ISO/IEC JTC 1 N9606

2009-06-23

Replaces:

ISO/IEC JTC 1
Information Technology

Document Type: other (defined)

Document Title: Presentation to SWG-ARM May 2009 Meeting from ISO/CS on Livelink document management, storage and archiving at ISO/CS

Document Source: SWG-ARM Secretariat

Project Number:

Document Status: This document is circulated to JTC 1 National Bodies for information.

Action ID: FYI

Due Date:

No. of Pages: 13

Secretariat, ISO/IEC JTC 1, American National Standards Institute, 25 West 43rd Street, New York, NY 10036; Telephone: 1 212 642 4932; Facsimile: 1 212 840 2298; Email: lrajchel@ansi.org

International Organization for Standardization

www.iso.org

SWG-AR Meeting

Livelink document management, storage and archiving at ISO/CS

2009-05-28

Contents

- Livelink as document and file repository
- Livelink and archiving
- Livelink and collaboration
- How does ISO use the Livelink platform
- File storage and archiving solutions at ISO/CS

Livelink as document repository

- Highly scalable repository which can store any type of file
- The file's metadata is stored in a database and the file itself can be stored in an external file store or inside the database. For scalability reason the external file store is the preferred solution.
- The external file store can be configured to use different type of storage system
- The system can be clustered to scale and provide high availability
- The files in the repository can be access via the web interface (HTTP), webdav, web services and the Livelink API (available in C,C++,.NET, Visual Basic, Java)

Livelink and archiving

- Livelink archiving solutions will only address the physical storage of files it will not look at its content.
- Livelink offers the following features and add-on components to implement an archiving strategy:
  - Rule for external file store (upload rules)
    rules based on file properties (size, mimetype etc.) can decide on which physical storage the file will stored, e.g. use special storage for very large files
  - Records management (lifecycle rules)
    permits to periodically apply rules based on file system or business attributes, e.g. delete all documents of type invoice after 10 years or move all files older than 5 year to a cheaper storage
  - Livelink archiving server
    dedicated service which acts as a storage provider for Livelink and replaces or extends the above feature with encryption, single instance archiving, compression, auditing, controlled deletion

Livelink and collaboration

- Permission based system to decide who can do what
- Check-out and check-in to lock documents while working on them
- Basic collaboration features: project workspaces, discussions, task lists, document centric workflows
- Community of practice (CoP) provides a community environment (workspace) which adds a community portal, member info, forums, blogs, FAQ, polls, email integration for forums, wiki.
- eCommittee is a CoP based customization for ISO and its members which provides additional features to handle N-numbered documents, member info and other minor UI enhancements
- All non document centric data, such as forums, blogs, task lists etc. is stored in the database

How does ISO use Livelink

- **For document storage**
  Livelink systems are used at ISO/CS to store artifacts of the standards development process:

  ISOSTD - published standards
  ISOPROD – standard related drawing to be shared with our members
  ISOTC – committee documents

- **For collaboration**
  ISOTC is the collaboration platform for the ISO committees and uses Livelink. A migration to the eCommittee platform is planned by the end of this year

- **For archiving**
  ISO/CS does not use any of the Livelink archiving features. Our current volume of documents permits us to keep them on our default storage device and archive them with the solution we have set up for this device.

Livelink and very large files at ISO/CS

- Most large files are part of test suites for video and audio encoding of JTC 1 standards, biggest contributor is the ISO/IEC 14496 series. Overall we have about 67 published standards (including corrigenda and amendments) that come with such files. Unless we revise 14496 we have about 2 to 4 cases a year. All these cases currently need manual intervention.
- When we make large files (> 2 GB) available on our Livelink repositories we split them into chunks of 650 MB (CD size) because:
  - Only Livelink version 9.7.0 supports files > 2 GB
  - HTTP is not the most reliable protocol to download large files and our clients have repeatedly faced problems during the download
- On ISOSTD, the Livelink repository containing our standards, we have around 18 000 published standards which represents 37 GB of PDF and 37 GB of large files. **In terms of storage large files cost as much as the entire ISO collection in PDF**

Livelink volume statistics at ISO/CS

- 8 Livelink repositories
- 33 000 registered users
- 2.2 million documents
- 1 TB storage volume for documents

File storage at ISO/CS

- NetApp Metro Cluster is used for all file stores, this includes Livelink and other applications, Windows network drives, Oracle database files.
- NetApp Metro Cluster is an appliance in a high availability configuration
- It can be used as SAN or NAS and provides all the different file sharing protocols such as NTFS, NFS
- It provides excellent performance and online monitoring support to proactively detect and replace broken parts, e.g. discs.
- It has special feature to facilitate backup and the creation of file system snapshots

Archiving at ISO/CS

- Business policies for archiving and document retention is currently handled by the users, e.g. deletion of old documents. No technical solution for this is in place because there are no formalized requirements.
- On the technical side we back up everything what's on our file store and production servers
- Backups are run daily, weekly, monthly and yearly. Yearly backups are kept for 10 years.
- We use the ECM Avamar solution which utilizes the global data deduplication technology to identify redundant data at the source, minimizing backup data before it is sent over the LAN/WAN to the backup server.

Livelink eCommittees

- Prototype site at https://ecommittees.wwteam.com/ecr971/llisapi.dll?func=ll&objId=1432031
- Project portal http://isotc.iso.org/pp/