Evergreen: Library deOSSification (pt. 2)

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Who I am

Dan Scott

Systems Librarian, Laurentian University

Project Manager, Project Conifer

Evergreen developer

Who I have been

IBM tech writer / information architect / software developer / product planner / open source guy

Library (information systems) student

English and Philosophy student

High school punk in the smoking section

A tour of library technology

MARC metadata format

00962njm 2200253 a
4500001001100000005001700011008
0041000280350020000690500009000
0891000024000982450046001222600
0380016830000360020634900200002
4250501340026251101280039665000
3300524700001500557700001700572
7000019005897000020006089490074
0062859600060070203-00181372002
0121132036.0020121s1999   cauuuu
          eng d a(Sirsi) a353305 a5490
 aLovano, Joe,d1952- aFriendly fire
/cJoe Lovano and Greg Osby
aHollywood, CA :bBlue Note,c1999
a1 sound disc :bdigital, stereo
aCOMPACT DISC(S) aGeo J Lo --
The wild east -- Serene -- Broad Way
blues -- Monk's mood -- Idris -- Truth
be told -- Silenos -- Alexander the
Great aJoe Lovano, saxophone


```
<collection
xmlns="http://www.loc.gov/MARC21/slim">
<record>
  <leader>00962njm a2200253 a 4500</leader>
  <controlfield
tag="001">03-0018137</controlfield>
  <controlfield
tag="005">20020121132036.0</controlfield>
  <controlfield tag="008">020121s1999    cauuuu
          eng d</controlfield>
  <datafield tag="035" ind1=" " ind2=" ">
    <subfield code="a">(Sirsi) a353305</subfield>
  </datafield>
  <datafield tag="050" ind1=" " ind2=" ">
    <subfield code="a">5490</subfield>
  </datafield>
  <datafield tag="100" ind1=" " ind2=" ">
    <subfield code="a">Lovano, Joe,</subfield>
    <subfield code="d">1952-</subfield>
  </datafield>
```

unAPI.info

- A Web standard for returning alternate representations
- Example:
  "In search of the common good"

- Supported formats:
  - HTML
  - Atom
  - RSS2
  - RDF/DC
  - OAI/DC
  - MARCXML
  - MODS*
  - OPAC

Character encoding

- Very slow transition to Unicode
  - Majority of library metadata is still encoded in MARC8 (aka ANSEL – genealogists take note)
  - Not all Unicode characters can be represented in MARC8
  - Upgrades to Unicode often drag along other expensive requirements (hello Oracle!)
- Evergreen is UTF8 from database through to display

Rich silos

- Libraries led the way in peer-to-peer sharing technology in 1984 with Z39.50 (huh?) protocol
  - SRW and SRU are less arcane variations on Z39.50 – still inter-silo communication
  - FUD about record sharing by large, co-operative non-profit agencies chilled much of the potential
- Evergreen offers OpenSearch as well as silo technology
  - Conifer will bring all of our records together

Legacy API access

A single transaction:

```
E<TIMESTAMP>R
^S52CVFFCIRCBASE^FcNONE^FW<PROFILE>^FE<LIBRARY>^NQ<BARCODE>^FW<
PROFILE>^UO<BARCODE>^dC3^Og^Fv200000^^O
```

Command line:

```
echo “input” | command1 -flags | command2 -flags
```

- This is not a pleasant way to build or extend applications.

–Build your own API wrapper and Web access? Ugh.

OpenSRF API (Perl)

Fetching a library hierarchy:

```
$tree = OpenILS::Utils::CStoreEditor->new-
>search_actor_org_unit(
   [
      {"parent_ou" => undef },
      {
         flesh           => -1,
         flesh_fields=> { aou =>  ['children'] },
         order_by        => { aou => 'name'}
      }
   ]
)->[0];
```

OpenSRF API (Python)

Fetching a library hierarchy (Python):

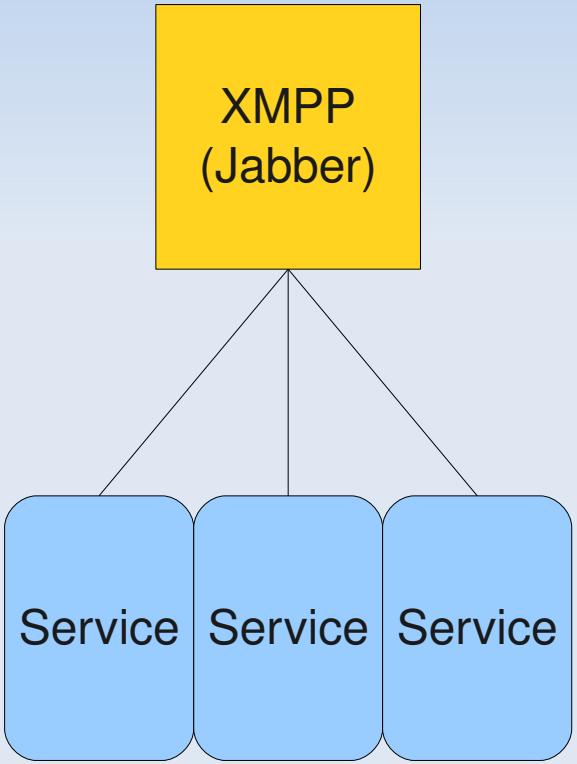
```
tree = osrf.ses.ClientSession.atomic_request(
    'open-ils.actor',
    'open-ils.actor.org_tree.retrieve')
```

Fetching a library hierarchy (srfsh command line):

```
request open-ils.actor open-ils.actor.org_tree.retrieve
```

