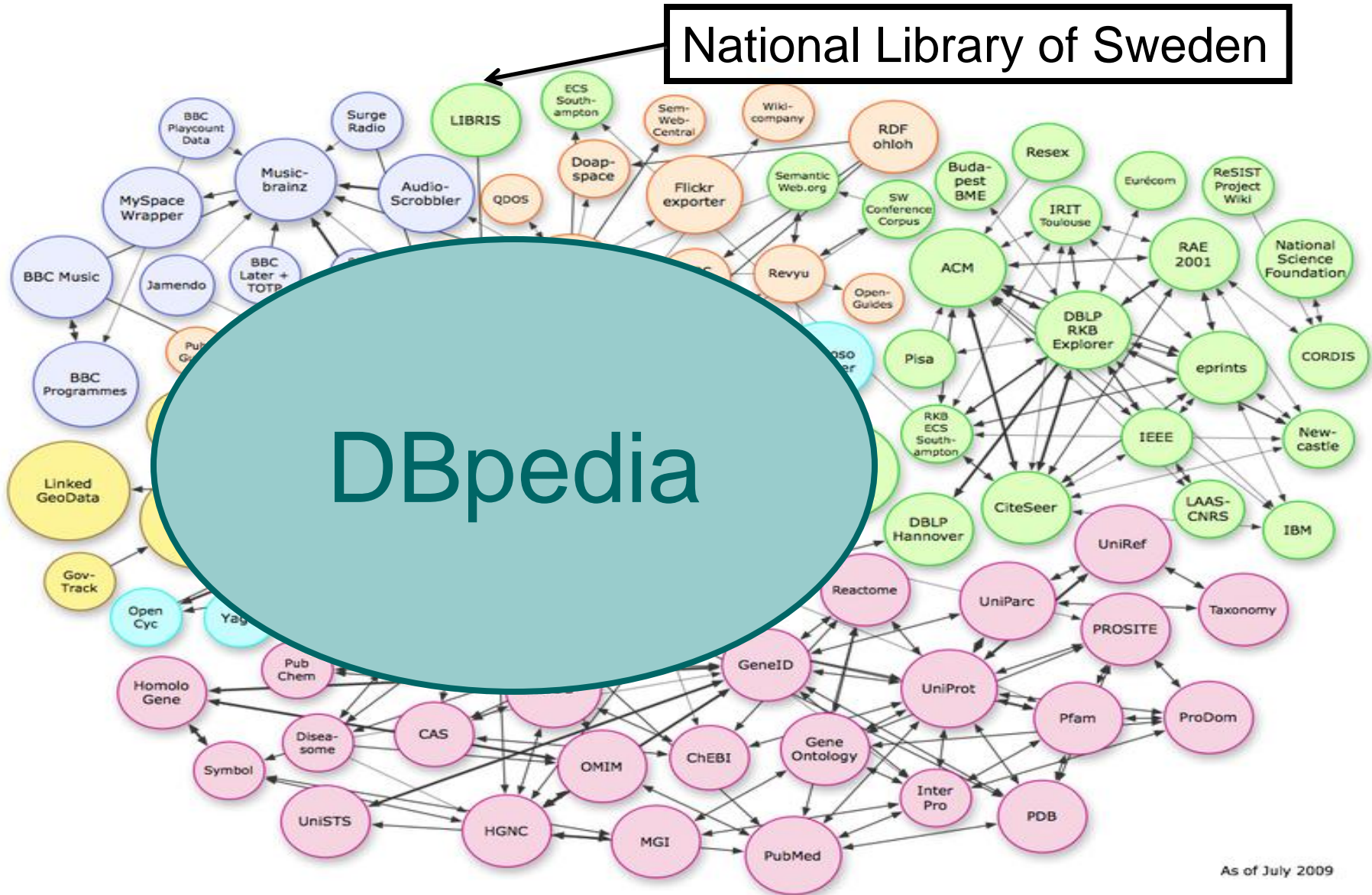




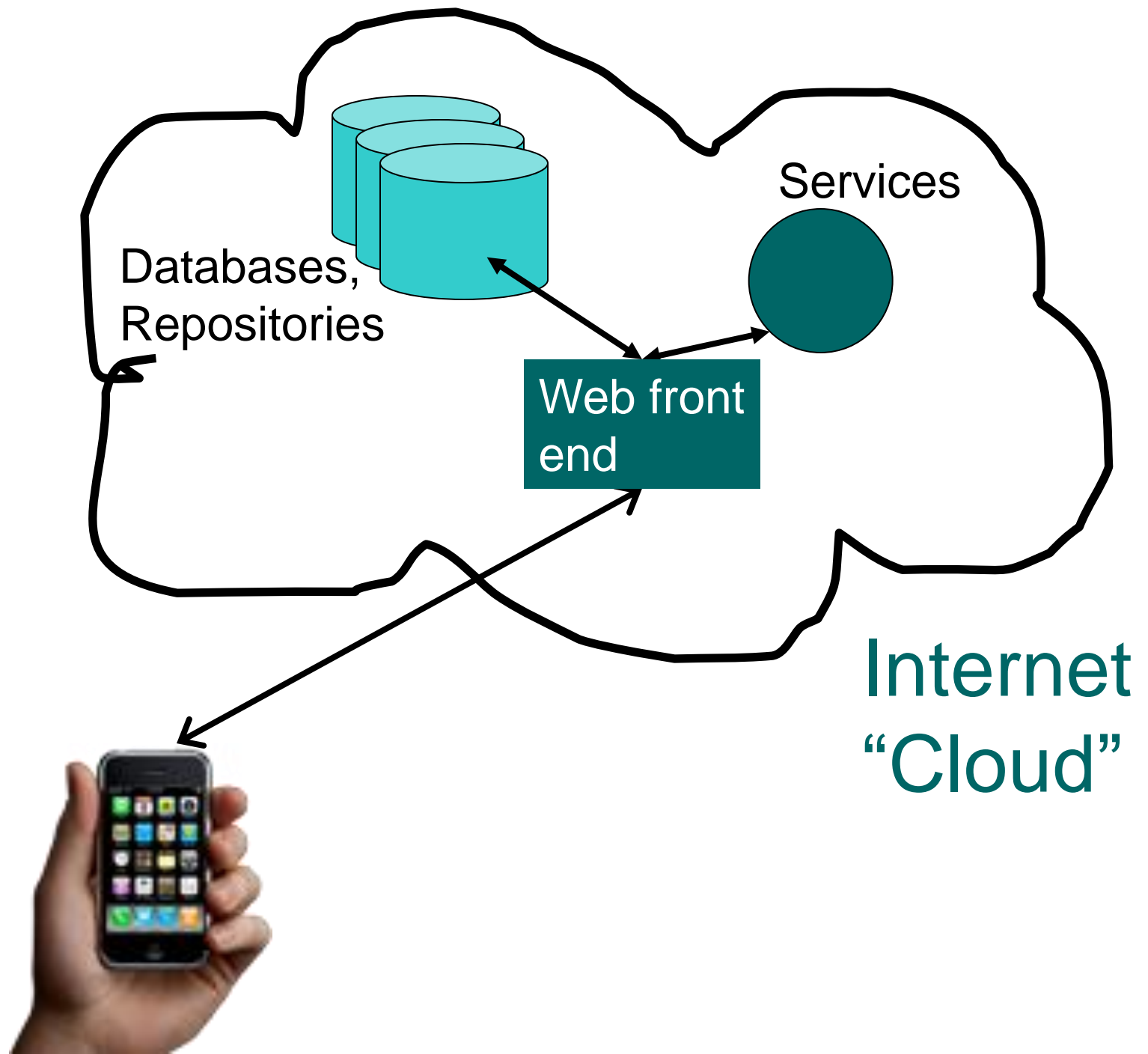
# Building Blocks for the Future: Making Controlled Vocabularies Available for the Semantic Web

