Fedora™

Fedora 4 Deep Dive

June 13, 2014

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Andrew Woods, Tech Lead

DURA SPACE™

Project goals

- Improved performance
- Flexible storage options
- Research data management
- Linked open data support
- Improved platform for developers

Fedora 4 - a year in review

- Fedora 4 Alpha released at OR2013
- Defined governance model
- Distilled feature list for Fedora 4.0
- Fedora 4 Beta released at OR2014

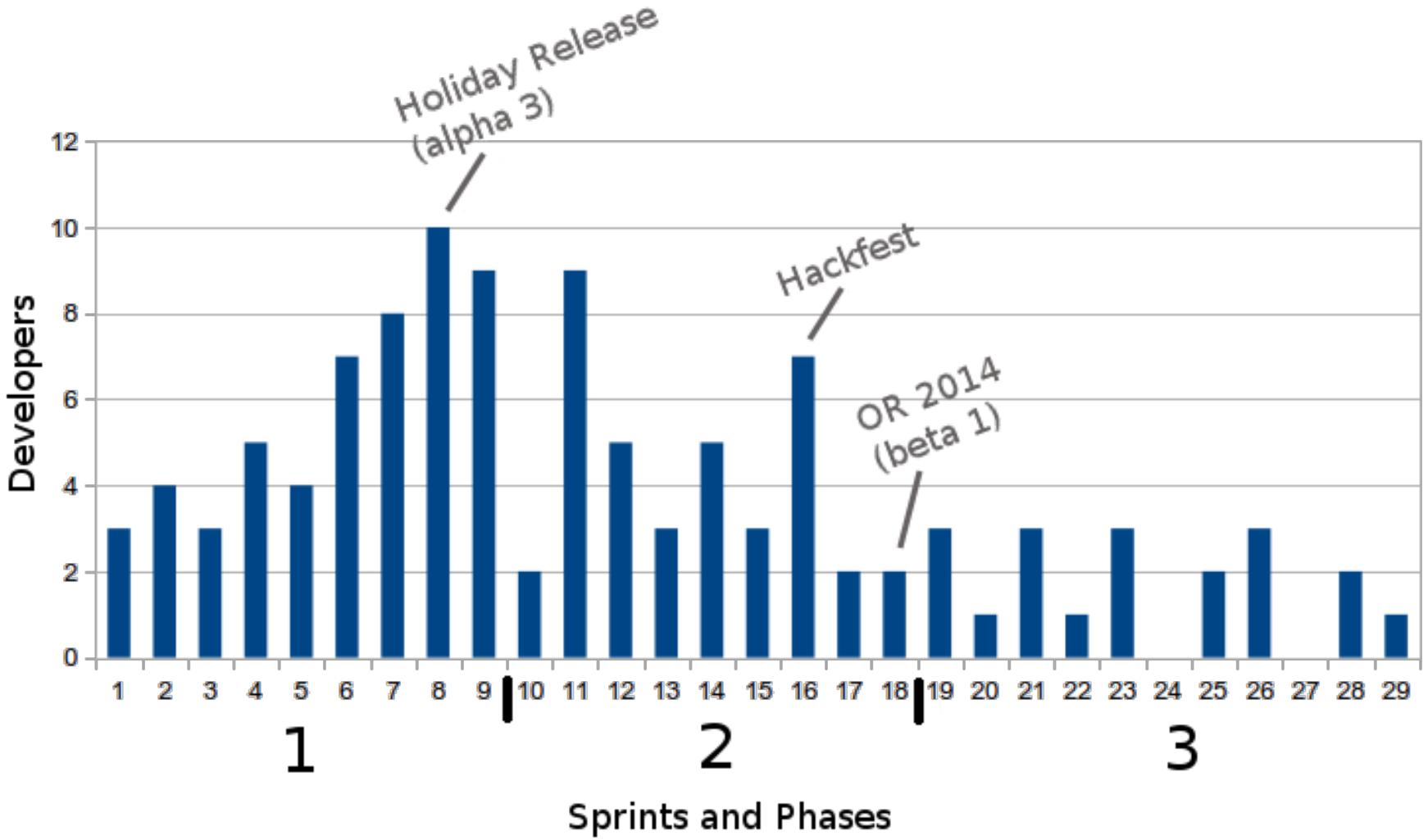
Fedora 4.0 Beta

- It’s out! Download it now
- 4.0 Beta features = 4.0 Production features
- Fedora 4.0 Beta targets new repositories
- Next: Fedora 4.0 Production release

