

● Day

Release Notes

CRX 1.3.2

1 RELEASE INFORMATION	3
1.1 Details	3
1.2 Trivia	3
2 WHAT'S NEW	4
2.1 Executive Summary	4
2.1.1 Leverage Customer Focused Development Model	4
2.1.2 Provides Key Software Infrastructure	4
2.1.3 Unlocks Critical Information Locked in "Air Tight" Departmental Silos	4
2.1.4 Delivers a Solution Based on Widely Accepted Industry Standards	5
2.2 Repository Features – The JCR Standard	5
2.3 Additional features of CRX	6
2.4 Fully JSR-170 compliant – TCK	7
2.5 Key Enhancements since CRX 1.3.1	7
2.5.1 Improved Desktop Integration - CIFS Server	7
2.5.2 New Tar Persistence Manager	8
2.5.3 Further Scalability and Performance Improvements	8
2.5.4 Clustering Improvements	8
2.5.5 Documentation	9
2.5.6 Improvement and Bug Fixes	9
2.5.7 CRX Nightly Builds for Developers	9
3 CHANGES	10
3.1 Clustering	10
3.2 GUI	11
3.3 Installer	12
3.4 Miscellaneous	13
3.5 Repository	14
3.6 Security	15
4 KNOWN ISSUES	16
5 LINKS	17
5.1 Public Sites	17
5.2 Restricted Sites	17
5.3 E-Mail Addresses	17
6 COPYRIGHT NOTICE	18

1 Release Information

1.1 Details

Product	Content Repository Extreme 1.3.2
Version	1.3.2.20070705
Date	July 13, 2007
Type	Patch Release

1.2 Trivia

The release cycle for this release of Content Repository Extreme started on April 24, 2007, went through 8 iterations of quality assurance and bug fixing, and ended on July 5, 2007. The total number of bugs fixed in this release is 21.

Content Repository Extreme 1.3.2 is generally available since July 13, 2007.

2 What's New

2.1 Executive Summary

CRX is a content repository fully compliant to the new Java Content Repository API (JCR) standard that makes your high value content easily accessible for any application. CRX allows to store, retrieve and manage content across large-scale enterprises. Using this standard compliant content repository protects your investment in content and applications and makes your content infrastructure future-proof and sustainable.

CRX 1.3.2 is an update release for the CRX 1.3.1 code base. It provides key customer fixes, high priority customer enhancements, improvements and general bug fixes oriented toward product stabilization.

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 Bug and Enhancement 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 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

2.1.3 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.

2.1.4 Delivers a Solution Based on Widely Accepted Industry Standards

- Open: J2EE Java Standard – Completely independent of specific platforms
- Fully JSR-170 compliant: provides sophisticated functionality like versioning, locking, transactions access control and events
- Widely accepted: standard specification led by Day and supported by most important software vendors.

2.2 Repository Features – The JCR Standard

The JCR standard, specified in the Java Specification Request 170 (JSR 170), is a standard, implementation independent way to access content bi-directionally on a granular level within a content repository. The functionality provided through this standard is:

- **Workspaces:** CRX supports multiple workspaces each holding an independent tree of content items. Workspaces can be used for a number of purposes, such as providing separate spaces for different authors, distinguishing staging areas from final publication areas and exposing different versions of the same content tree.
- **Hierarchical and Direct Addressing:** CRX supports addressing of content items both by hierarchical position (path) and by ID.
- **Fine-Grained Content Access:** CRX provides fine-grained access to content. Full read, create, update, and delete functionality is provided on an item-by-item basis.
- **Nodes and Properties:** A content item can be either a node or a property. Nodes are used to construct complex content structures (by using other nodes and properties as children, grandchildren, etc.). Properties are used as the holders of the actual pieces of data that make up the smallest units of content (strings, images, numbers, etc.).
- **Structured and Unstructured Content:** CRX supports structured and unstructured content through a flexible node type definition mechanism. The type of a node defines what subnodes and properties it may (or must) have. CRX supports a wide range of constraints on node substructure and therefore can support structured, semi-structured, and unstructured content. CRX comes with a library of built-in node types and also allows applications to register custom node types.
- **Import and Export:** Repository content can be exported to and imported from XML.