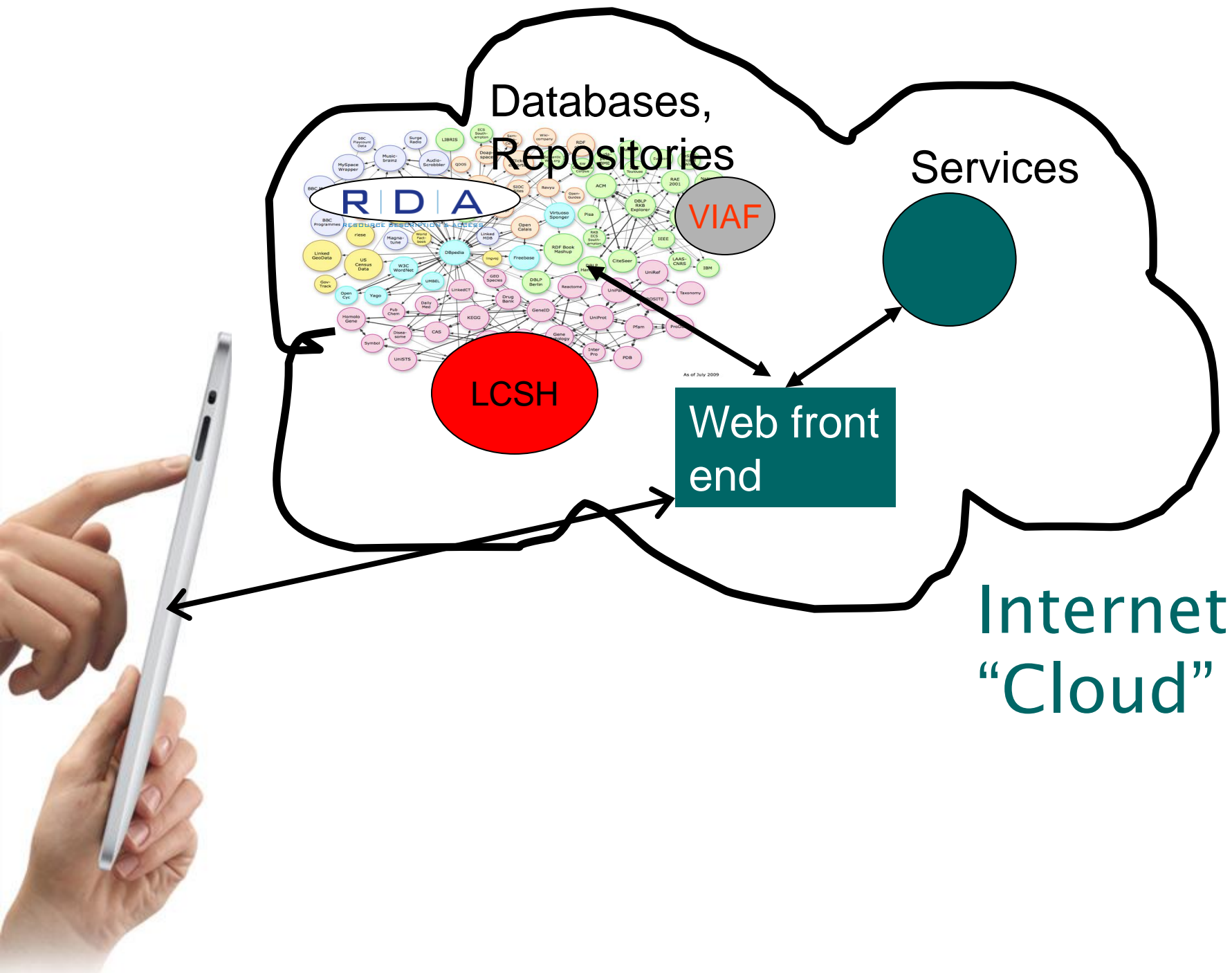
Dr. Barbara B. Tillett  
Chief, Policy & Standards Division  
Library of Congress  
For NETSL April 15, 2010