The road to production

- Acceptance testing
- Beta pilots
- Community feedback
- Developer commitments

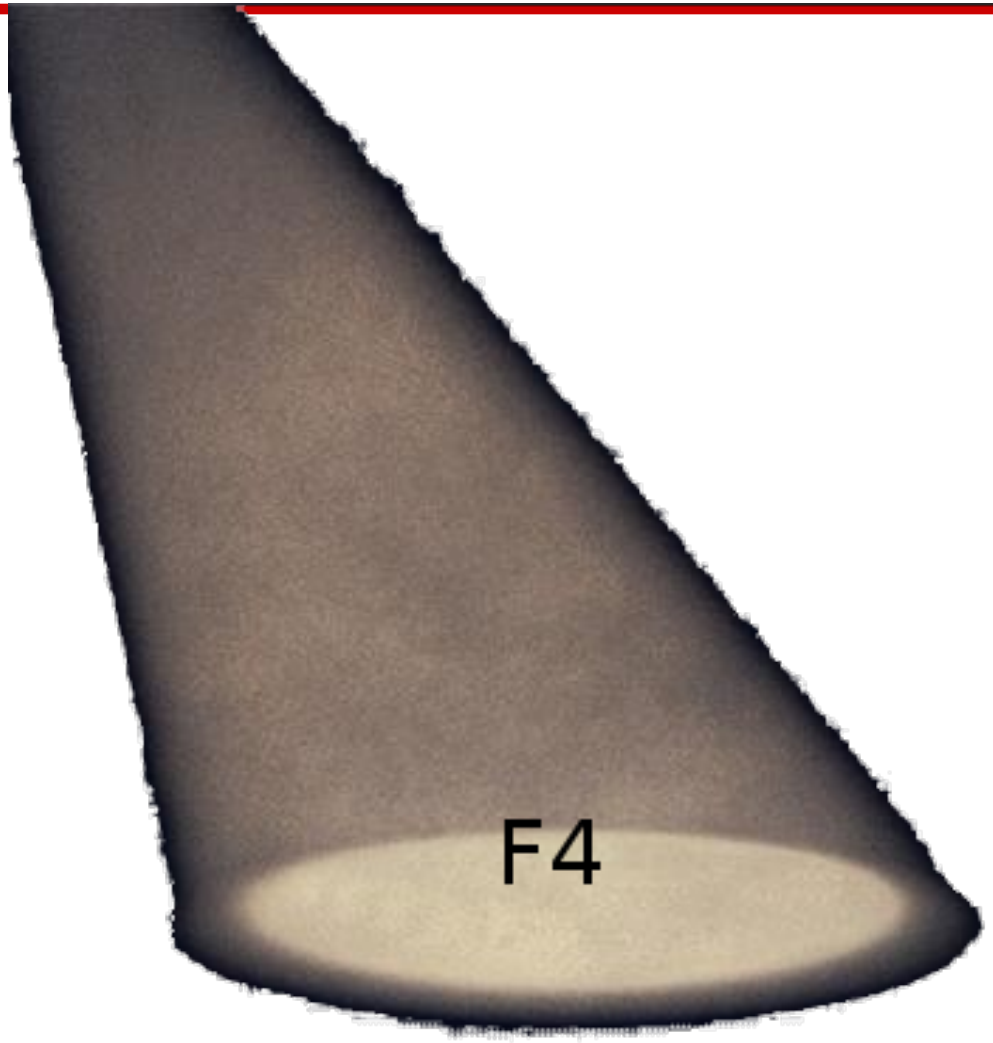
Developer commitments



Community update

- Hydra
- Islandora
- Art Institute of Chicago
- Spotlight

Spotlight over Fedora 4



Maps of Africa: An Online Exhibit

A digital collection of African Maps at the Stanford University Libraries

Limit your search

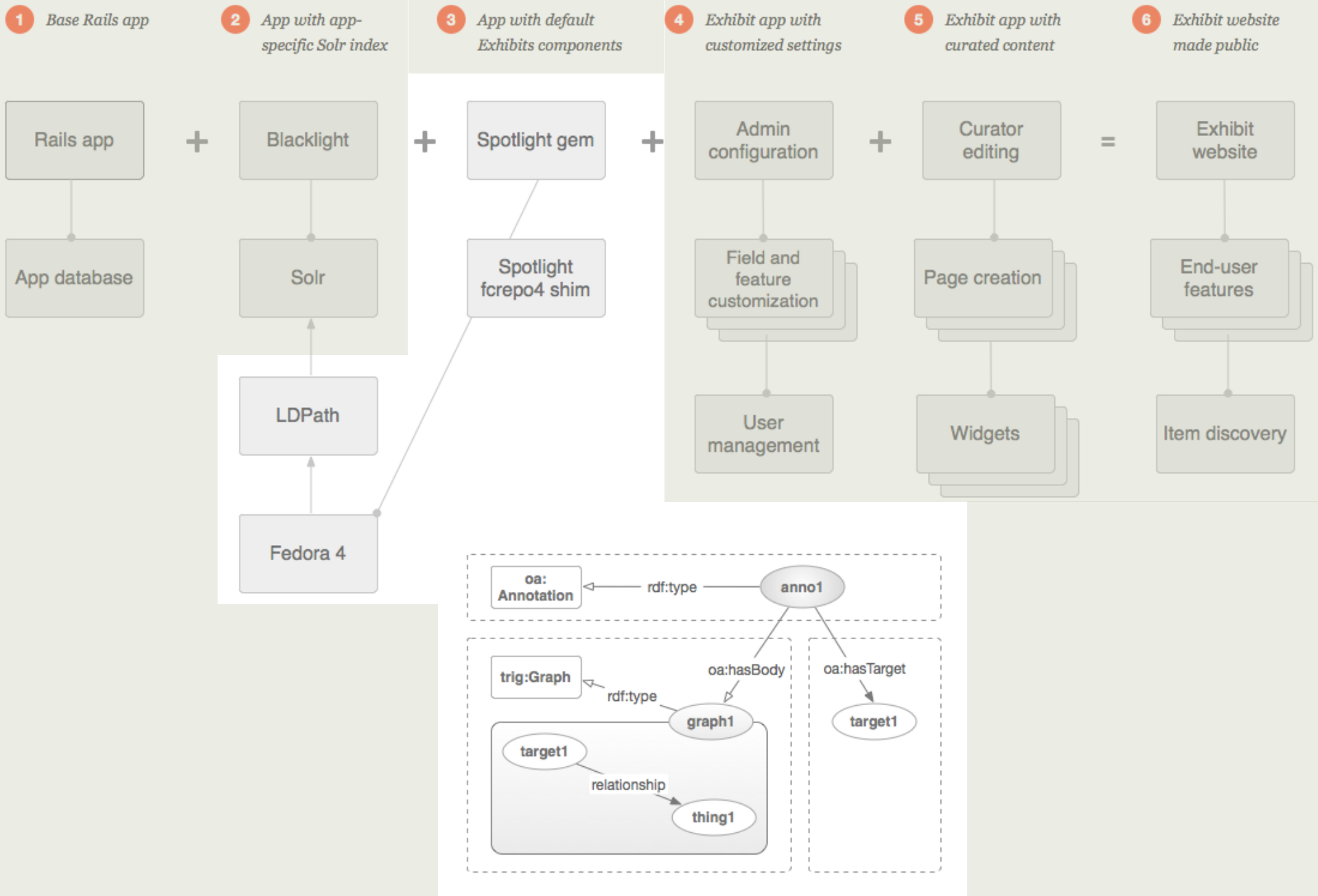
Edit

- Genre
- Geographic
- Era
- Language
- Type of Resource

Insula and Arx Mozambique. Bertius, Petrus, 1565-1629

Stanford's Maps of Africa Collection became a major research resource in August of 2001 with the acquisition of the Oscar I. Norwich Collection of Maps of Africa and its islands, 1486 – ca. 1900. This acquisition added 316 maps to Stanford's existing holdings of Maps of Africa. The collection was once again augmented in 2010 with the purchase of 294 maps from Caroline Batchelor, and then again in 2011 with a small set of maps from Rodney Shirley. The Norwich, Batchelor collections, as well as the maps from Shirley represent some of the most important maps collected by these well-known collectors. In addition, Stanford currently has, in digital-only form, 771 maps from the Barry Lawrence Ruderman Collection and the David Rumsey Map Collection; also slated for scanning are other maps of Africa from Stanford's Special Collections.

Maps Portraying the Continent


1 Base Rails app
2 App with app-specific Solr index
3 App with default Exhibits components
4 Exhibit app with customized settings
5 Exhibit app with curated content
