One click to the cloud:
multiple copies, locations and providers

Michele Kimpton
CEO, DuraSpace

Carissa Smith
DuraCloud specialist

Bill Brannan
DuraCloud Lead Architect
DuraSpace Mission

We are committed to providing open source technologies and services that promote durable, perpetual access to the scholarly record.
Preservation challenges

- Ability to readily provision storage (ideally in another geographic area, another administration)
- Easily integrate idiosyncratic systems
- Continually update preservation systems
- Check integrity of content
- Restore content quickly and seamlessly
- Sustain the effort over time
Why cloud?

Massively scalable compute and storage offered as a web based service
Survey Higher Ed, 145 responses

Key Challenges cloud

- Trust 3rd party
- Long term reliability
- Data security
- Performance
- Loss of control
- Admin burden SLA's
- Data lock-in
- Transparency

Responses
What is DuraCloud?

- Open source platform and managed service that utilizes cloud infrastructure for preservation support and access services
  - Upload once and make multiple copies to various storage providers
  - Access anywhere from any Internet connected device
DuraCloud Project History

- **Release 0.1**: Cloud Storage Mediation 11/2009
- **Release 0.2**: Service Infrastructure 2/2010
- **Release 0.3**: 5/2010
- **Release 0.4**: Media Streaming 6/2010
- **Release 0.5**: Open Source Release 7/2010
- **Release 0.6**: 12/2010
- **Release 0.7**: Second Pilot Program Starts 9/2010
- **Release 0.8**: 8/2011
- **Release 0.9**: Beta Production 6/2011
- **Release 1.0**: Service Public Launch 11/2011
- **Release 1.3**: 12/2011
Use cases explored

Digital archiving and preservation

Image serving

Video streaming

Content sharing
DuraCloud Platform

Organization/Administrator using DuraCloud

Repository, Content Management System, File System (via web, REST APIs, utilities)

UI
System Administration

API
Service Management

API
Storage Management

Services: Backup, Health check, Synchronization, Replication

Amazon S3, Rackspace Cloud Files, Microsoft Azure

DuraCloud platform running on a compute cloud

Programming interfaces
Repository Software Integrations

- DuraCloud is integrated with Fedora and DSpace repository platforms

* Direct integration available in DSpace 1.8
* Integration through CloudSync application
How can DuraCloud help me with my preservation strategy?

✓ Ability to easily move online copies offsite, distribute geographically
✓ Easily check the health of all copies
✓ Easily repair or replace corrupted files
✓ Ability to do a full or partial restore of content with no technical assistance
✓ Scale storage up or down as needed
✓ Full Web access with ability to view/edit/delete and upload/download your content
What users are saying

• “The ease-of-use of DuraCloud is its most impressive feature.”
  ~Columbia

• “DuraCloud delivers the benefits of a diverse network of storage locations, but without the overhead of managing different vendors.”
  ~ICPSR

• DuraCloud provides a robust infrastructure to support digital preservation of content in our institutional repository, along with services that enhance the delivery and integrity of the content.”
  ~Geneva Henry, Rice University
# Pricing

<table>
<thead>
<tr>
<th>Service Plan</th>
<th>Basic</th>
<th>Professional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monthly subscription fee</td>
<td>$375</td>
<td>$599</td>
</tr>
<tr>
<td>Number of accts</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>Free storage</td>
<td>500 GB</td>
<td>1000 GB</td>
</tr>
<tr>
<td>Services</td>
<td>archiving</td>
<td>all</td>
</tr>
<tr>
<td>Additional storage monthly</td>
<td>NA</td>
<td>$.086-$1.125 per GB*</td>
</tr>
<tr>
<td>* Varies by storage provider, up to 50 TB</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Annual invoicing also available- You pay DuraSpace, not the cloud providers
## Commercial Cloud Vendors vs. DuraCloud

<table>
<thead>
<tr>
<th>Features</th>
<th>Commercial Cloud Vendors</th>
<th>DuraCloud</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online backup</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Web access</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Ability to transfer content via web</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Media Streaming</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Integrated management console</td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>File health checkup</td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>Ability to copy content to multiple cloud providers</td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>Online Sharing</td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>Open source software</td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>Community-share platform</td>
<td></td>
<td>✔</td>
</tr>
</tbody>
</table>
On the Roadmap

• Services
  – Shibboleth authentication
  – File validation
  – DSpace as a service application

• Storage providers
  – UCSD cloud store, Chronopolis
  – Azure
  – Local Eucalyptus integration

• Platform
  – DuraCloud for Research
DuraCloud Open Source

• Available for organizations to run locally
• Requires cloud (commercial or private) infrastructure
• Being tested by several organizations now
• For more details visit the wiki at:
  https://wiki.duraspace.org/display/duracloud/
Let’s see it!

• Time for a quick demo...
Where can I find out more?

- Web site: www.duracloud.org
- Email: csmith@duraspace.org

Contact Carissa if interested in a live DuraCloud demo session for your institution.
DuraCloud Training Materials

- duracloud.org/training_materials
- www.youtube.com/duracloudvideos

Contact Carissa if you have suggestions or requests for specific training topics.
Free DuraCloud Trial Accounts

ONE CLICK TO THE CLOUD: MULTIPLE COPIES, LOCATIONS AND PROVIDERS

Online back-up
UPLOAD-DOWNLOAD-SYNC CONTENT THROUGH THE WEB

Free for 60 days!

▶ FIND OUT MORE
▶ TRY IT
▶ SUBSCRIBE get two months FREE

DURASPACE™