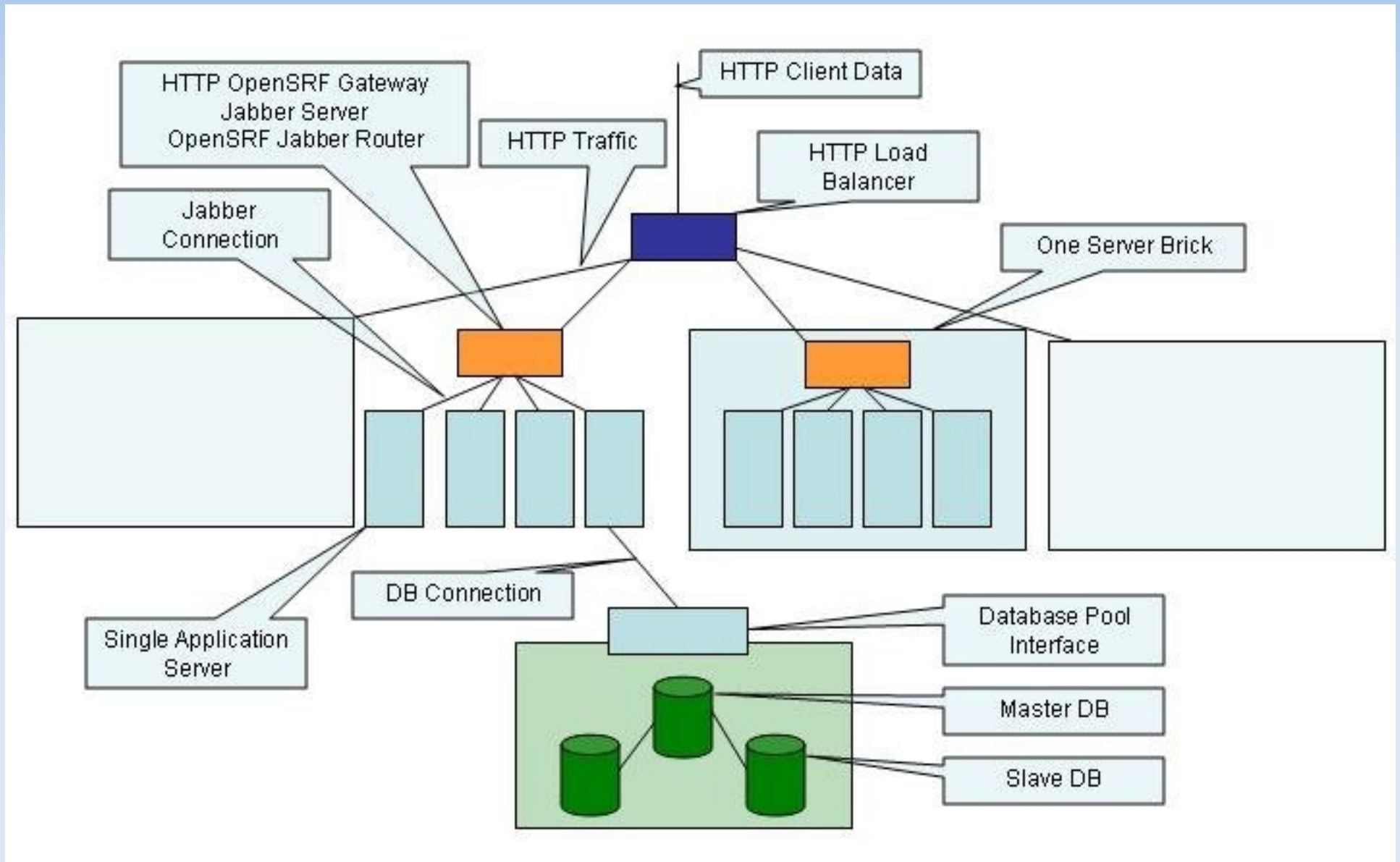
Okay, Python and srfsh just act as OpenSRF clients here, calling the Perl service. But you didn't want to implement that thing twice anyway, right?

OpenSRF architecture



- JSON-over-XMPP
- Applications register available services with a Jabber router
- Services can be clients of other services
- Also HTTP gateway and transport