# Linked Data



As of July 2009





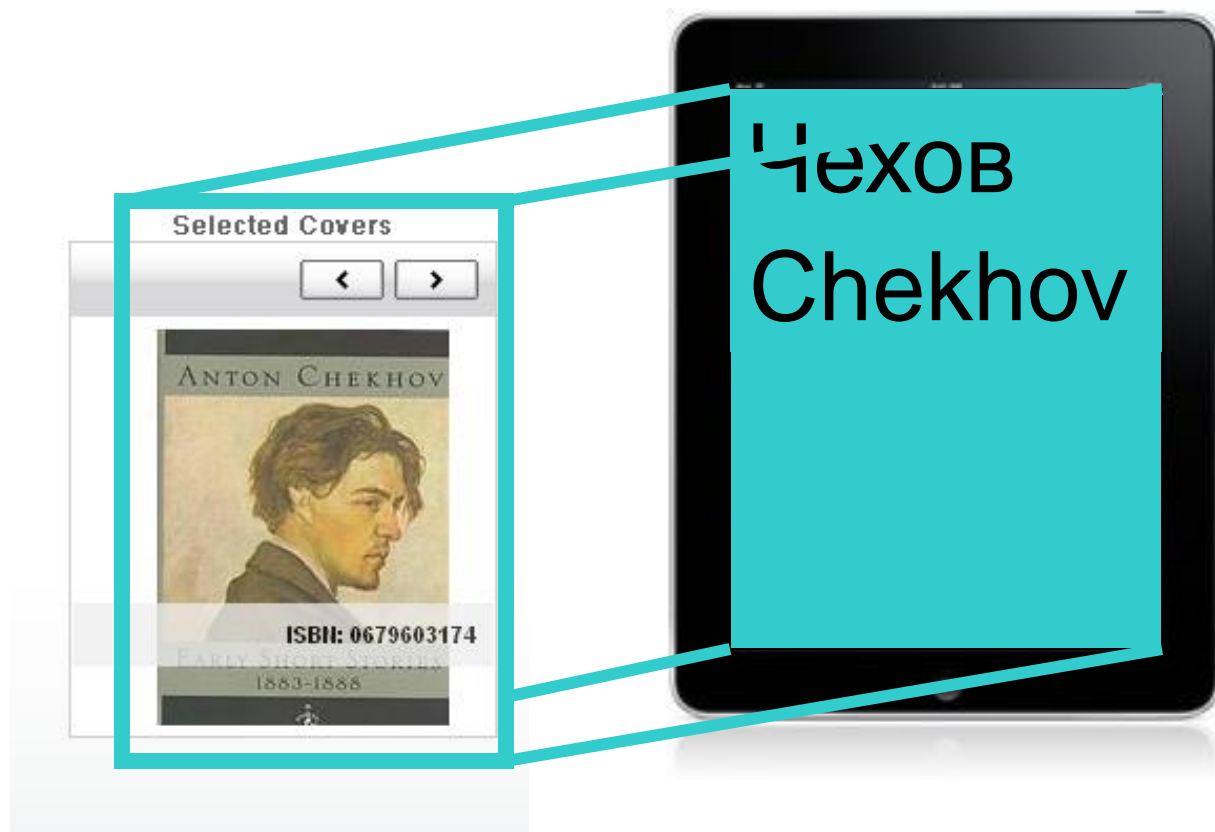


# VIAF Objectives

---

- Facilitate sharing of authority data
- Reduce cataloging costs
- Simplify authority control (creation and maintenance) internationally
- Provide authority data in form, language, and script users want

# VIAF





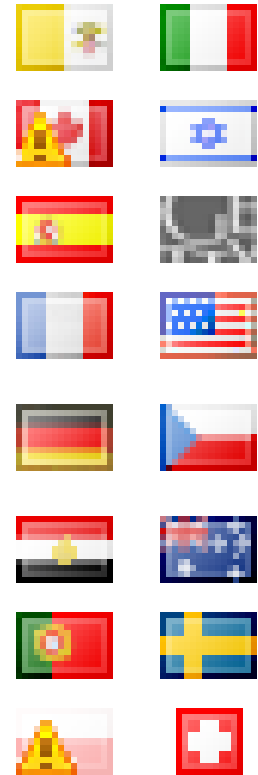
# VIAF: The Virtual International Authority File

## Original VIAF partners

- Library of Congress (LC)
- Deutsche Nationalbibliothek (DNB)
- Bibliothèque nationale de France (BnF)
- OCLC – host
- Virtually combining the name authority files of all institutions into a single name authority service.
- <http://viaf.org/>

# Virtual International Authority File

- Matches names across 20 authority files of 16 institutions
  - 13 million name records
  - 10 million personas
  - 4.5 million clusters







