrades of CRX Quickstart distributions are handled automatically by the Quickstart technology.

Important. For upgrading Day content applications (e.g., Day CQ WCM) running on top of CRX, please use the respective application's release notes and documentation.

3.1.1 Installation

To install CRX you need a supported Java Virtual Machine (at least 1.5), a writable file system, the CRX Quickstart distribution and a valid license key:

1. Copy the CRX quickstart.jar file to the desired directory on the host file system.
2. Copy a valid license.properties file into the same directory as the quickstart.jar file.

Note: If, when starting the application, you do not provide the license.properties file, CRX asks you for a valid license key. You can request a free Developer Edition license key from Day at this time. CRX One and Enterprise Edition customers obtain their license keys from Day sales offices.

3. Start CRX Quickstart by doing one of the following:
 - a. If using a GUI file-system explorer, double-click the quickstart.jar file. This installs and automatically starts the server.
 - b. If using the command line, for example, type

```
java -Xmx256m -jar crx-1.4.2.ps1.20090707-enterprise.jar
```

Note: this way you can specify JVM options, e.g., heap memory setting like in this example (256 MB).

- c. Use a startup script located in the crx quickstart folder, such as server.bat. The Start and Stop scripts are for UNIX, Linux, and Macintosh. The Server.bat script is for Windows.

For advanced Quickstart options and custom installation procedures (e.g., installation into a 3rd party servlet container), please see CRX Installation Guide. Quickstart supports a `-help` option to provide an overview of available functionalities:

```
java -Xmx256m -jar crx-1.4.2.ps1.20090707-enterprise.jar -help
```

3.1.2 Repository Update

Quickstart now supports updating an existing Quickstart-based repository to a newer version via replacing the `quickstart.jar` file with the newer one, and starting the Quickstart file.

Note: you should **always** backup the existing instance before updating, and test the update process itself as well as the updated instance after updating before switching your productive repository instances to the updated ones.

The update process can be carried out in many ways depending on requirements and existing setup. Please see the [CRX Upgrade Guide](#) in CRX documentation to decide on the optimal upgrade strategy.

3.1.2.1 Repository Update for Content Applications Based on Apache Sling

If you are planning to update CRX in a content application based on Apache Sling, please note that it is recommended to handle the CRX Launchpad folder specially during the update. An example of such an update is updating CRX to version 1.4.2.ps1 in Day CQ 5.2 (without updating the application to CQ 5.2.1). Please check the [CRX Upgrade Guide](#), Special Migration Issues section on [Updating the Repository in Content Applications Based on Apache Sling](#).

3.2 Versions of External Libraries

Day CRX, starting with version 1.4.0, directly builds on the Apache Jackrabbit as external library (see Section 3.5, Apache Jackrabbit Compatibility). Day CRX Launchpad also bundles a version of Apache Sling web development framework and Apache Felix OSGi Service Platform.

The following subsections specify versions of these libraries.

3.2.1 Apache Jackrabbit

Day CRX 1.4.2.PS1 is based on [Apache Jackrabbit 1.4](#) release.

The following versions of [Apache Jackrabbit components](#) are used. No libraries has been updated since CRX 1.4.2.

| Component | Version | Library file |
|------------------------|---------|----------------------------------|
| jackrabbit-webapp | 1.4 | jackrabbit-webapp-1.4.jar |
| jackrabbit-jcr-servlet | 1.4 | jackrabbit-jcr-servlet-1.4.jar |
| jackrabbit-spi | 1.4 | jackrabbit-spi-1.4.jar |
| jackrabbit-jcr-server | 1.4.1 | jackrabbit-jcr-server-1.4.1.jar |
| jackrabbit-jcr-commons | 1.4.2 | jackrabbit-jcr-commons-1.4.2.jar |
| jackrabbit-core | 1.4.9 | jackrabbit-core-1.4.9.jar |
| jackrabbit-spi-commons | 1.4 | jackrabbit-spi-commons-1.4.jar |

| | | |
|----------------------------|-------|------------------------------------|
| jackrabbit-webdav | 1.4 | jackrabbit-webdav-1.4.jar |
| jackrabbit-api | 1.4 | jackrabbit-api-1.4.jar |
| jackrabbit-text-extractors | 1.4 | jackrabbit-text-extractors-1.4.jar |
| jackrabbit-jcr-rmi | 1.4.1 | jackrabbit-jcr-rmi-1.4.1.jar |