- **Search:** CRX supports searching of repository content with both SQL and XPath queries.
- **Transactions:** Any set of operations can be attached to a transaction. The transaction mechanism follows the J2EE transaction model, ensuring referential integrity and rollback mechanisms.
- **Versioning:** The repository supports rich versioning functionality including content check-out, check-in, restore, branching and merging operations.
- **Observation:** A notification model is provided that allows an application to register interest in changes to the repository. This can be used by applications to take appropriate action on repository changes.
- **Access Control:** Access to content in a repository can be controlled on a fine-grained, item-by-item basis, allowing the implementation of any access control schema.
- **Locking:** Items in the repository can be locked to prevent concurrent updates, ensuring content integrity and content read consistency.

The JCR standard allows to clearly separate reusable repository functionality –like search, versioning, access control, and others – from application specific functionality. Using the CRX your applications can rely on the provided repository functionality and you don't have to re-implement the same functionality again and again. In this way you can concentrate on the core features of your application. This shortens development time considerably. Different applications can use the same API to access content so that development and maintenance becomes more efficient which improves the TCO of your Web applications.

2.3 Additional features of CRX

CRX not only implements the complete feature set that is specified in the JSR-170 specification. Day CRX also includes a number of useful tools that help you to maintain your repository.

The Content Explorer enables repository browsing. It allows to create, delete and edit Nodes or Properties. With this you get all needed information about your repository, the structure and content. Changes are done quickly and easily.

The Content Loader features the possibility to import content into the repository. For XML files there is an AutoExpand function to expand your XML data to the correct structure.

The Content Zipper exports your content in XML or ZIP format. In this way content can be made available for other use or can be transported to other systems.

The User Account Tool allows you to manage all users that should have access to the repository.

The Repository Configuration provides useful information about the repository and its status.

The Nodetype Administration is the tool to maintain all Nodetypes that are needed in the repository. You can create new Nodetypes and Namespaces.

The WebDAV Support allows to access the repository via this protocol. That opens the possibility to use many different tools to operate on the repository.

2.4 Fully JSR-170 compliant – TCK

CRX is a fully JCR compliant content repository. The compatibility of any implementation of the standard can be tested by use of the “Technology Compatibility Kit” (TCK). The TCK is one of the required pieces for each JSR and is released with the standard. The JSR-170 TCK can be downloaded at

http://www.day.com/site/en/index/related/downloads/tck_form.html

Day maintains a list of repository implementations with information about JCR compliance on <http://www.day.com>. This list shows the outcome of the TCK tests for each implementation. If you have run the TCK on your implementation and want to be listed, submit the results of your tests using the submit button of the TCK Web application.

2.5 Key Enhancements since CRX 1.3.1

With improvements in desktop integration and addition of a new high-performance persistence manager, as well as continuous improvements in reliability, scalability and performance, CRX 1.3.2 provides enterprises with a solid standardized Java Content Repository.

Key enhancements to the product since the last release are outlined in the sections below.

2.5.1 Improved Desktop Integration - CIFS Server

Desktop integration is key for enterprise content management (ECM) systems to allow seamless access to content from personal computers used in everyday work. CRX as the ideal repository for ECM systems has provided access to content via a built-in WebDAV server, allowing users of desktop operating systems, like Windows,

MacOS, and Linux, to access and modify content directly from file explorers or application (e.g. Microsoft Office) supporting WebDAV folders.

In CRX 1.3.2 the desktop integration has been further improved with the addition of content access via CIFS, the Common Internet File System. CIFS runs over TCP/IP, but uses the SMB (Server Message Block) protocol found in Microsoft Windows for file and printer access; therefore, CIFS will allow all applications, not just Web browsers, to open and share files across the Internet. . It is now supported by all major desktop operating systems (i.e. Windows, MacOS, and Linux).

With CRX CIFS server, JCR content stored in CRX can be exposed as a network drive. The key feature for desktop integration is that desktop applications can access the content transparently, as the CIFS protocol is supported by the operating system itself (natively in Windows, or via Samba package in various flavours of Linux / Unix).

JCR content applications built on top of CRX can now support access to the content via a network drive without any change in the application code.

2.5.2 New Tar Persistence Manager

This version of CRX introduces a new high-performance disk-based persistence manager, the Tar Persistence Manager (TarPM). It uses the *tar* file format (POSIX standard, used in Unix systems) for storing content, and is especially useful in situations, where high performance of creating and modifying data is required (as TAR format is append-only, so writes are extremely efficient).

2.5.3 Further Scalability and Performance Improvements

We are continually and incrementally improving the scalability and performance of CRX. The main engineering effort in this area in CRX 1.3.2 development and testing process was related to adding the TarPM to the suite of available Persistence Managers.

2.5.4 Clustering Improvements

The active clustering feature, added in the previous release of CRX, has been further enhanced and improved, based on feedback from both customers and internal testing process.