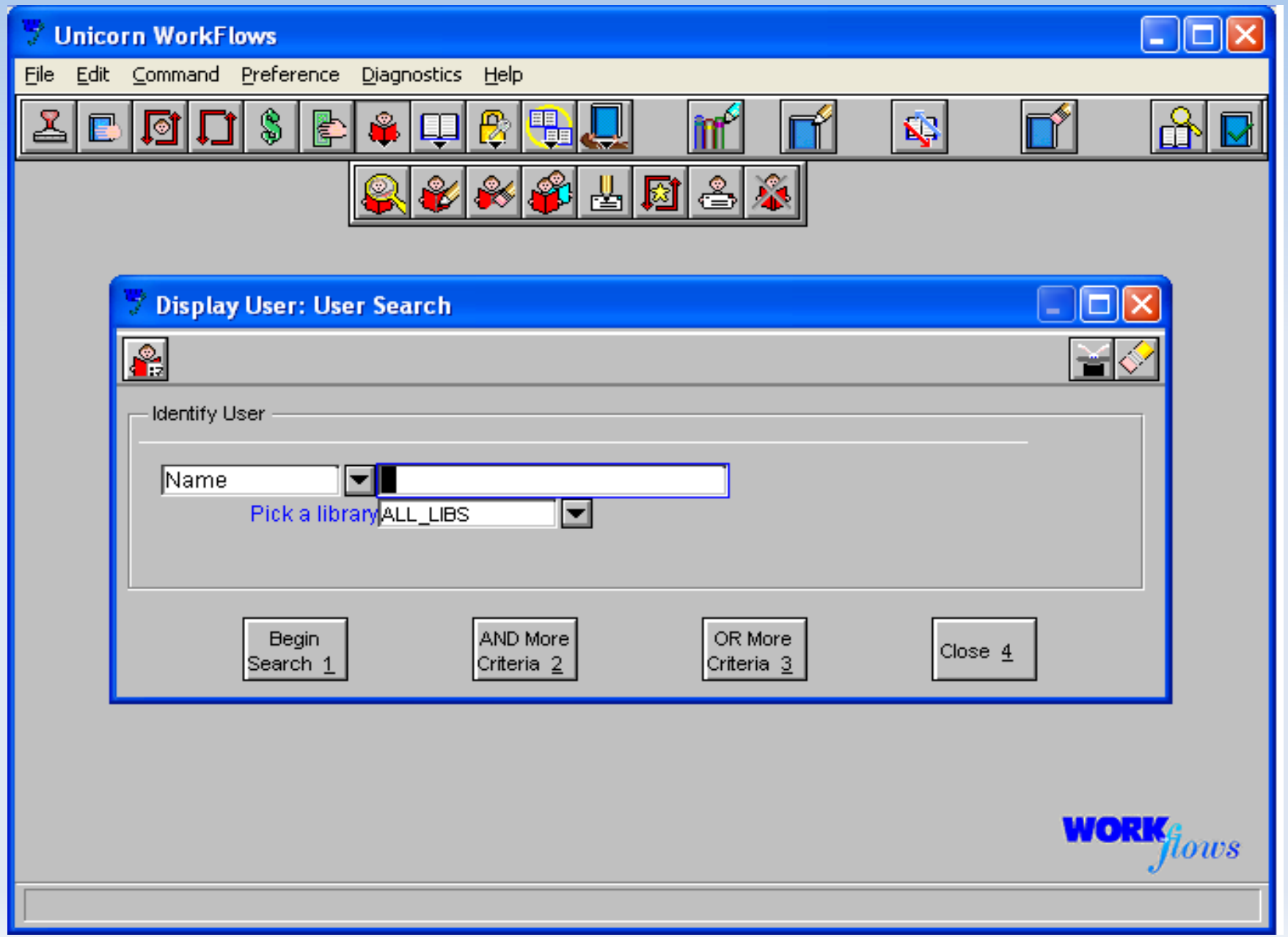
Evergreen architecture



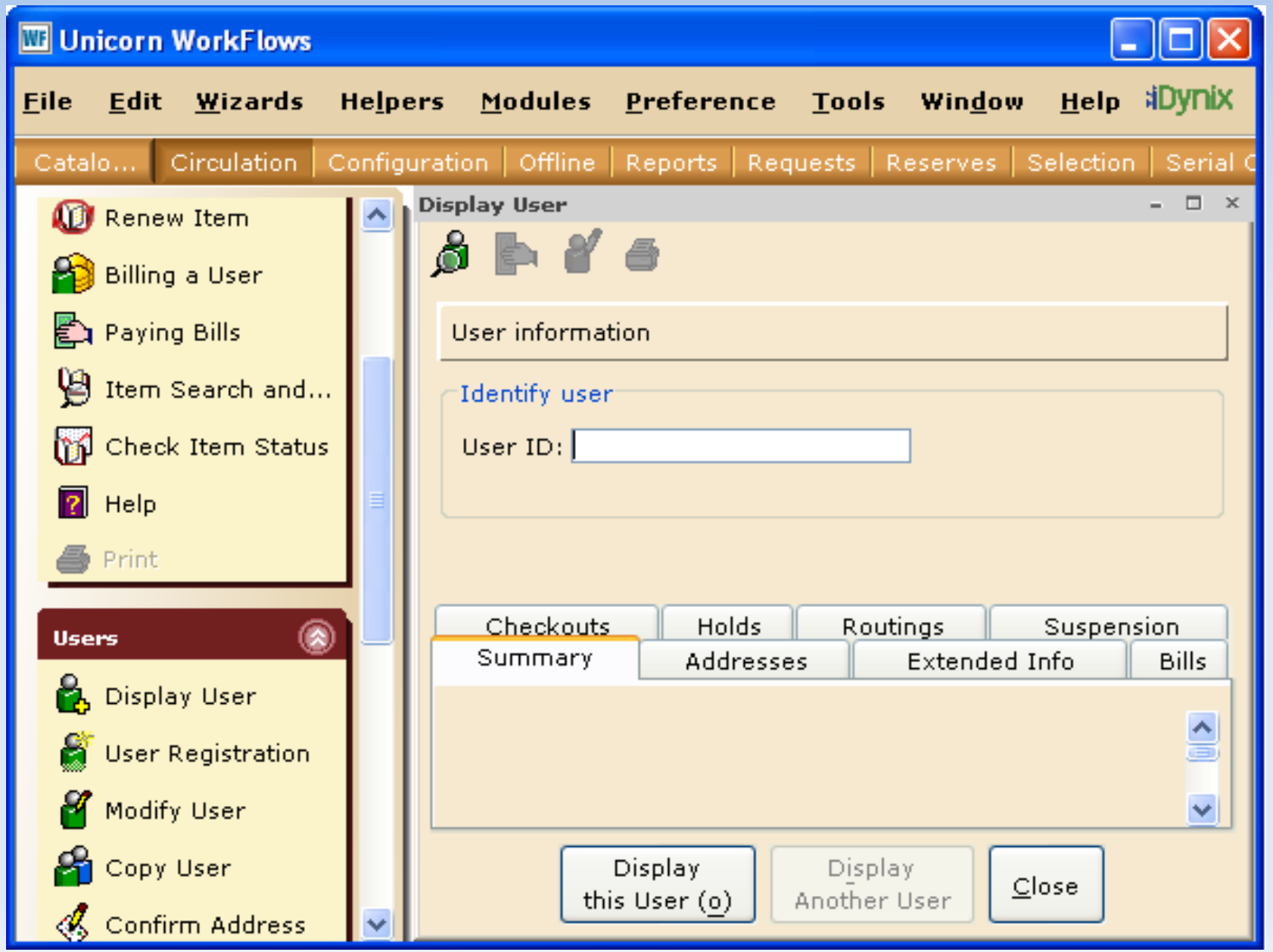
Library data stores

- The proprietary options run the gamut:
  - From non-relational databases with horrible reporting capabilities
  - To proprietary “embedded” databases with additional license required to write custom apps
- Evergreen runs on PostgreSQL
  - Uses PostgreSQL full-text search
  - Includes a powerful report builder

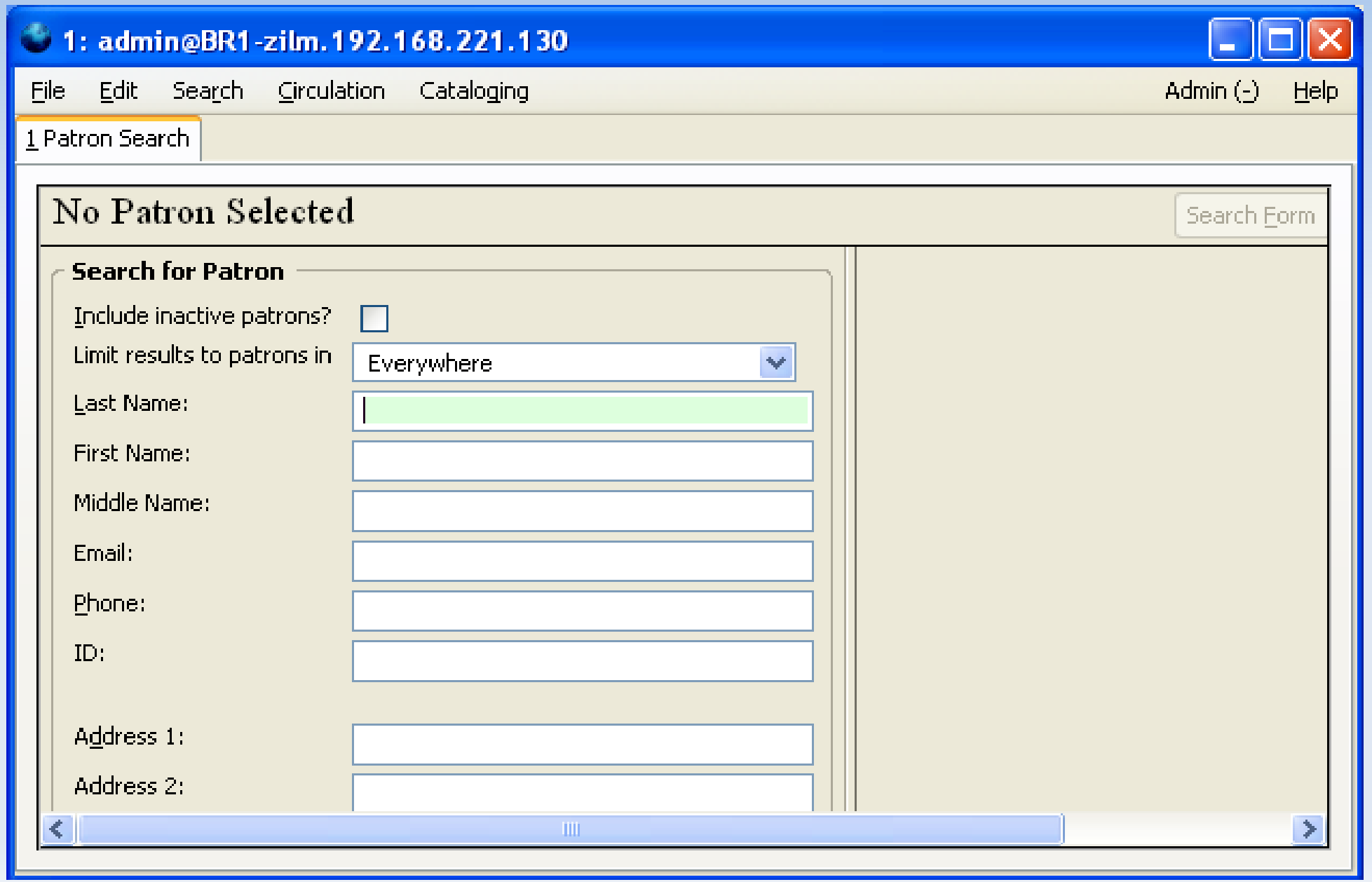
Aesthetics (staff side)