Table 3.1 – Apache Jackrabbit component versions

3.2.2 Apache Sling and Apache Felix

CRX Launchpad in Day CRX 1.4.2.PS1 is based on [Apache Sling](#) version, built from Sling source code revision, representing enhancements over the Sling 2.0.2 release.

Exact versions of all the modules (OSGi bundles) for Apache Sling and Apache Felix can be found in the Apache Felix Web Management Console, Configuration Status section:

<http://localhost:7402/system/console/config>

3.3 Day Products Compatibility

New Day product releases are generally compatible with other existing Day products. Relevant information regarding migration to new versions is updated in the online documentation at docs.day.com.

Note that an upgrade to Day CRX 1.4.2.PS1 for other products (CQ) is only recommended if there is an important reason to do so (e.g., new feature or enhancement of relevance to a given environment). Please get in touch with your contact person at Day if you believe such an upgrade would be beneficial.

The following sections provide information specific to individual products.

3.3.1 Day CQ WCM / DAM / Social Collaboration 5.2.1

CRX 1.4.2.PS1 is embedded in the CQ WCM / DAM / Social Collaboration 5.2.1 release, and as such is directly compatible with it.

The standalone CRX 1.4.2.PS1 product can be used for a quick setup of a CQ 5.2.1 cluster.

3.3.2 Day CQ WCM / DAM / Social Collaboration 5.2 and 5.1

Day CRX 1.4.2 is compatible with CQ 5.2 and 5.1 and can be upgraded to use the newer version of the repository. Note that the upgrade of the repository version should only be undertaken if there are special reasons (e.g., specific bug fixed) to do so, and the general upgrade to CQ WCM 5.2.1 might be recommended. Please contact Day support and services group to discuss your requirements and recommendations.

For this upgrade, follow the recommendations in Section 3.1.2.1, *Repository Update for Content Applications Based on Apache Sling*.

3.3.3 Day CQ WCM 4

Day CRX 1.4.2.PS1 is compatible with the latest release of CQ WCM 4.2.1.

CQ WCM 4.2.1 can be upgraded to use Day CRX 1.4.2.PS1. Please see the relevant [Day Knowledge Base](#) article in the [CQ Migration](#) section.

3.3.4 Day JCR Connectors

Day CRX 1.4.2.PS1 is compatible with the latest releases of Day JCR Connectors using the Virtual Repository mount.

Applications, which use Day CRX 1.4 and need access to 3rd-party repositories (like MS Sharepoint, EMC Documentum, OpenText LiveLink, etc) via Day JCR Connectors, should use the Virtual Repository mount feature to mount the connector workspaces hosted in their own repositories into the primary workspace of a Day CRX 1.4.2.PS1 repository. This way content applications access only one workspace, and still have access to content managed in 3rd-party repositories. Please refer to the Virtual Repository documentation.

This recommended Virtual Repository mount is the supported content integration model for Day Communiqué applications.

Connector repositories can be set up either as co-located, in the same Java Virtual Machine (e.g., in a separate web application) and accessible via JNDI lookup, or as remote repositories accessible via RMI.

Note: Existing Day JCR Connectors require a specific Day CRX repository version to work. In use cases, in which a Day JCR Connector would have to run directly in the Day CRX 1.4.2.PS1 repository as one of the workspaces, Day offers a service package to produce a connector compatibility package for a given connector, along with certification tests for the specific use case.

3.4 Documentation Updates

Documentation for CRX 1.4.2.PS1 is located at

<http://docs.day.com/>

and available under the following URL

<http://docs.day.com/content/en/home/crx/crx141.html>

Note this documentation covers versions 1.4.1, 1.4.2, and 1.4.2.ps1 of CRX, collectively referred to as "CRX 1.4.x".