For future CRX releases we are actively working towards extending the currently supported clustering storage based on a database server towards supporting clustering storage based on networked file systems (e.g., for the TarPM).

2.5.5 Documentation

The documentation for the CRX CIFS server feature was added to the existing documentation. Also, the documentation for configuring persistence managers was improved.

2.5.6 Improvement and Bug Fixes

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

2.5.7 CRX Nightly Builds for Developers

Starting with CRX 1.1 developers can download CRX Nightly Builds for Windows and for Unix from DayCare. While Nightly Builds are not tested by Day's Quality Assurance department, developers will benefit immediately from new features and bug fixes.

3 Changes

The following is a list of changes since CRX 1.3.1. The list is alphabetically sorted by product components.

3.1 Clustering

ID	Description
14655	Database journal no longer assigns same ID to different revisions
14792	Registering node type names with spaces no longer fails

Table 3.1 - Clustering



3.2 GUI

ID	Description
14900	Workspace administration now works correctly

Table 3.2 - GUI

3.3 Installer

ID	Description
14516	CRX Console now included in distribution
	CRX Console can now be started using the helper scripts in the opt directory.
15063	Proxy now included in distribution
	The useful helper tool proxy.jar can now be found in the opt directory.
15232	CRX can now be installed on Windows Vista
15253	Tar Persistence Manager can now be configured

Table 3.3 - Installer

3.4 Miscellaneous

ID	Description
11310	CIFS/SMB now supported to connect to repository
15001	XML files can now correctly be imported via WebDAV using Mac OS X
14985	Replication module now properly initialized

Table 3.4 – Miscellaneous

3.5 Repository

ID	Description
14635	New Tar Persistence Manager
14636	New DB2 Persistence Manager
14709	Indexing of node name now configurable
14744	Synonym search now supported
14948	Query execution now more stable
14969	API no longer contains duplicate UUID package
14981	Content import now works also if parent node allows same name siblings
15019	Bundle consistency check now works properly
15046	Default password hashing algorithm changed from SHA1 to MD4

Table 3.5 - Repository

3.6 Security

ID	Description
14682	PrincipalManagerImpl.getPrincipal() now uses own implementation
15094	PrincipalManager search over more than one PrincipalProvider now works properly

Table 3.6 - Security

4 Known Issues

The following is a complete list of currently known issues in CRX 1.3.2.

ID	Description
11260	Repository: Start can fail if installed on NFS-mounted drive
11499	Repository: Nullpointer Exception when opening a node with an unregistered custom nodetype with mandatory auto-created child node
12033	GUI: Ambiguous display of principal property on a permission node
12059	GUI: Single string property allows multiple string values
12605	GUI: IllegalArgumentException in view settings
12682	Replication fails for mandatory child nodes
13146	Repository: BundleDbPersistenceManager can throw SQLException
	Note: This only affects updates from CRX 1.0.2 or older. Since CRX 1.1, this persistence manager is no longer used.
13225	Repository: NativePersistenceManager can throw OutOfMemoryError
	Note: This only affects updates from CRX 1.1 or older. Since CRX 1.2, this persistence manager is no longer used.
13323	Repository: NativePersistenceManager may not stop correctly
	Note: This only affects updates from CRX 1.1 or older. Since CRX 1.2, this persistence manager is no longer used.
15136	BundleDbPersistenceManager wont try to reconnect to DB if connection is lost
15141	Checkout of versionable node fails with InvalidItemStateException
15169	Update of versionable node with children fails

Table 4 – Known Issues

5 Links

5.1 Public Sites

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

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

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

5.2 Restricted Sites

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

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

5.3 E-Mail Addresses

<mailto:info@day.com>

<mailto:oemsales@day.com>

6 Copyright Notice

Copyright © 1993-2007 Day Management AG, Switzerland. All rights reserved.

The Communiqué® Software and the CRX Content Repository Extreme® Software are protected by copyright law and international treaties and are licensed (not sold). Their use is subject to a valid license agreement.

Any unauthorized use, copying or distribution may result in severe criminal or civil penalties and will be prosecuted to the maximum extent allowed by law.

DAY, the DAY logo, COMMUNIQUÉ, CONTENTBUS and CRX CONTENT REPOSITORY EXTREME are registered trademarks and service marks, or are trademarks and service marks, of Day Management AG in various countries around the world.

All other product names and company logos mentioned in the information, documents or other items provided or available herein may be the trademarks of their respective owners.