New Off-Site Storage Technologies

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Technology with a current purpose

- (Almost) **everything**, available to (almost) **everybody**, at (pretty much) **any time**
- And in the **best format** for their work

- Leading to simpler upstream operations, so the library focuses on core services

Technology for an emerging future

- **Diversity** and **novelty** in user needs
- Diverse **affordances** across **formats** and **research lifecycles**

- Manage complexity off-site at a single site, to create clarity on-site at multiple sites

Technology in a developing context

- Middleware
- Process Changes
  - Intake and Fulfillment channels
  - Internal processing improvement
- Storage Density

Middleware

- *Purpose:* enable sharing
- *Assumption:* more sharing →desire for more services → requirement for better operations

- *Consequence:* technology for sharing designed as a foundation for services

Middleware

- Enterprise Services Bus (ESB) with connectors:
  - to Integrated Library Systems (ILS)
  - to Inventory Management Systems (IMS)
- Combined Bibliographic Metadata Index
  - incorporated into the discovery layer (no separate union catalog)
- Rules Engine
  - manage policy and procedures, such as loan periods, recalls and holds, data reconciliation

Middleware

- Apache Camel: Service bus
- Drools: rules management
- Apache SOLR: Bibliographic metadata
- NCIP: circulation across platforms
- IMS Proxy Layer with a SOAP API (new)
- All free and open source
  - Development 2016; Testing and deployment through mid-2017; Public release Fall of 2017
- ReCAP is contracting with HTC Global to develop *and maintain* the system through 2020

Process Improvement

- Two processes of direct value to end users:
  - Intake: We expect to keep doing this. A lot.
  - Fulfillment: Move from “print books ASAP” to “right format at the right time”
- Two sub-processes of no direct value:
  - Space allocation: should become dynamic
  - Refiling: should then merge with intake
- Requires “hardware” changes to storage and process, along with new software

Process Improvement

- Two processes of direct value to end users:
- **Intake:** We expect to keep doing this, a lot.
  - ReCAP Shared is for **ongoing collection** and **perpetual retention** of the printed record
- **Fulfillment:** From “print books ASAP” to “the preferred format at the right time”

Process Improvement

- Two sub-processes of no direct value:
  - **Space allocation:** should become dynamic
  - **Refiling:** should then merge with intake

- Requires "hardware" changes, to storage and process, along with new software

INFORMATION IS...

EVERYTHING

Iron Mountain Library Services

Jeremy Suratt – Director, Product Management

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INFORMATION IS EVERYTHING

Who have we consulted?

Consultants

Lizanne Payne

Consultant to libraries, consortia and related organizations including Harvard University, Eastern Academic Scholars Trust, Western Regional Storage Trust and Statewide California Electronic Library Consortium. Former Executive Director, Washington Research Library Consortium and Manager, OCLC.

Matthew Sheehy

University Librarian for Collections at Brandeis University, former Assistant Director of the University Library for the Harvard Depository. Independent consultant.

Boston advisory

Feb 26, 2015

ReCAP – The Research Collections and Preservation Consortium

(Princeton, New York Public Library, Columbia)