6 Exhibit website made public
Rails app
+
Blacklight
+
Spotlight gem
+
Admin configuration
+
Curator editing
=
Exhibit website
App database
Solr
Spotlight fcrepo4 shim
Field and feature customization
Page creation
End-user features
LDPath
User management
Widgets
Item discovery
Fedora 4
oa: Annotation
rdf:type
anno1
oa:hasBody
oa:hasTarget
trig:Graph
rdf:type
graph1
target1
target1
relationship
thing1

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ods:typeOfResource>cartographic</mo
ods:name type="personal" authority=
ink:href="http://id.loc.gov/authori
<mods:namePart>Wells, Edward, 1667-
1727</mods:namePart>
<mods:role>
  <mods:roleTerm type="text"
  authority="marcrelator">creator</m
</mods:role>
mods:name>
ods:note>
Southern part of Africa has been lef
```

```
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Home / fw / 686 / gh / 2768 / fw686gh2768

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Properties

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fedorarelsext: **isMemberOfCollection**
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https://lyberservices-prod.stanford.edu/workflow/dor/objects/druid:fw686gh2768/workflows
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Dr. Oscar I. Norwich
Norwich, I., Pam Kolbe, and Jeffrey C Stone. Norwich's Maps of Africa: An Illustrated and Annotated Carto-Bibliography. 2nd ed. / rev. and edited by Jeffrey C. Stone. Norwich, Vt.: Terra Nova Press, 1997, map 0060, p. 74
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Home / fw / 686 / gh / 2768 / fw686gh2768 / contents / fw686gh2768_1 / AM_0117.jp2