The online documentation will be maintained and updated, and should be used by product users. The detailed notes, given below in this document, should also be consulted prior to using the online documentation.

Note on PDFs Delivered With CRX 1.4.2.ps1 Quickstart Package. The PDF documentation delivered with the CRX 1.4.2.ps1 Quickstart package in crx-quickstart/docs subdirectory has been produced from the online documentation before the last internal engineering release of 1.4.2 version the product. The online documentation contains all the latest updates and documentation fixes. More recent PDFs might also be provided on <http://www.day.com/crx> page for Developer Edition users.

3.4.1 CRX 1.4.2.ps1 Documentation Changes

This release provides a minor update to the section on [Updating the Repository in Content Applications Based on Apache Sling](#).

3.5 Apache Jackrabbit Compatibility

The drop-in, source-code compatibility with Apache Jackrabbit has been maintained by CRX since version CRX 1.4.0.

See Section 3.2 *Versions of External Libraries*, for specific Jackrabbit module versions, which are used in this release.

4 Changes

The following is a list of changes since Day CRX 1.4.2. The list is alphabetically sorted by product components.

Section 4.12, *Changes in Jackrabbit Code Base*, provides information about the changes in Apache Jackrabbit code, included implicitly in CRX 1.4.2.PS1 release.

4.1 Clustering

There were no changes.

4.2 Framework

There were no changes.

4.3 GUI

| ID | Description |
|-------|---|
| 22294 | Empty node view in Content Explorer for nodes containing special characters |

Table 4.3 - GUI

4.4 Installer

Installer has been replaced by [CRX Quickstart](#).

4.5 Launchpad

| ID | Description |
|-------|---|
| 23187 | Upgrade Apache Felix Framework to version 1.8.0 |

Table 4.5 - Launchpad

4.6 Miscellaneous

| ID | Description |
|-------|---|
| 20680 | Content packages: load node type definitions from arbitrary locations |

Table 4.6 – Miscellaneous

4.7 Quickstart

| ID | Description |
|-------|---|
| 19014 | Exception during startup: Bundle symbolic name and version are not unique |

Table 4.7 - Quickstart

4.8 Repository

| ID | Description |
|-------|---|
| 22041 | Upload of content packages to crx.system workspace might be unstable with default workspace.xml |
| 22176 | Data Store Garbage Collection might remove files still in use |
| 22931 | CRXSessions not garbage collected when login fails |
| 23379 | Update FileVault to version 1.3 |

Table 4.8 - Repository

4.9 Security

There were no changes.

4.10 SMB (CIFS)

There were no changes.

4.11 WebDAV

| ID | Description |
|-------|--|
| 22415 | DAVEx requests to .json files now possible |

Table 4.11 - WebDAV

4.12 Changes in Jackrabbit Code Base

There were no changes in Apache Jackrabbit libraries used by this release.

5 Known Issues

The following is a complete list of currently known issues in Day CRX 1.4.2.PS1.

| ID | Description |
|-------|--|
| 11260 | Repository: Start can fail if installed on NFS-mounted drive |
| | Note: this problem might occur with installation configured to use a persistence manager with embedded database on NFS servers with broken locking support. |
| 15141 | Checkout of versionable node fails with InvalidItemStateException |
| 15169 | Update of versionable node with children fails |
| 14583 | Export to a large CRX Package might result in 'too many files open' problem |
| | Note: please make sure the operating system has the limit of open files per process increased appropriately. |
| 15052 | Repository: BundleDBPersistentManager might not find some resources after OS crash |
| | Note: in case of a system crash during writes, BundleDBPersistence manager might miss references to some BLOB resources, giving the following message: "the specified resource does not exist" The workaround is to set the following parameter in the workspace.xml file for the persistence manager: <param name="errorHandling" value="IGN_MISSING_BLOBS"/> |
| 15649 | Repository: big number of cache-related warnings |
| | Note: Logs show big numbers of warnings "ItemManager: overwriting cached item". This was observed on IBM JDK and might be related to this specific Java Environment. Workaround is to change logging level to exclude this warning. |
| 16108 | Clustering: DB Journal might have journal synchronization problems if database connection is lost |
| | Note: In case of the following message in the logs: "ClusterNode: Periodic sync of journal failed", cluster restart is recommended. |
| 16218 | Proper OS settings for maximum number of files should be ensured |
| | Note: the maximum number of open files should be configured properly and monitored in the operating system for CRX to avoid 'Too many files open' problem. Please refer to documentation for instructions. |
| 17022 | GUI: Node traversal check can stall the browser for bigger repositories |

