Fedora **Fourward:** Current Developments and Future Plans





Hello!

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Our community is part of an interconnected, worldwide, scholarly ecosystem.



Source: The Digital Ecosystem in the Balanced Value Impact Model (illustrated by Alice Maggs); http://simon-tanner.blogspot.com/2014/09/do-you-understand-your-digital-ecosystem.html



DuraSpace open source projects





The Value of Fedora

- Fedora is flexible: it can handle both simple and complex use cases
- Content in Fedora is durable: Fedora supports long-term preservation
- Fedora powers successful digital repositories
- Fedora is standards-based
- Fedora is backed by a thriving community

The Value of Community

- Software is difficult to support and maintain
- Even large institutions can't go it alone
- No single point of failure or control

Fedora is supported by a distributed, global community of stakeholders and contributors



An Eye Toward The Future

- Fedora is linked data infrastructure
- Built on modern web standards
- Focused on interoperability

Fedora stays true to its roots while planning for a future of linked data and interoperability

Guiding Principles

- Durability
- Data portability
- Standardization
- Interoperability

Understanding The Ecosystem

- Fedora is just one technology amongst many
- Institutions want interoperability
- Data should move freely between applications

Institutions use many different technologies that need to work together



Sources: <u>https://www.w3.org/RDF/icons/</u> https://pixabay.com/en/icon-communication-sender-antenna-157359/



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Binaries

Fedora



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The Year Ahead

Fedora API Specification

http://fedora.info/spec/

- Resource Management (Linked Data Platform)
- Resource Versioning (Memento)
- Resource Authorization (Web Access Control)
- Notifications (Activity Streams)
- Binary Resource Fixity (HTTP headers)

Fedora API Specification - Timeline

- Candidate Recommendation
 - Open for comment
- Recommendation
 - ▷ Spring 2018

Specification Release Requirements

- At least two implementations
 - Ideally, three or more
- At least two client frameworks
- Test compatibility suite
- No critical, unresolved discussions

Let a thousand flowers bloom



Source: Andrew Woods, Summit County, Colorado

Fedora API Implementations

- Fedora-on-Modeshape (current)
- Cavendish: Fedora on a triplestore
- Derby: Fedora in Ruby on Rails
- Lambdora: Fedora in Amazon Web Services
- Trilpy: Fedora in Python

Community Initiatives

- API Extension Framework (API-X)
- Import / Export Utility
 - Moving data through time
 - Transparent formats
 - ▶ Easy in -- Easy out
- Oxford Common Filesystem Layout

Oxford Common Filesystem Layout

- A common approach to file-and-folder hierarchies within file storage systems
- A community of practice around which to discuss issues of filesystem storage
- An ecosystem of software tools that encapsulate shared practices

The OCFL emerged from the Fedora community but it is much broader in scope

Semantic Versioning

Example: **8.1.3**

Given a version number MAJOR.MINOR.PATCH, increment the:

- 1. **MAJOR** version = incompatible API changes
- 2. **MINOR** version = new, backwards-compatible features
- 3. **PATCH** version = backwards-compatible bug fixes

http://semver.org/

Fedora 4: The Branding Dilemma

4.6.0 - Aug 2016 (features & API updates)
4.6.1 - Nov 2016 (bugfix)
4.6.2 - Mar 2017 (security patch)

4.7.0 - Nov 2016 (features & storage upgrade)

4.7.1 - Jan 2017 (features)

4.7.2 - Mar 2017 (security patch)

4.7.3 - Jun 2017 (bugfix)

4.7.4 - Aug 2017 (features)

Release Policy

- 1. No more than one **MAJOR** per year
- 2. MINOR and PATCH as needed
- 3. Backport security and critical bugfixes:
 - previous MAJOR*

Fedora 5.0

- Next major release based on SemVer
- Equivalent in scope to 4.8
- Not like the jump from 3 to 4

Fedora 5.0 will represent the alignment of the ModeShape implementation with the API spec

In Summary

- API Specification
 - Emergent implementations
 - Limit major releases
- Ecosystem interoperability
- Preservation-centric persistence

How to Get Involved

Fedora website http://fedorarepository.org/

Mailing lists <u>https://wiki.duraspace.org/display/FF/Mailing+Lists+etc</u>



THANKS!

Any questions?

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