Washington Research Library Consortium

Harvard Law School

Shepley Bulfinch

The University of Chicago

Middlebury

Yale University

Brown

West Coast advisory

April 30, 2015

CSU The California State University – Working for California

UCLA

Occidental College

CDL California Digital Library

University of California

scelc – Statewide California Electronic Library Consortium

Art Center College of Design

Mount Saint Mary's University Los Angeles

Western Regional Storage Trust

Cal Poly San Luis Obispo

University of the Pacific

Caltech

USC University of Southern California

University of Oregon

Berkeley

Azusa Pacific University

California State University Northridge

UCIrvine – University of California, Irvine

Other contacts

Illinois – University of Illinois Library Admin

The University of Tennessee Knoxville

Northwestern University

UMass Boston

The University of New Mexico

Center for Research Libraries – Global Resources Network

Boston Public Library

Harvard University

Council on Library and Information Resources

JSTOR is part of the ITHAKA family – ITHAKA – JSTOR | Portico | ITHAKA S+R

CARLI

Weber State University

Five College Consortium

Bates College

University of Louisville

The University of Scranton – A Jesuit University

Monticello

Lyrasis – Advancing Libraries Together

Portland State University

Brandeis University

Brooklyn

UCONN – University of Connecticut

The Center for Fiction

OCLC

Tufts University

University of Florida

BLC – Boston Library Consortium

PALCI

Western University · Canada

Union College

University of Washington

Bowdoin

European contacts

The British Library – Explore the world's knowledge

RLUK – Research Libraries UK

JISC

nls – National Library of Scotland

SCURL

University of London

UCL

Leeds Beckett University

Trinity College Dublin

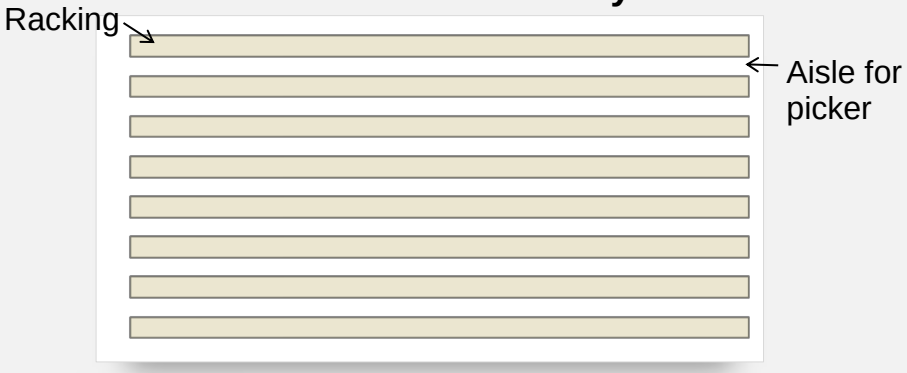
Manchester 1824 – The University of Manchester

University of Aberdeen

SCONUL – Society of College, National & University Libraries

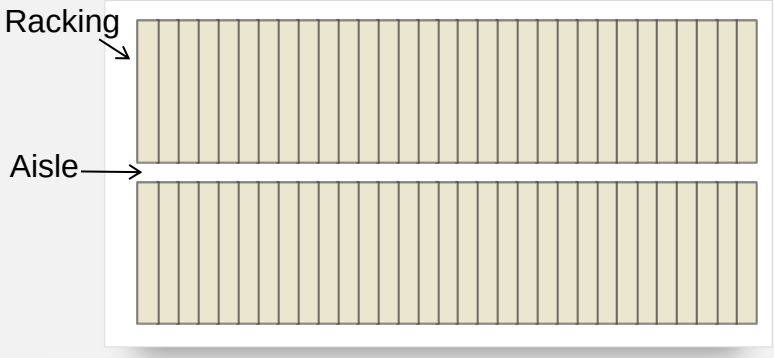
Preservation Service: New ASRS Storage System

Traditional Harvard-Style



- **27% storage density**
- Wet pipe, in rack – risk of water damage from leaks
- 60F/40% RH
- No utilities on roof

New Iron Mountain ASRS



- **>60% storage density**
- Low oxygen fire suppression – eliminates water risk
- 60F/40% RH with ability to create micro-climates
- No utilties on roof
- No lights in vault (increased PI/low energy)
- Robots work 24/7 at a lower cost than people
- Decreased potential for misfiling

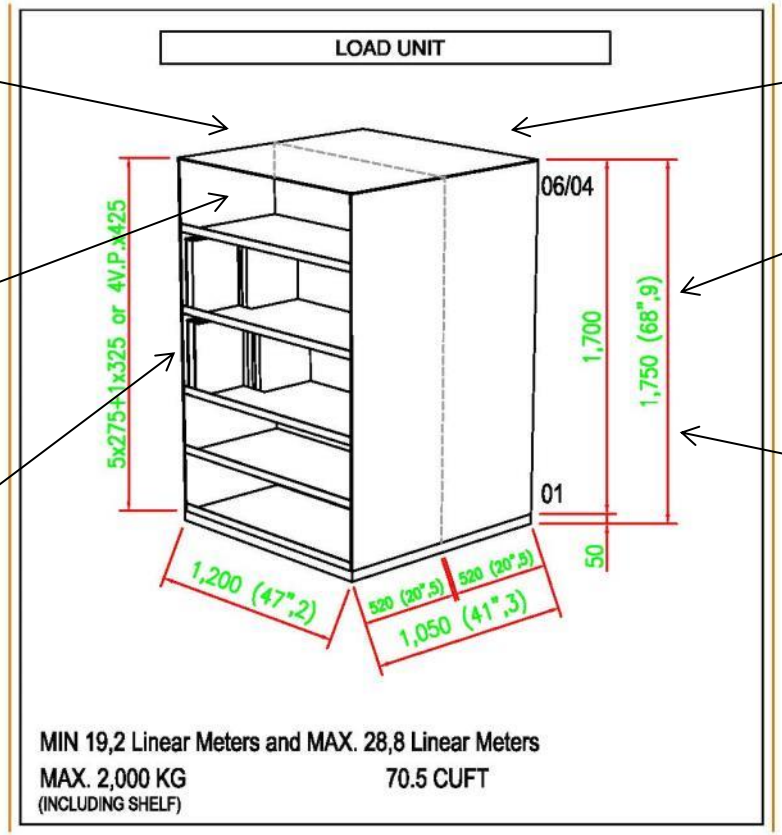
Lower cost, greater preservation index and less risk of water damage