| | |
|-------|---|
| | Note: For analyzing bigger repositories, the command line CRX console tool is recommended. |
| 17385 | <p>Security: LDAP groups in CRX are not purged after deletion in LDAP</p> <p>Note: This does not compromise security as authorization is always delegated to the LDAP server.</p> |
| 17647 | <p>Search: Indexing of some PDF 1.3 files fails</p> <p>Note: This happens because of a bug in 3rd party PDFbox library used to parse PDF files (bug ref. #1786901 – IOException when parsing 1.3 PDF).</p> |
| 18535 | <p>WebDAV: auth-missing parameter not working in com.day.crx.j2ee.ResourceServlet configuration</p> <p>Workaround: You can enable the missing-auth-mapping parameter by replacing the com.day.crx.j2ee.ResourceServlet class with org.apache.jackrabbit.j2ee.SimpleWebdavServlet in the CRX web.xml configuration file.</p> <p>A potential issue with changing the servlet is that this may interfere with the CRX Explorer interface that points binary property links to be handled the WebDAV servlet.</p> <p>With this change you may need to re-enter your credentials when clicking on a binary property link in the explorer.</p> <p>If the above is a problem, you could even add a completely new servlet definition for SimpleWebdavServlet and map it to some other URL path than the normal ResourceServlet.</p> |
| 18776 | LDAP: group synchronization might fail for certain users due to special characters |
| 19063 | Package Manager: null shown in GUI after successful upload of certain packages |
| 21030 | <p>Upgraded BindableCRXRepository does not start with message: Revision not specified</p> <p>Workaround: The <Journal> configuration parameter for configuring journal should be added to the configuration file repository.xml of the upgraded instance, with 'revision' parameter specified. Example:</p> <pre><Journal class="com.day.crx.core.journal.FileJournal"> <param name="sharedPath" value="{rep.home}/shared"/> <param name="revision" value="{rep.home}/revision.log"/> </Journal></pre> |
| 21032 | Cluster Join button does not work for repository configurations not using StartupServlet |
| 21035 | NodeType editing does not work for repository configurations not using StartupServlet |
| 21862 | Initial index creation can cause excessive creation of temporary files |

| | |
|-------|---|
| | <p>Initial indexing of repositories with many binary documents might cause excessive creation of temporary files. As a workaround, the following parameter can be added to workspace.xml prior to starting index creation:</p> <pre><SearchIndex ...> <param name="extractorBackLogSize" value="0" /> ... </SearchIndex></pre> <p>After initial indexing was successful, the configuration can be reverted again.</p> |
| 23059 | <p>Package Manager: package install can delete node ACLs if source system has no security on node</p> <p>If a package is created on an instance, where a given node has no security ACLs attached (e.g., development instance), and it is installed into an instance where the node has corresponding ACLs (e.g., productive instance), the ACLs can be removed by the package installation.</p> <p>The workaround is to add mixin mix:AccessControllable to all relevant nodes on the source system before creating the package, and excluding exclude the ACL nodes from the package in package filter definition:</p> <pre>exclude .*/rep:accessControl(/.*)?</pre> |

Table 5 – Known Issues

6 Links

6.1 Public Sites

<http://www.day.com/>

<http://www.day.com/crx>

<http://jcr.day.com/>

<http://dev.day.com/>

<http://dev.day.com/products/crx.html>

<http://dev.day.com/kb>

6.2 Restricted Sites

<http://daycare.day.com/>

<http://docs.day.com/>

6.3 E-Mail Addresses

<mailto:information@day.com>

<mailto:oemsales@day.com>

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