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Children

Properties

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JPEG 2000
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image/jp2
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JPEG2000-hul
ns014: **profile**
JP2
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JPEG2000-hul
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mods_created_date_end_ssim = modsrdf:resourceDateCreatedEnd :: xsd:string ;
mods_altnames_tsim = (modsrdf:name | modsrdf:namePrincipal) / modsrdf:authorityLink / m
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mods_name_lc_ssim = (modsrdf:name | modsrdf:namePrincipal) / modsrdf:authorityLink / ma
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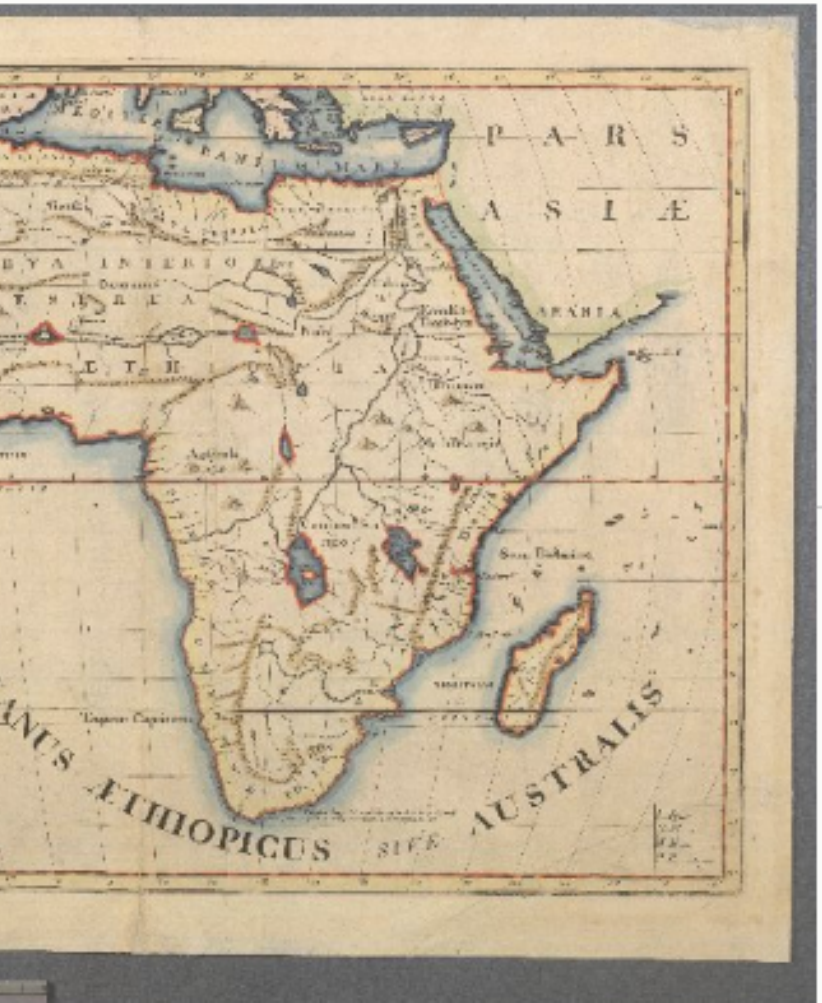
f Libya or old Africk Showing its general Divisions, most remarkabl People, Cities, Townes, Rivers, Mountains