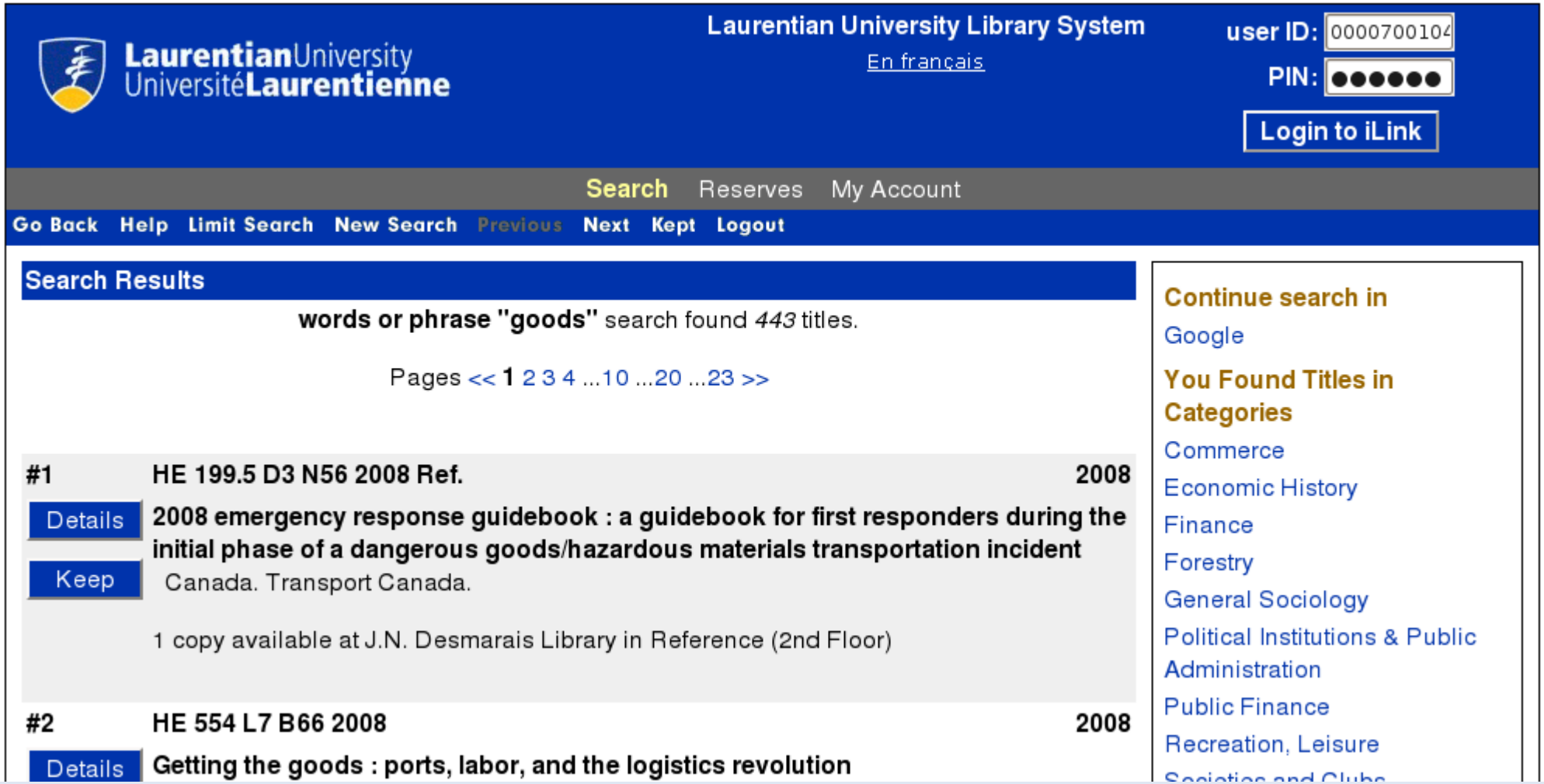
Aesthetics (staff side)



Aesthetics (staff side)



Aesthetics (public)



Laurentian University Université Laurentienne

Laurentian University Library System

En français

user ID: 0000700104

PIN: ●●●●●●

Login to iLink

Search Reserves My Account

Go Back Help Limit Search New Search Previous Next Kept Logout

Search Results

words or phrase "goods" search found *443* titles.

Pages << **1** 2 3 4 ...10 ...20 ...23 >>

#1 **HE 199.5 D3 N56 2008 Ref.** **2008**

Details

2008 emergency response guidebook : a guidebook for first responders during the initial phase of a dangerous goods/hazardous materials transportation incident

Keep

Canada. Transport Canada.