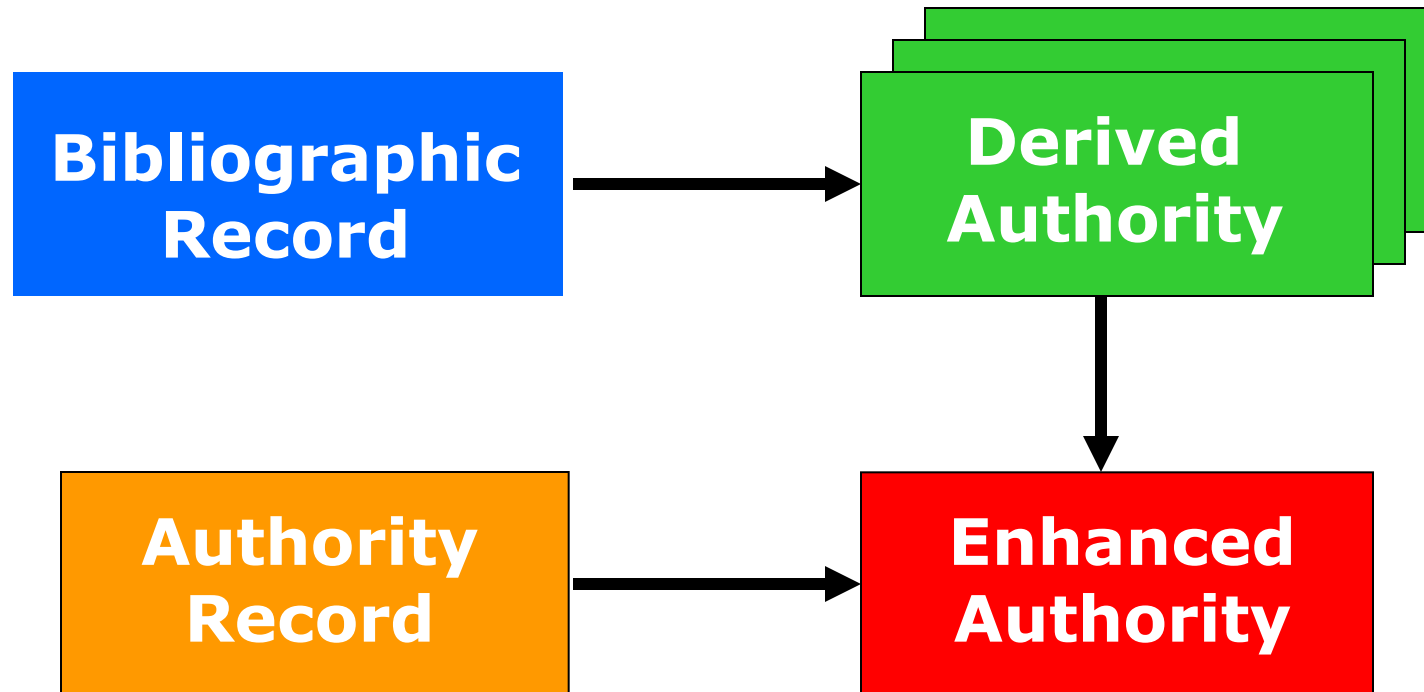
# Current Status

---

- Available as linked data with URIs
- Unicode throughout
- UNIMARC and MARC 21 supported
- Preliminary work on geographic names

# Enhancing the Authorities

---



# Mining the Bibliographic Record

LDR 00826ccm 2200289 a 4500  
1 ocm10025532  
5 20031229650847.0  
8 840627s1982 nyuuua n eng Language  
10 \$a 84758340 LC Control Number  
40 \$a DLC \$c DLC  
19 \$a 17706440  
20 \$c \$2.95  
28 22 \$a 48418 \$b G. Schirmer LC Classification  
45 2 \$b d198006 \$b d198007 Usage  
48 \$b va01 \$b ve01 \$a ka01 Title  
50 00 \$a M1529.3 \$b .T Place of Publication  
100 1 \$a Thomson, Virgil, \$d 1895-  
245 14 \$a The cat. \$b duet for soprano and baritone / \$c  
Virgil Thomson [words by Jack Larson]  
260 \$a New York : \$b G. Schirmer, \$c c1982 Material Type  
300 \$a 1 score (11 p.) ; \$c 31 cm. Authors  
500 \$a For soprano, baritone, and piano. Date  
650 0 \$a Vocal duets with piano. Publication  
600 10 \$a Larson, Jack \$x Musical settings.  
700 1 \$a Larson, Jack.