Curator's Note

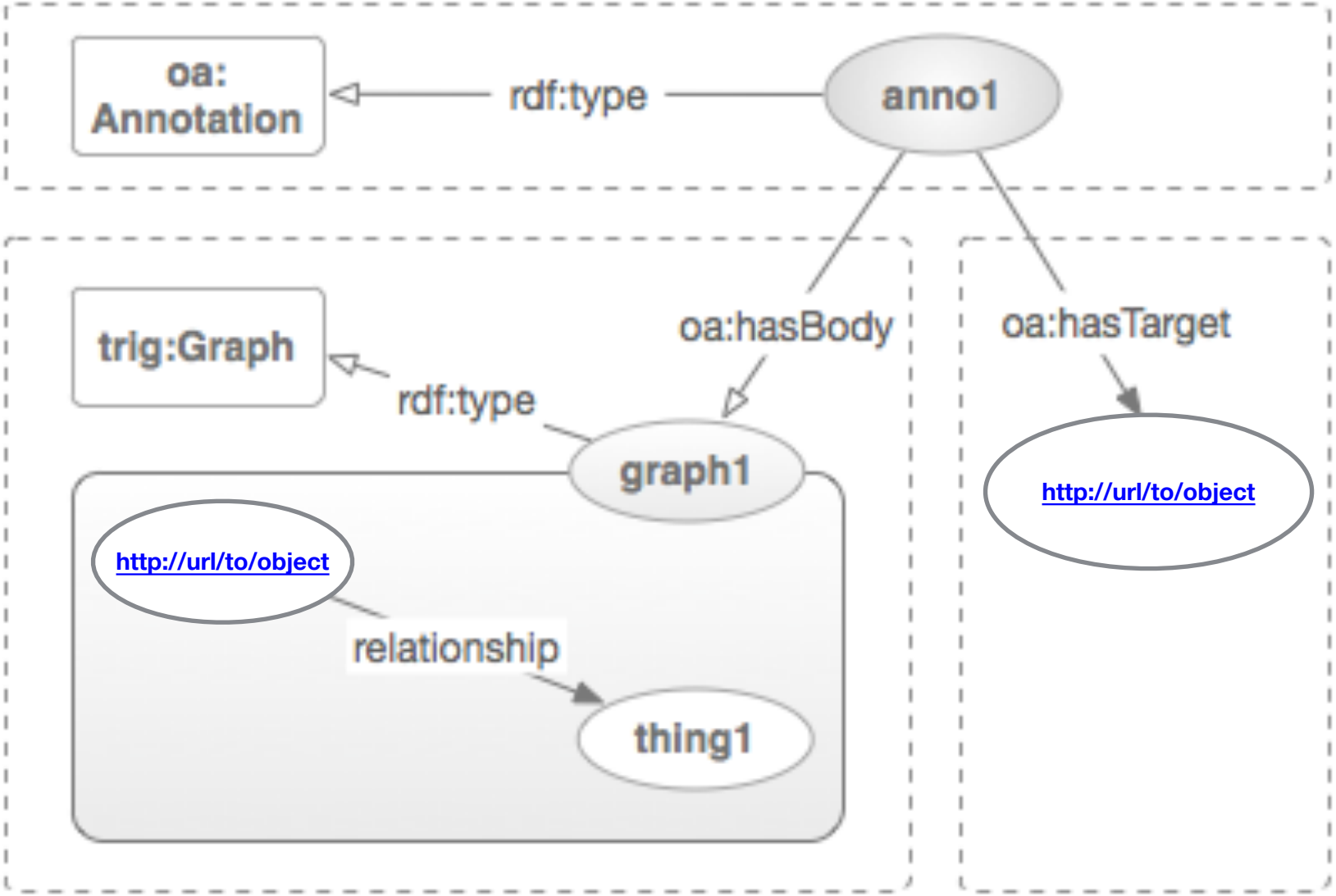
Display Case

Tags

Cities x | Mountains x | Rivers x

Cancel | Save chan

Identifier:	NOR 0060
Geographic Subject:	Africa--Maps
Cartographer:	Wells, Edward, 1667-1727
Date Created:	1700
Place Created:	London
Cartographics:	Scale in English miles (W 18°--E 51°/ -S 35°)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Annotation
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anno1
trig:Graph
rdf:type
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graph1
http://url/to/object
http://url/to/object
relationship
thing1

F4 feature highlights

- Content modeling
- Authorization
- Durable Storage
- Versioning
- Scale (large files and many files)
- Linked data / RDF (and external triplestore)
- Internal & external search
- Transactions
- Performance
- *Clustering*

Content Modeling

- Define
  - object *properties* and
  - *children objects*
- Define datastream *properties*
- Properties have “type”
- Relationships vs. repository structure

RDF / Linked data

- Complies with Linked Data Platform1.0 recommendations
- Resource descriptions modeled as triples
- Native and external SPARQL-Query