1 copy available at J.N. Desmarais Library in Reference (2nd Floor)

#2 **HE 554 L7 B66 2008** **2008**

Details

Getting the goods : ports, labor, and the logistics revolution

Continue search in

Google

You Found Titles in Categories

Commerce

Economic History

Finance

Forestry

General Sociology

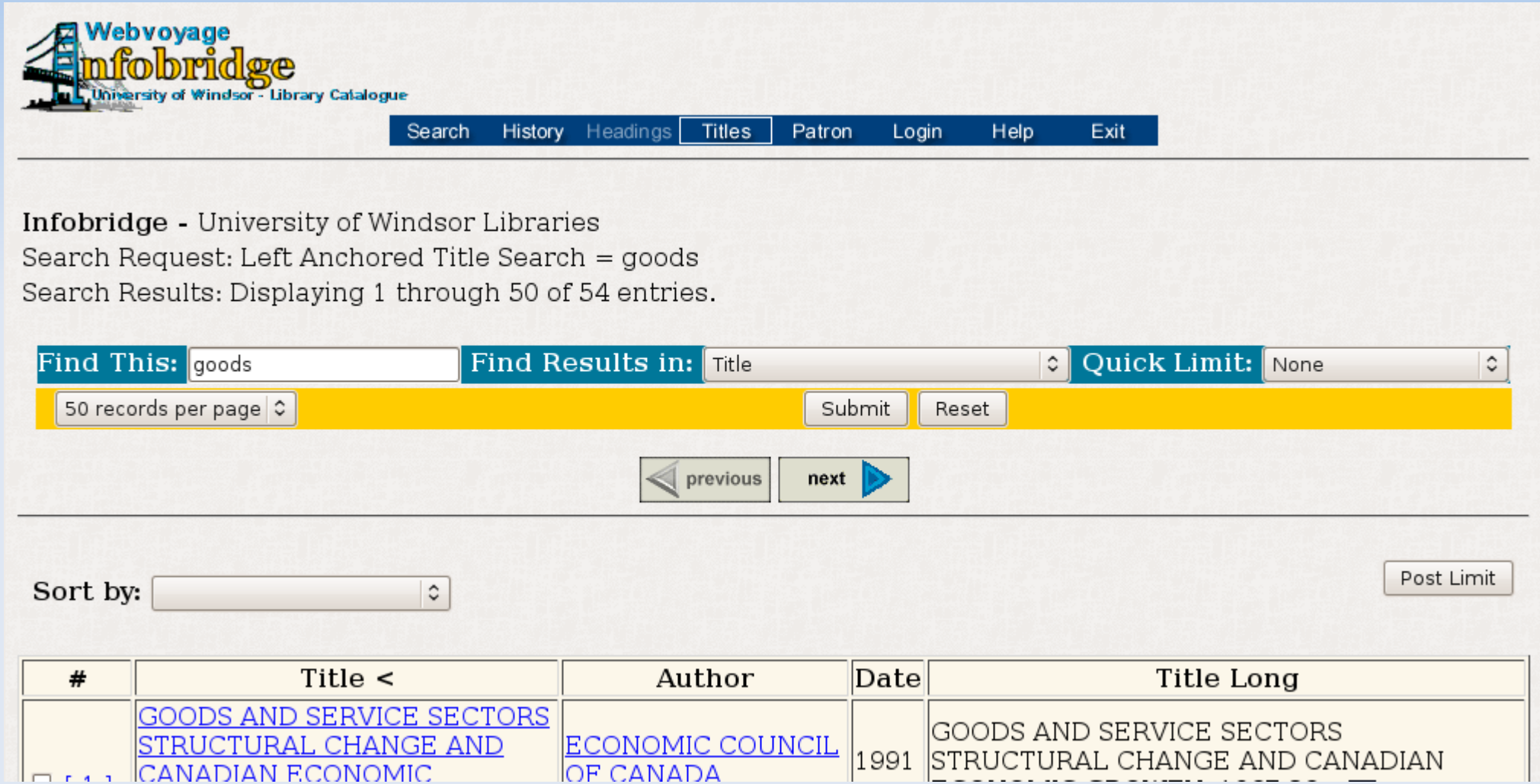
Political Institutions & Public Administration

