Repository Redux:
The Past, Present & Future of Fedora

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A (Funding) History of Fedora

- Original software created 2000–08 with $2.4M from the Mellon Foundation
  → +$500,000 from UVA Library
- Moore Grant: 2007-11, $4.9M
- Committers from 10 institutions
- 2009–present: DuraSpace’s sponsorship program has provided funding for a tech lead
The Success of Fedora

- Architecture is demonstrably Flexible & Extensible
- Support for Durability
- One foot in the linked data world
- A decade of maturity & proven use
- Substantial community of adopters, contributors, vendors
Looming Storm Clouds

Technical
- Performance
- Fault tolerance
- Scalability
- Complexity
- Aging code base

Organizational
- Small, fixed pool of developers
- Demands outstrip applied resources
- Lack of vibrancy
New Opportunities

- Front-ends: eSciDoc, Hydra, Islandora
  - Attracting new energy and adopters
  - Creating new technical demands
- Evolved technical environment
  - Web architectures & horizontal scaling
  - Linked data
- Data management mandates
Fedora Futures Takes Shape

• OR12: Ad hoc meeting
• September ‘12:
  – Meet to compare needs and notes
  – Charter a 3 month investigation
• December ‘12:
  – Commit to a three year project
  – Announce, Invite and Launch
Fedora Futures Objectives

- Preserve the strengths of the architecture and community
- Address the needs for robust and full-featured repository services (that we now understand very well)
- Provide a platform in the repository ecosystem for the next 5-10 years
Technical Requirements

• Highly scalable
• High availability
• Higher performance
• Flexible storage
• Robust auditing, reporting and metrics
• Enhanced fixity and versioning
Requirements, continued

- Work for small, medium and large institutions
  - Easy to deploy, administer
- Support breadth of needs
  - Traditional IR
  - Heterogeneous content (e.g., media)
  - Emerging data management needs
- Interoperate with other systems
  - Lean core, modular, APIs
Organizational Requirements

- Revitalized corps of developers
- Robust community investment and governance
- Bigger community base
  - Geographic
  - Commercial & Non-Profit
  - Additional domains
Fedora Futures Delivers

- January – Feb ‘13
  - Evaluate platforms for Alpha
- March – June ‘13
  - Alpha v1 development
- July ‘13
  - Alpha v1 released!
- 2nd half of ‘13: Beta development
Fedora 4 Alpha 1 Highlights

• Roughly 80% of Fedora 3.x functionality
  – in 7% of the lines of code
  – with 72% test coverage (vs. 10% for Fedora 3.x)

• Clustering
• Batch operations
• Transaction support
• Policy-driven & projected storage
• Self-healing
• One step install...
Who Has Contributed So Far...

- Brown University
- Center for Disease Control (CDC)
- Columbia University
- Discovery Garden
- DuraSpace
- FIZ Karlsruhe
- Indiana University
- MediaShelf
- Northeastern University
- Oxford University
- Penn State
- Smithsonian Inst.
- Stanford
- UCSD
- UNC – Chapel Hill
- University of Virginia
- University of New South Wales
We Need You...

- Financial contributions
- Developer contributions
- Use cases & priorities
- Integration & testing
- Advocacy & evangelism
Next Steps

1. Donate money
   http://duraspace.org/sponsors

2. Add a developer
   contact awoods@duraspace.org

3. Join the email list
   ff-tech@googlegroups.com

4. Install the alpha
   github.com/futures/fcrepo4/

5. Chime in!
   Give use cases, feedback