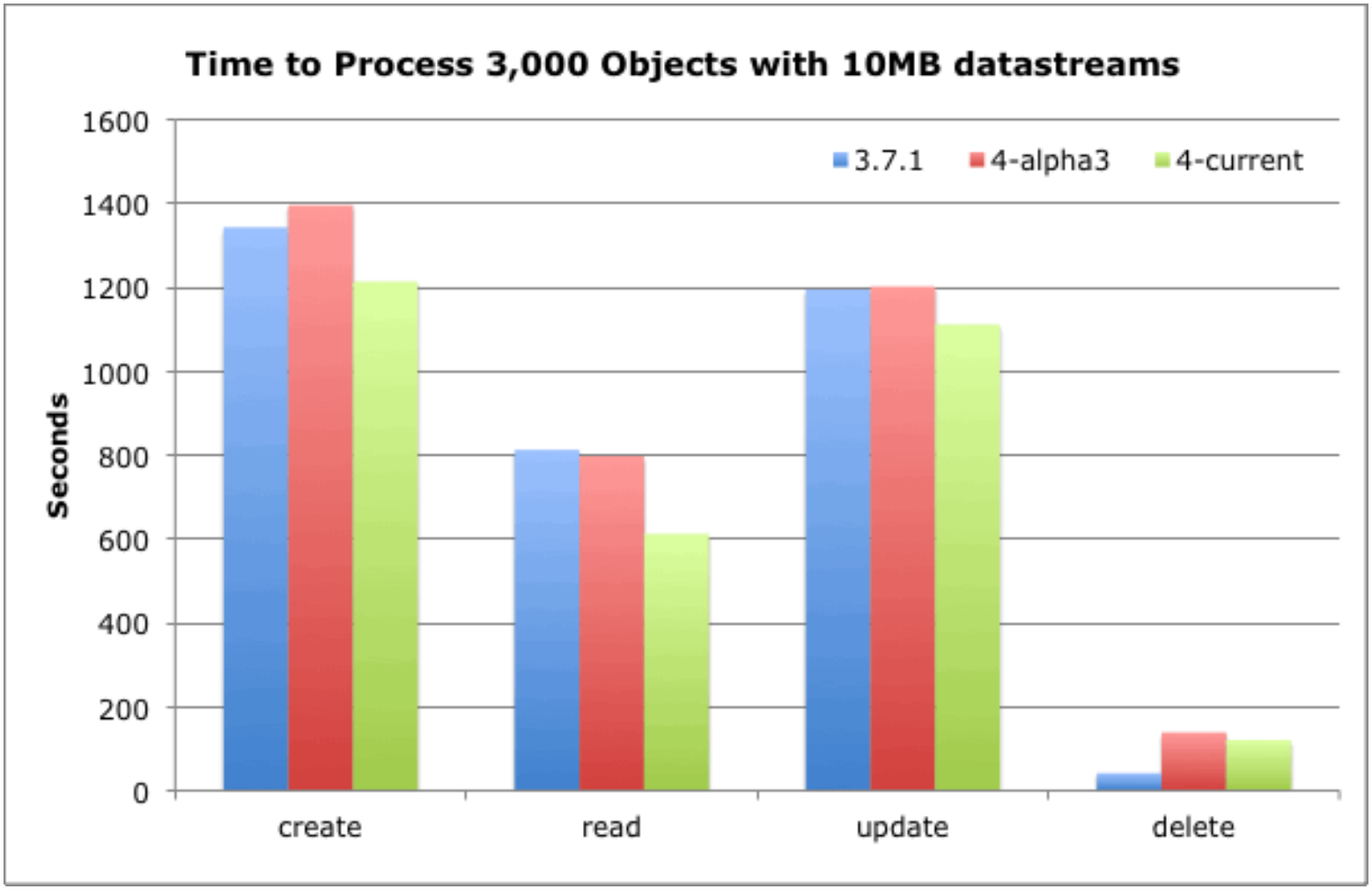
Ease of installation

- Simple web application (war file)
- One-click-run
  - Only dependency: Java7

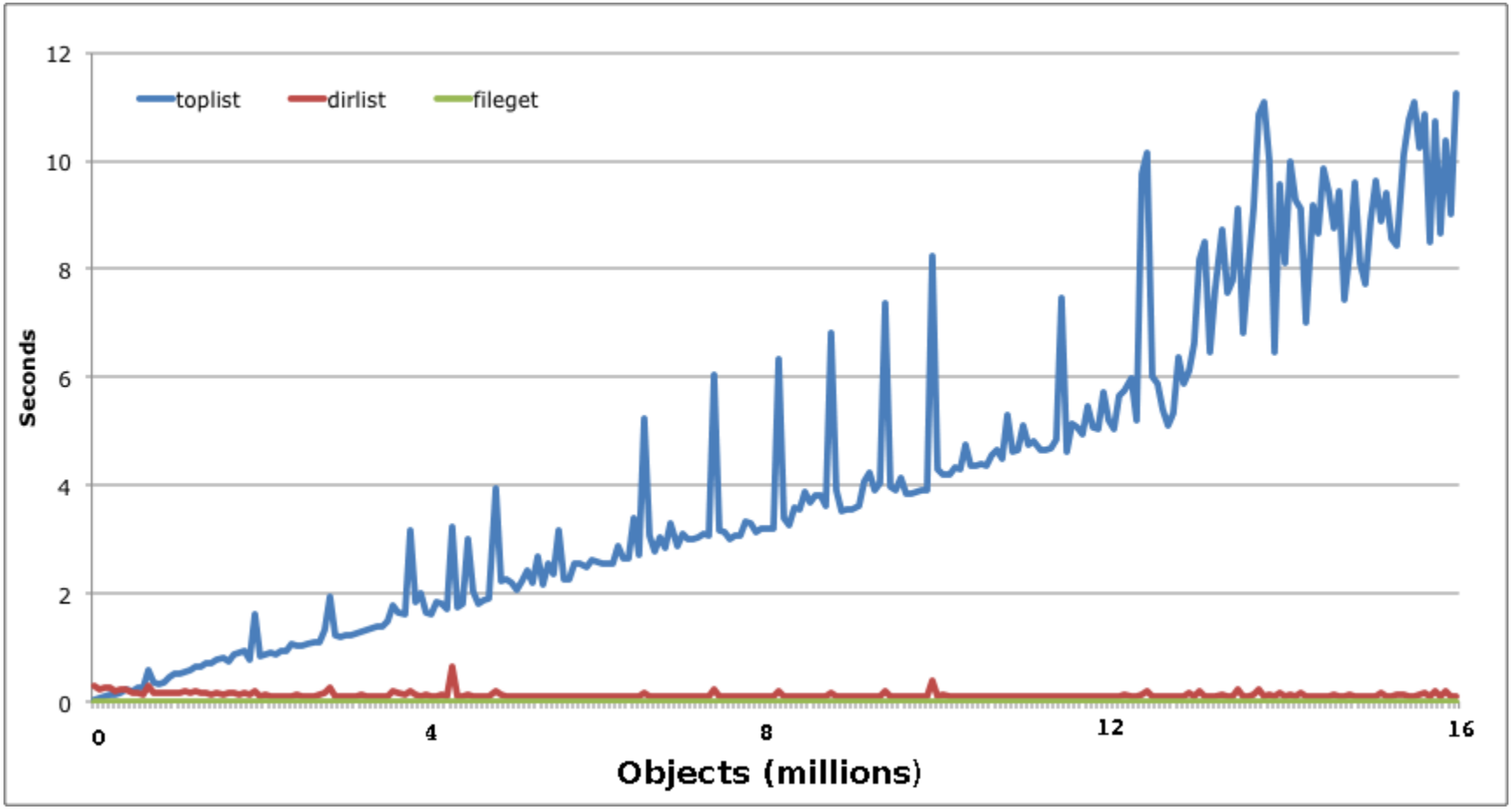
Scale

- 1 TB file via REST
- 16 million objects via Projection
- 5 million objects via REST
- Range requests