Public Finance

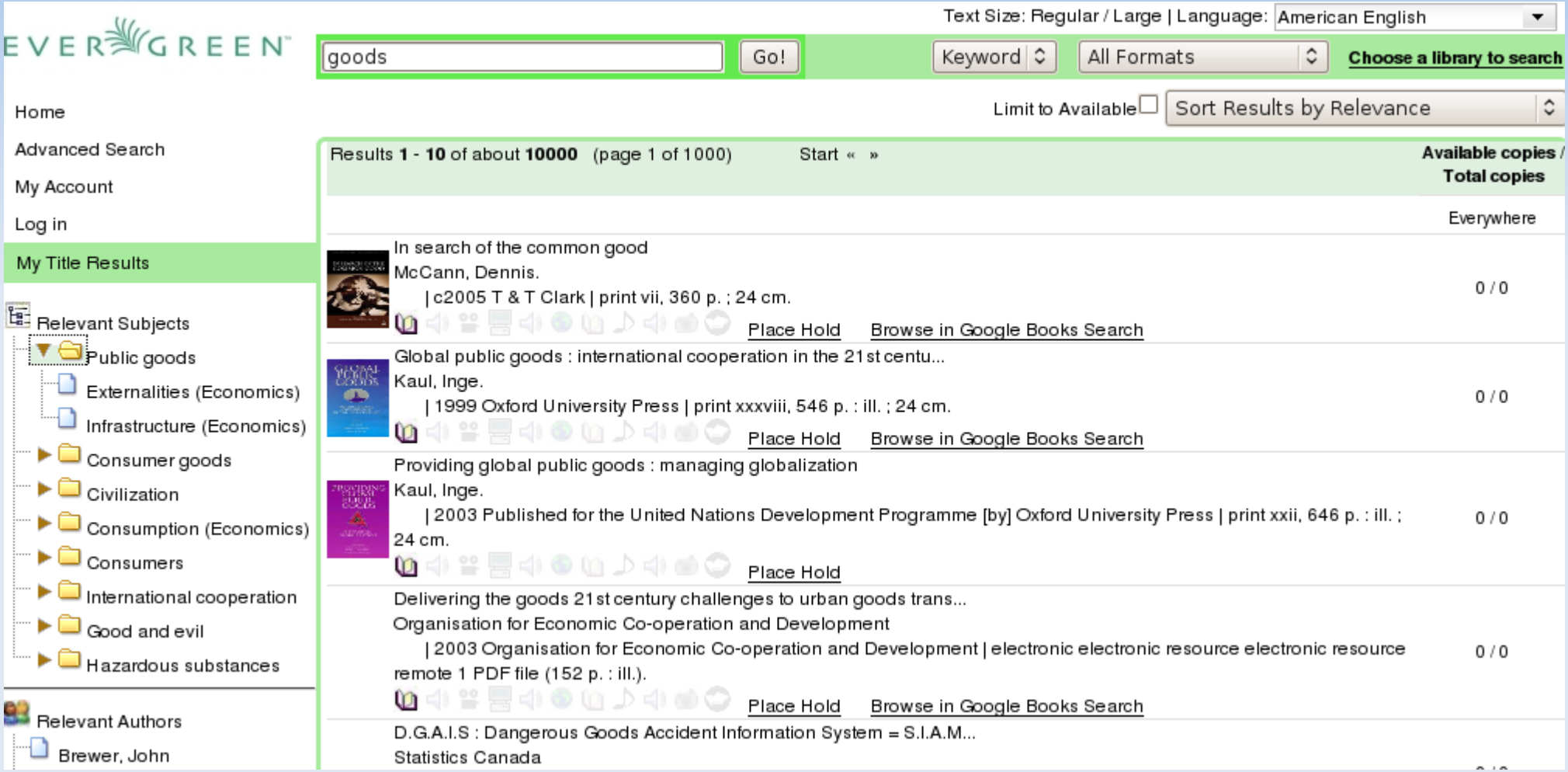
Recreation, Leisure

Societies and Clubs

Aesthetics (public)



Aesthetics (public)



Aesthetics (public)

vufind

goods | All Fields | Find | Advanced

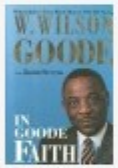
New Search | Search Within

Login

English

Showing **1** - **20** of **9586** Results for **goods**

Sort Relevance



In Goode faith
by Goode, W. Wilson
Call Number: F155.3.G66A3 1992
Located: Main Library
Available
Book

Add to favorites

NO IMAGE AVAILABLE

Religion, ethics & the common good
Call Number: BJ1249 .R464 1996
Located: Main Library
Available
Book

Add to favorites

The good doctor
by Mates, Susan Onthank 1950-
Call Number: PS3563.A83538G66 1994

Add to favorites

Narrow Search

Institution
MyInstitution (9586)

Library
Library A (9586)

Format
Book (4584)
Electronic (4568)
Microfilm (182)
Video (128)
eBook (38)
more...

Call Number
B - Philosophy, Psychology, Religion (1163)
H - Social Science (1113)
P - Language and Literature

Aesthetics (public)

UNIVERSITY of VIRGINIA LIBRARY

Login (using NetBadge)

Catalog | Music

public goods | All Fields | Search

Limit Search by...

- collection
- library
- region
- call number
- format
- source
- language
- topic form genre

Displaying items 1 - 10 of 6,765 for the search x public goods

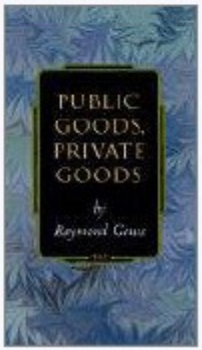
RSS

sort: Relevancy

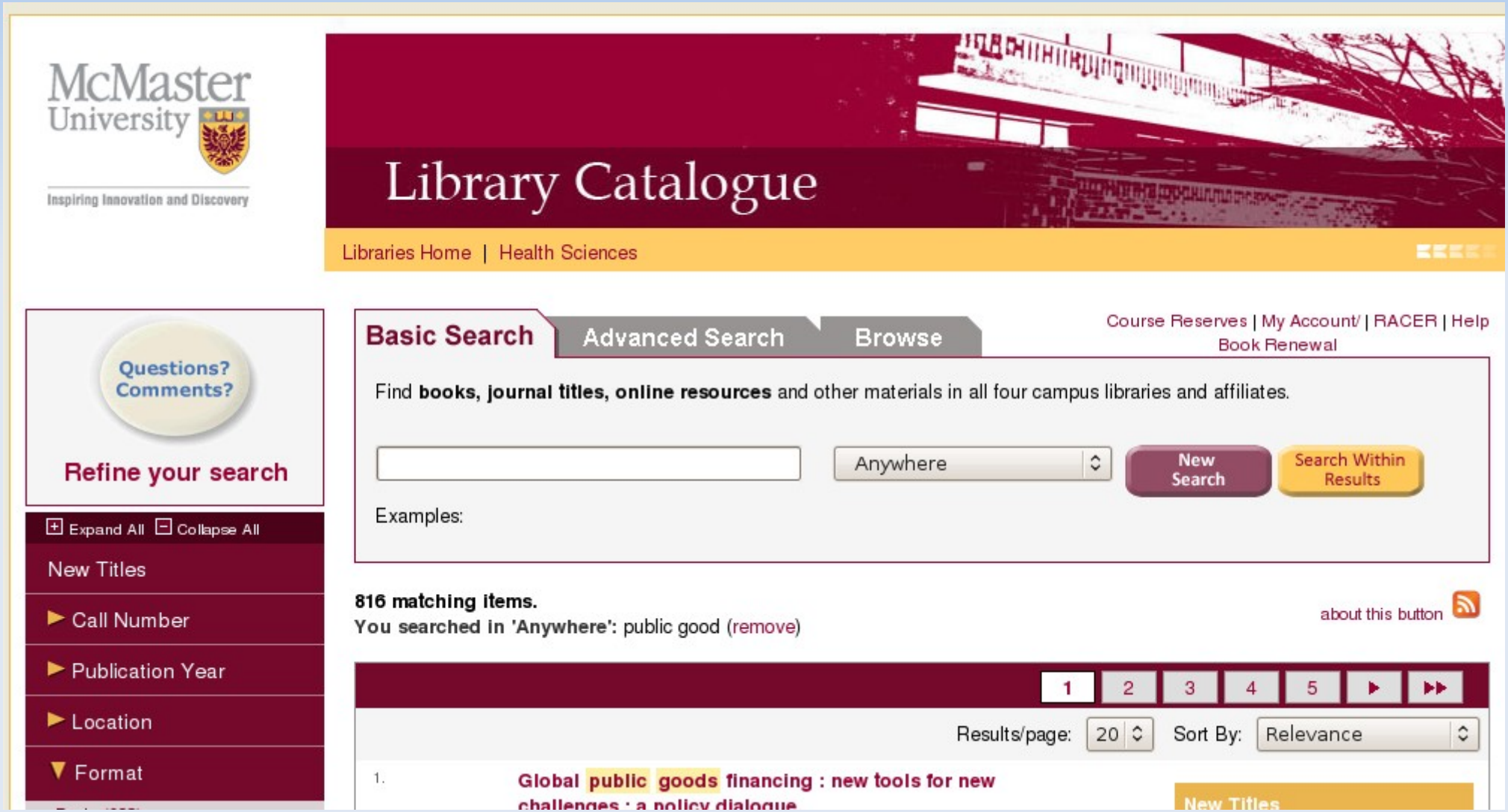
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | ... 676 | 677 | Next »