IM ASRS Storage Module

Steel construction

Vertical separators will be placed on shelves to create segments, which will be used to ensure customers content is stored separately

Two deep



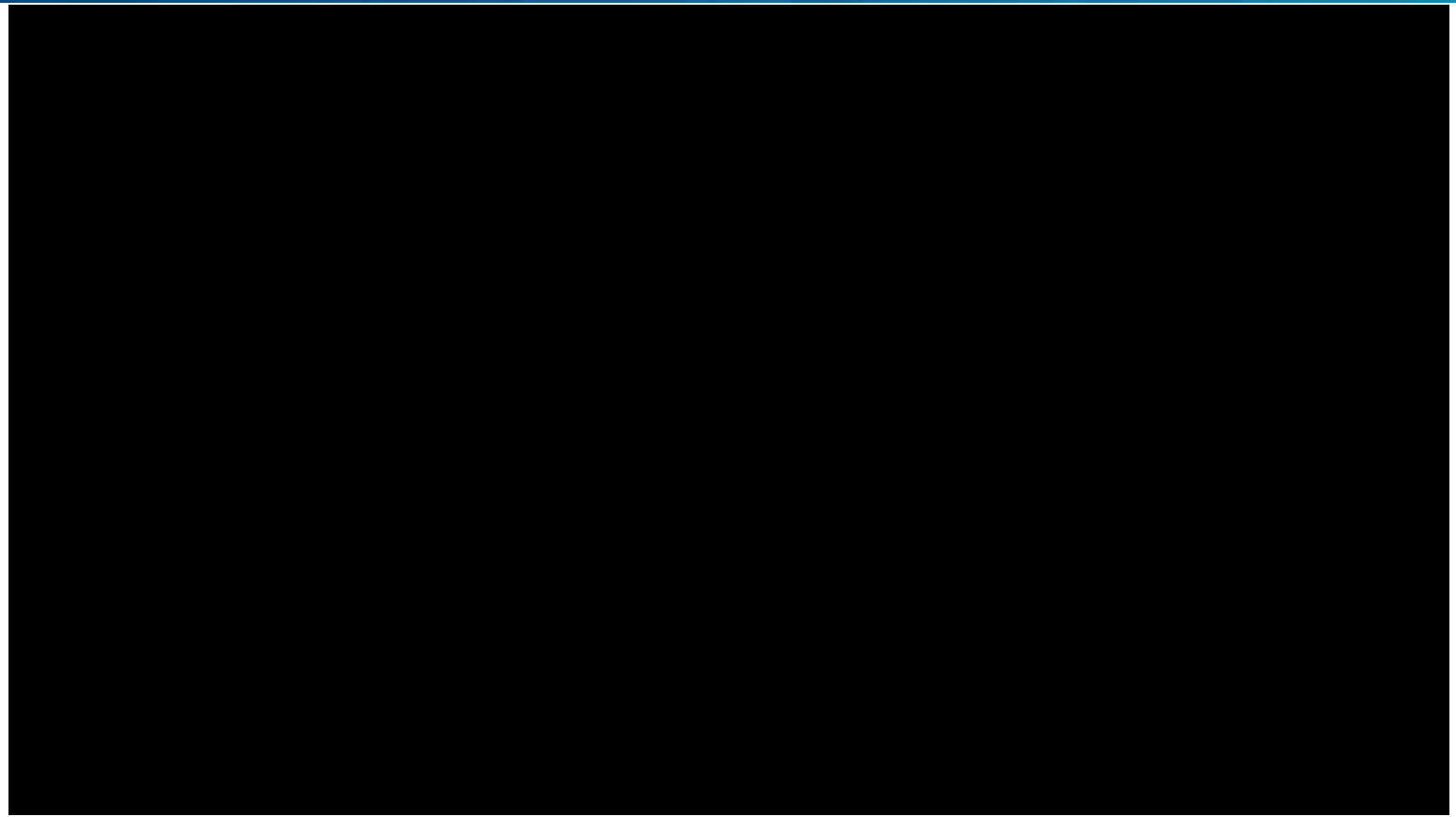
Shelves on both sides

Uniform size with 4 different shelf configurations to optimize book density within storage module

Separate unit with the same external dimensions designed to store boxes stacked 1 high

Iron Mountain Draft Simulation

http://bit.ly/1MxCPWu



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Stalled Pilot - Lessons Learned

- **The need and willingness exists**
- **Business speed doesn't align with library decision process**
- **Challenge to gain agreement/alignment within institution**

Iron Mountain is still interested in working with the library community to develop a scalable storage solution.

Wrap-up

- Near-term improvements:
  - Easier sharing among consortia members
  - Better collection analysis
- Medium-term improvements
  - More fulfillment options (choice of format and delivery date)
  - Better storage efficiencies

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THANK YOU!