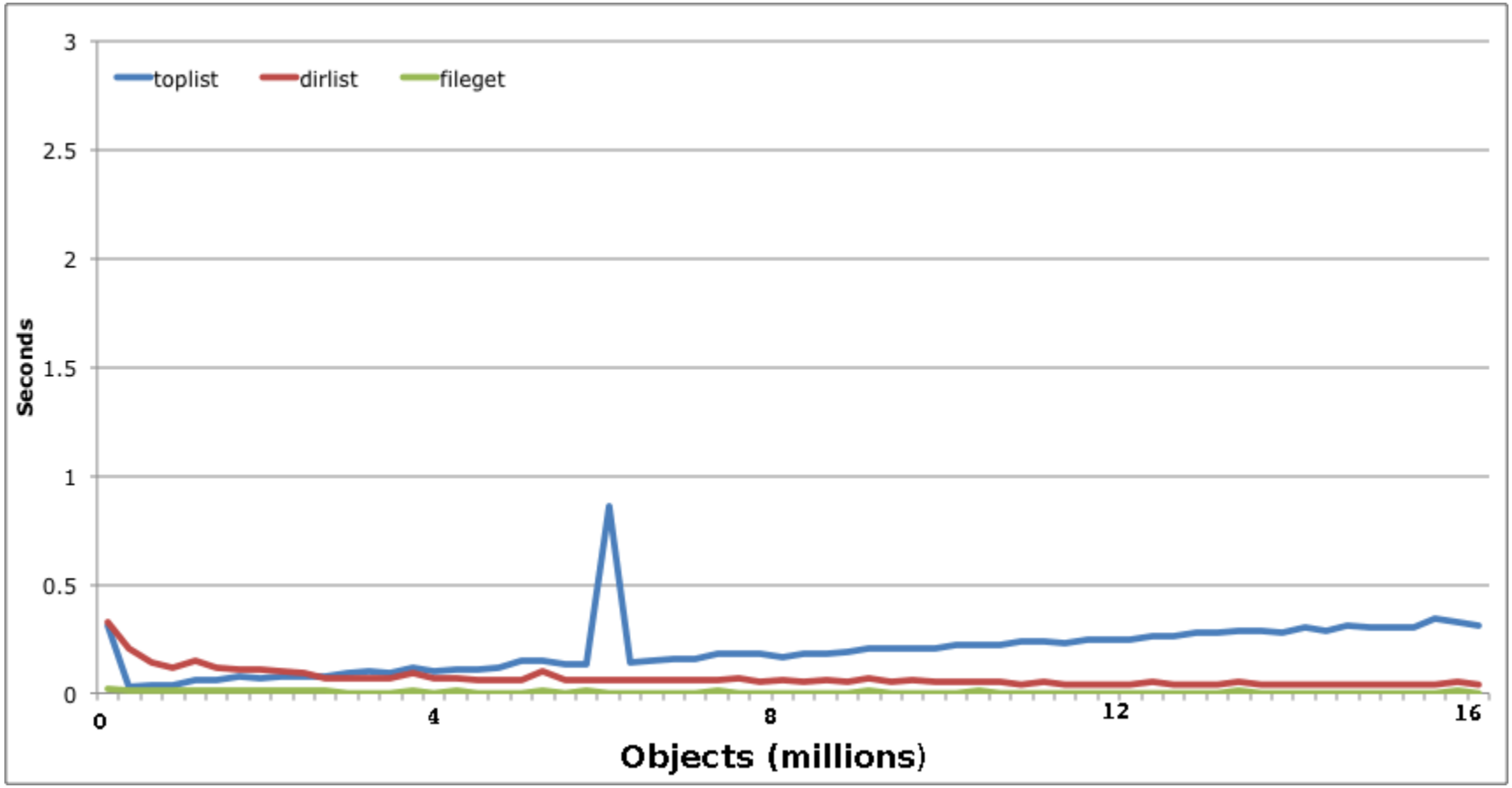
CRUD operations



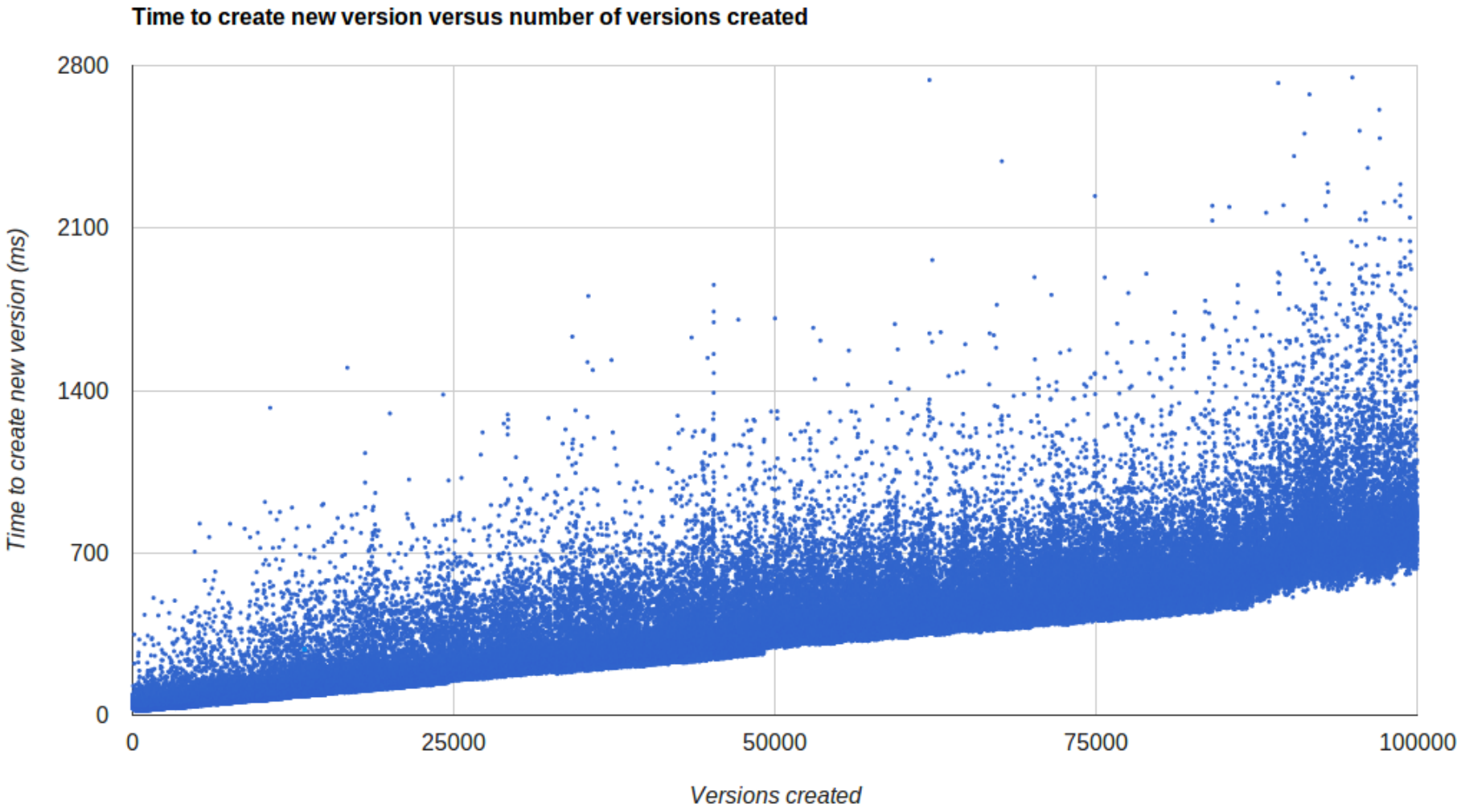
“List” operations - 3 tier projection



“List” operations - 4 tier projection



Version creation



Fedora 4 roadmap

- Engage Beta pilots
- Release Fedora 4.0-Production
- Support Fedora 3.x to 4.x migrations
- Select key features for 4.1+

Contact information

Fedora mailing lists

https://wiki.duraspace.org/display/FF/Mailing+Lists+etc

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UNIVERSITY OF
CAMBRIDGE

MediaShelf

UNIVERSITY OF
OXFORD

ASU

Tufts
UNIVERSITY

NORTHWESTERN
UNIVERSITY

Cornell University

THE STATE UNIVERSITY OF NEW JERSEY
RUTGERS

PENNSTATE
1855

INDIANA UNIVERSITY

University of
Connecticut

COLUMBIA
UNIVERSITY

Yale University

Northeastern University

ICPSR
INTER-UNIVERSITY
CONSORTIUM FOR
POLITICAL AND
SOCIAL RESEARCH

MAX PLANCK
digital library

AARHUS UNIVERSITY

University of Pittsburgh

THE UNIVERSITY of York

Oregon State
UNIVERSITY
OSU

COLORADO
ALLIANCE
OF RESEARCH LIBRARIES

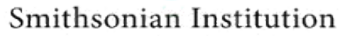
THE UNIVERSITY
of NORTH CAROLINA
at CHAPEL HILL

CASE WESTERN RESERVE
UNIVERSITY

UNIVERSITY OF
DELAWARE

STANFORD
UNIVERSITY

UNIVERSITY of VIRGINIA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DURASPACE

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