# Derived Authority Record

---

00525nz 2200229n 4500

0 1 xlc 1

1 3 OCoLC

2 5 20040721111415.0

3 8 040721nneanz||abbn n and d

4 40 \$a OCoLC \$b eng \$c OCoLC \$f viaf

5 100 1 \$a Larson, Jack.

6 903 \$a 84758340

7 910 14 \$a the cat \$b duet for soprano and baritone

8 921 \$a g schirmer

9 922 \$a nyu

10 930 \$a jack larson

11 940 \$a eng

12 942 \$a 234

13 943 \$a 198x

14 944 \$a cm

15 950 1 \$a thomson, virgil \$d 1896

All text is normalized

Subjects are grouped into  
broad subject areas

# Enhanced Authority Record

---

```
00824nz      2200301n  4500
0    1 oca01144962
1    5 19840809154202.7
2    8 840702n| acannaab|          |n aaa |||
3   10      $a n 84044261
4   40      $a DLC $c DLC $d DLC
5  100 1    $a Larson, Jack.
6  670      $a Thomson, V. The cat, c1982: $b t.p. (Jack Larson)
7  903      $a 84758340 $9 1
8  903      $a 93710923 $9 1
9  910 11   $a the cat $b duet for soprano and baritone $9 1
10 910 11   $a sun like $b on a poem by jack larsen $9 1
11 921      $a g schirmer $9 1
12 921      $a belwin mills publ corp $9 2
13 922      $a nyu $9 2
14 930      $a jack larsen $9 1
15 940      $a eng $9 2
16 942      $a 234 $9 2
17 943      $a 198x $9 1
18 943      $a 197x $9 1
19 944      $a cm $9 2
20 950 11   $a thomson, virgil $d 1896 $9 1
21 950 11   $a samuel, gerhard $9 1
```