1 **Public goods, private goods** Preview

Author: Geuss, Raymond
Format Book
Call Number JC574 .G48 2001
Availability check availability



Aesthetics (public)



Aesthetics (public)

Books (809)
Online (365)
Research Collections (49)
Videos & DVDs (40)
Journals, Magazines, News... (7)
Manuscripts (4)
Audio (3)

- Subject
- Publication Type
- Language
- Geographical Region
- Subject Era
- Author

challenges : a policy dialogue

By: Allen, Mark.
Published: [New York : United Nations Development Programme, Office of Development Studies, 2002]
MILLS Gov Pubs (2nd floor) UN2.. DE..90-2002G46 Check Availability

2. **Advancing Public Goods [electronic resource].**

By: Touffut, J.-P.
Published: Northampton : Edward Elgar Publishing, 2006.
Link to online resource - Preview this e-book for 5 minutes and request extended use
e-Book Online

3. **Public goods and public welfare**

By: Head, John G.
Published: Durham, N.C. : Duke University Press, 1974.
MILLS Bookstacks HJ 192 .H4 1975 Check Availability

4. **Competition in the Provision of Local Public Goods : Single Function Jurisdictions and Individual Ch...**

By: Reifsschneider, A. Petermann.
Published: Northampton : Edward Elgar Publishing, 2006.
Link to online resource - Preview this e-book for 5 minutes and request extended use
e-Book Online

5. **Providing global public goods : managing globalization**

New Titles

Business Ethics of Innovation
Hanekamp, Gerd

Handbook of Environmental Economics : Environmental Degradation and Institutional Response...
M©aler, Karl-G©oran

Intellectuals and the Public Good : Creativity and Civil Courage
Misztal, Barbara A.

Structure and Agency in the Neoliberal University
Canaan, Joyce E.

Handbook of Development Economics
Schultz, T. Paul

Cruel and unusual requirements

- Proprietary systems' have a weird fondness for proprietary hardware
  - One major product boldly stepped forward to support Linux (RHEL) in 2006, another in 2008
  - Incredibly expensive for a test environment
- Linux and commodity x86-64 hardware help make Evergreen scalable
  - Example: $8K for 16 GB RAM, 8 CPU cores, 6 disk RAID arrays running Debian or Ubuntu

Support

- Many proprietary library system vendors offer indifferent or non-existent support
  - Best support often comes from other users via (usually closed) mailing lists
  - Monolithic service packs
- Commercial support is available for Evergreen
  - Open mailing lists
  - Ability to pick and choose fixes and features

So, obviously, FOSS!

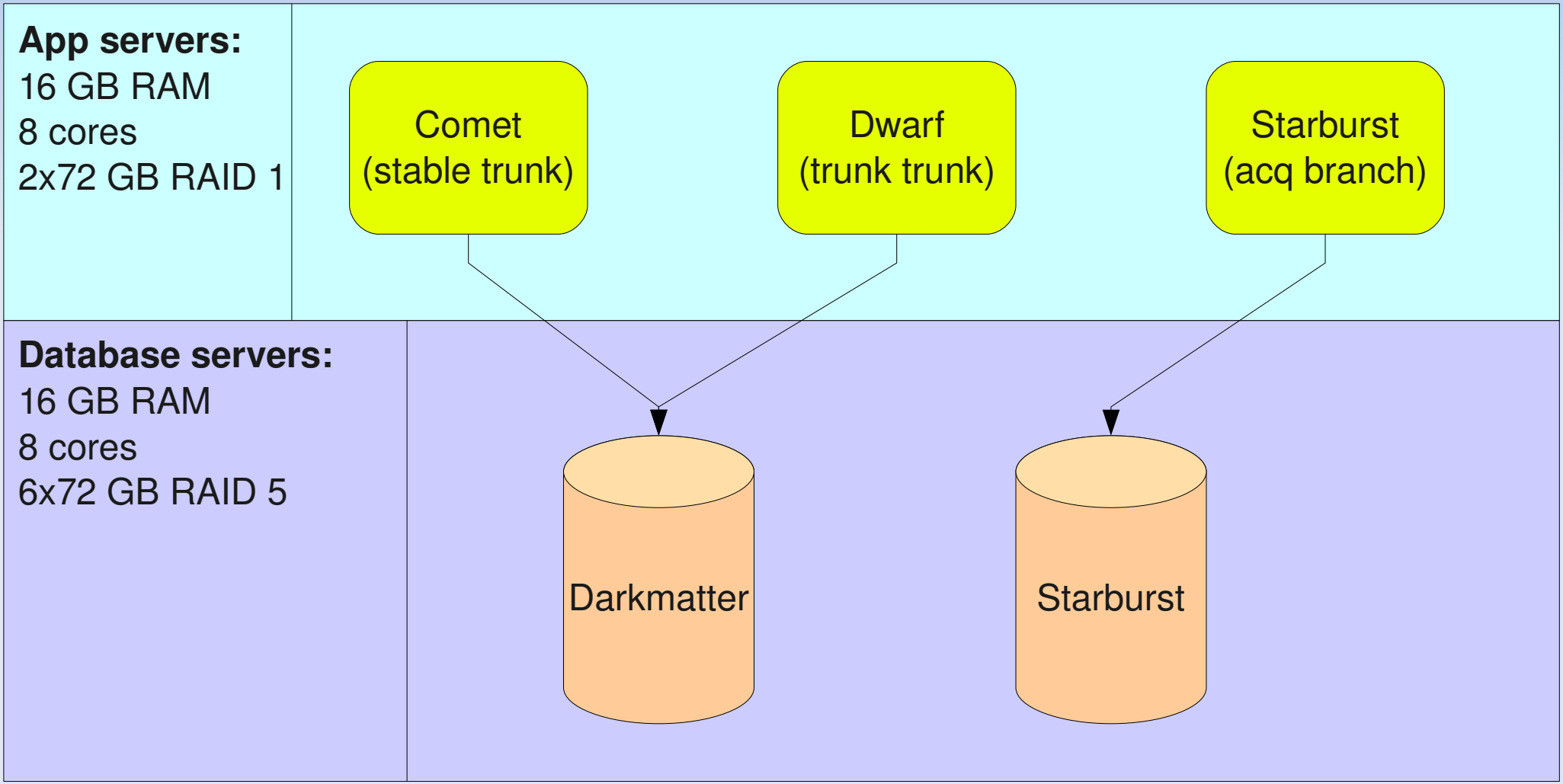
- Started investigating Evergreen as a serious option in Fall 2006
  - Project Conifer launched in Summer 2007
  - Published Evergreen Business Readiness Ratings and evaluation of multilingual support in Fall 2007
  - dbs added as a core Evergreen developer Fall 2007
  - First “internationalization” release Fall 2008


CC-BY

It's not just about books...

