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

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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