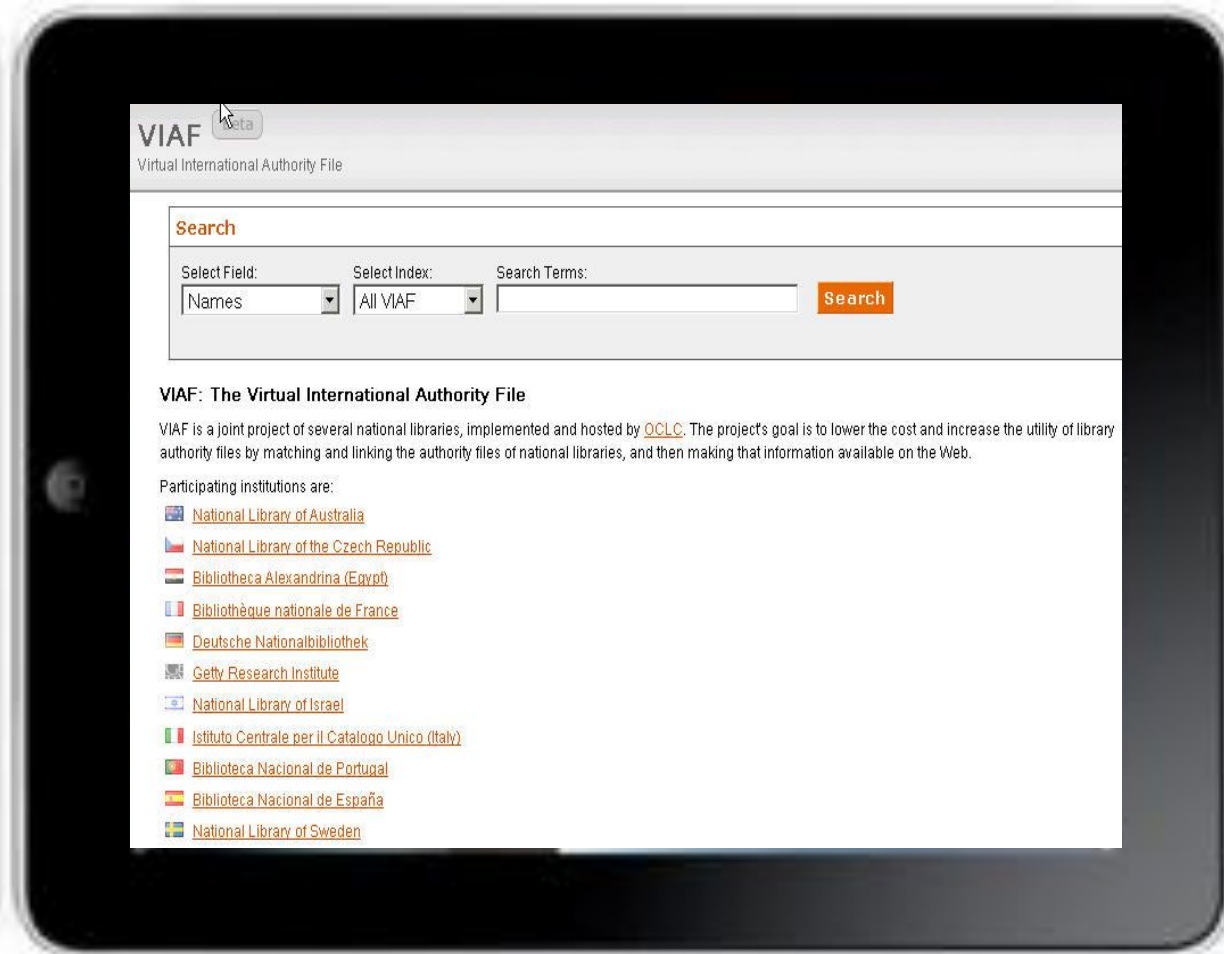


# Information in Bibliographic Records

---

- He writes poems, with 2 poems set to music
- His primary subject area is music
- He was published in the 80s and 90s by G. Schirmer and Belwin Mills in New York
- Worked with Virgil Thomson and Gerhard Samuel
- Jack Larson is the only name he has used on his publications
- Etc.

# viaf.org



As viewed April 2010

## Search

Select Field:

Names

Select Index:

All VIAF

Search Terms:

Search

## VIAF: The Virtual International Authority File

VIAF is a joint project of several national libraries, implemented and hosted by [OCLC](#). The project's goal is to lower the cost and increase the utility of library authority files by matching and linking the authority files of national libraries, and then making that information available on the Web.

Participating institutions are:

-  [National Library of Australia](#)
-  [National Library of the Czech Republic](#)
-  [Bibliotheca Alexandrina \(Egypt\)](#)
-  [Bibliothèque nationale de France](#)
-  [Deutsche Nationalbibliothek](#)
-  [Getty Research Institute](#)
-  [National Library of Israel](#)
-  [Istituto Centrale per il Catalogo Unico \(Italy\)](#)
-  [Biblioteca Nacional de Portugal](#)
-  [Biblioteca Nacional de España](#)
-  [National Library of Sweden](#)
-  [Swiss National Library](#)
-  [Library of Congress/NACO](#)
-  [Vatican Library](#)