- A platform for library application development
  - Example: course reading lists and reserves – integration with course management software (Sakai, Moodle, Blackboard, WebCT)
- Managing and making massive amounts of digital content usable
- Consolidating our collective efforts
  - Develop a process to do one thing the right way once that serves all consortial partners

Pilot hardware



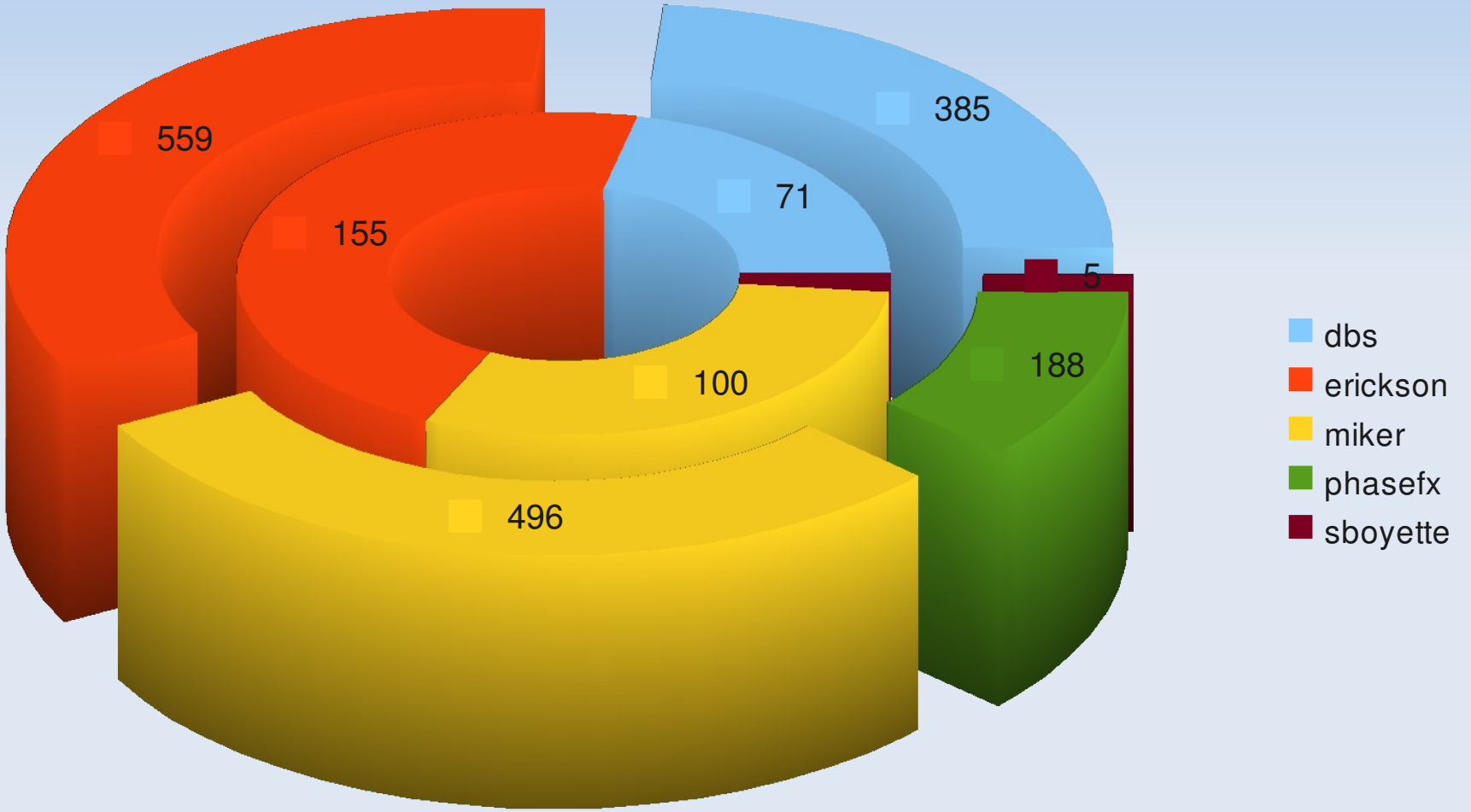
Projected costs to go live

Co-op tech writer	$12,000.00
Travel	$10,000.00
Servers	$60,000.00
Migration	***Redacted***
De-duping	***Redacted***
1st year support	***Redacted***
Training	***Redacted***
Total	$199,000.00 (+ services)

Funding models

- Various pots of existing funds for development
  - Charge back for Art Rhyno's Knowledge Ontario service
  - Existing ILS and hardware budgets
  - “Percentage” model for existing employees
- Tried for some external funding but came away disappointed
- Cost-sharing for support & migration TBD

Are we making a difference?



# of commits to Evergreen (outer ring) and OpenSRF repositories since September 2007

Challenges

- Resources and skills
  - Conifer can hire if you have skills and time
    - Developers, testers, doc writers, UCD specialists...
  - Building mutual support skills in community
  - One commercial support company
  - Evolving software engineering processes
- Time frames and legacy vendor licenses
  - Evergreen 2.0 in early 2009, go-live in May 2009
- Cost-sharing metrics: FTE vs. hospital beds

Whither Conifer?

- We've been fielding requests from institutions that want to join Conifer since shortly after the project launched
  - Colleges, hospitals, and other universities
  - Scale of economy – once we reach a critical mass, we will be able to justify supporting ourselves
  - Public libraries? School libraries?
  - Knowledge Ontario?

Other FOSS library systems

- Koha
  - Launched in 2000, now hundreds of adopters world wide
  - ca. 2006 / 2007, Koha 2.x was still trying to support MySQL 5 and was hitting MySQL 4 scalability limits
  - Koha 3.0, released in 2008, rearchitected around MySQL limitations with a decoupled search layer
  - Solid commercial support options

Other FOSS library systems

- NewGenLib:
  - Formerly proprietary system developed in India, released under GPL in early 2008
  - Impressive feature support
  - Written in Java
  - Still finding a community

More information

- http://evergreen-ils.org (community site)
- http://conifer.mcmaster.ca (Drupal in the raw)
- http://coffeecode.net (my blog - now with less online poker content!)