# One persona, many representations ...

VIAF ID:95216565

## Selected Covers



Chekhov, Anton Pavlovich, 1860-1904 🇷🇺 🇮🇸 🇺🇸

Čechov, Anton P. 1860-1904 🇨🇪

Čehov, Anton Pavlovič (1860-1904). 🇮🇸 🇪🇸 🇫🇷

Čechov, Anton Pavlovič, 1860-1904 🇨🇪 🇸🇪

Chejov, Anton Pavlovich 1860-1904 🇪🇸

1860-1904, צ'כוב, אנטון פבלוביץ', 🇮🇸

Čechov, Anton Pavlovič 🇮🇸

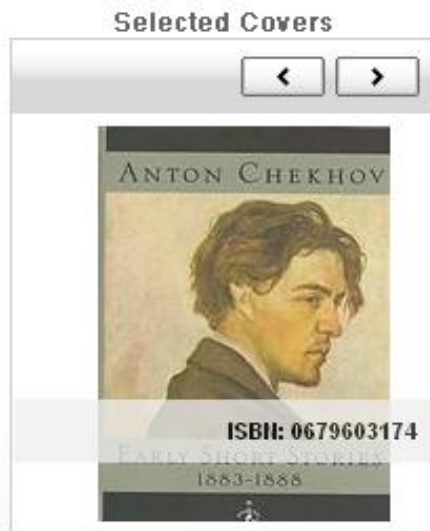
ЧЕХОВ, АНТОН ПАВЛОВИЧ, 1860-1904 🇮🇸

Tchekhoff, Anton, 1860-1904 🇵🇹

تشيكوف, انطون, 1904-1860 م 🇸🇦

<http://viaf.org/viaf/95216565>

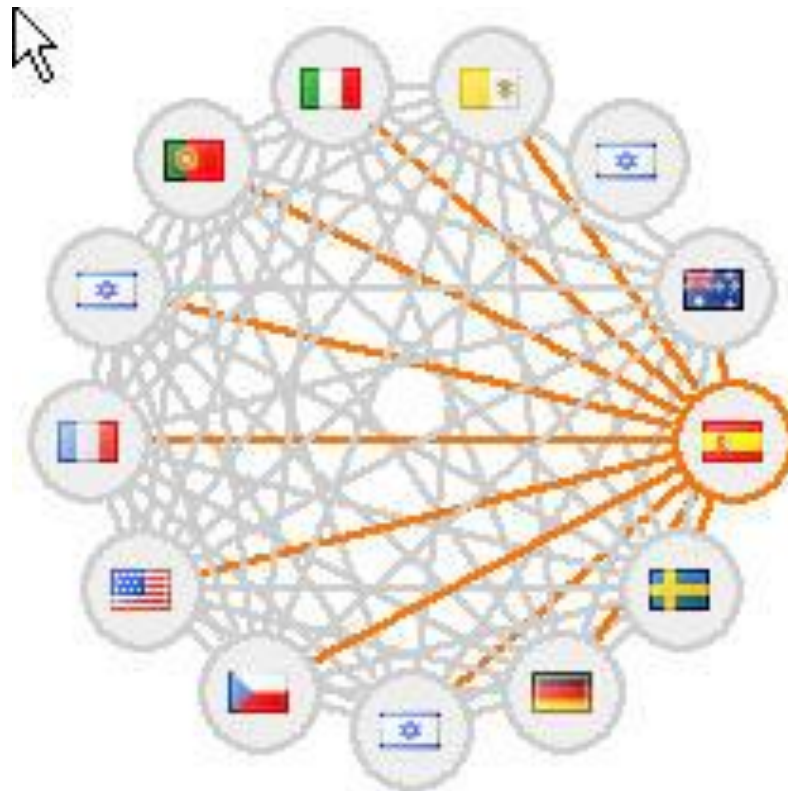
# ... with lots of alternate forms for Chekhov's name



Some of the over 200+ alternate forms

‡a 契诃夫, ‡d 1860-1904 🇺🇸  
‡a 契诃夫, ‡d 1860-1904 🇺🇸  
‡a تشيخوف, انطون, ‡d 1860-1904 م 🇸🇪  
‡a تشيخوف, انطون بافلوفيتش, ‡d 1860-1904 م 🇸🇪  
‡a تشيخوف, انطون, ‡d 1860-1904 م 🇸🇪  
‡a تشيكوف, انطون بافلوفيتش, ‡d 1860-1904 م 🇸🇪  
‡a تشيكوف, انطون, ‡d 1860-1904 م 🇸🇪  
‡a تشيكوف, انطون بافلوفيتش, ‡d 1860-1904 م 🇸🇪  
‡a چخوف, انتن پفلوفچ, ‡d 1860-1904 🇺🇸  
‡a 契珂夫, ‡d 1860-1904 🇺🇸  
‡a Cechov, Antòn ‡d 1860-1904 🇪🇸  
‡a Chejov, A. P. ‡d 1860-1904 🇪🇸  
‡a Chejov, Anton P. ‡d 1860-1904 🇪🇸  
‡a Chejov, Anton ‡d 1860-1904 🇪🇸  
‡a Chejov, Antón Paulovich ‡d 1860-1904 🇪🇸  
‡a Chejov ‡d 1860-1904 🇪🇸  
‡a Chekhov, Anton Pavlovich ‡d 1860-1904 🇪🇸  
‡a Tchekhov, Anton ‡d 1860-1904 🇪🇸  
‡a Txèkhov, Anton ‡d 1860-1904 🇪🇸  
‡a Txékhov, Anton P. ‡d 1860-1904 🇪🇸

# Chekhov





## Countries of Publication (95)

# Chekhov

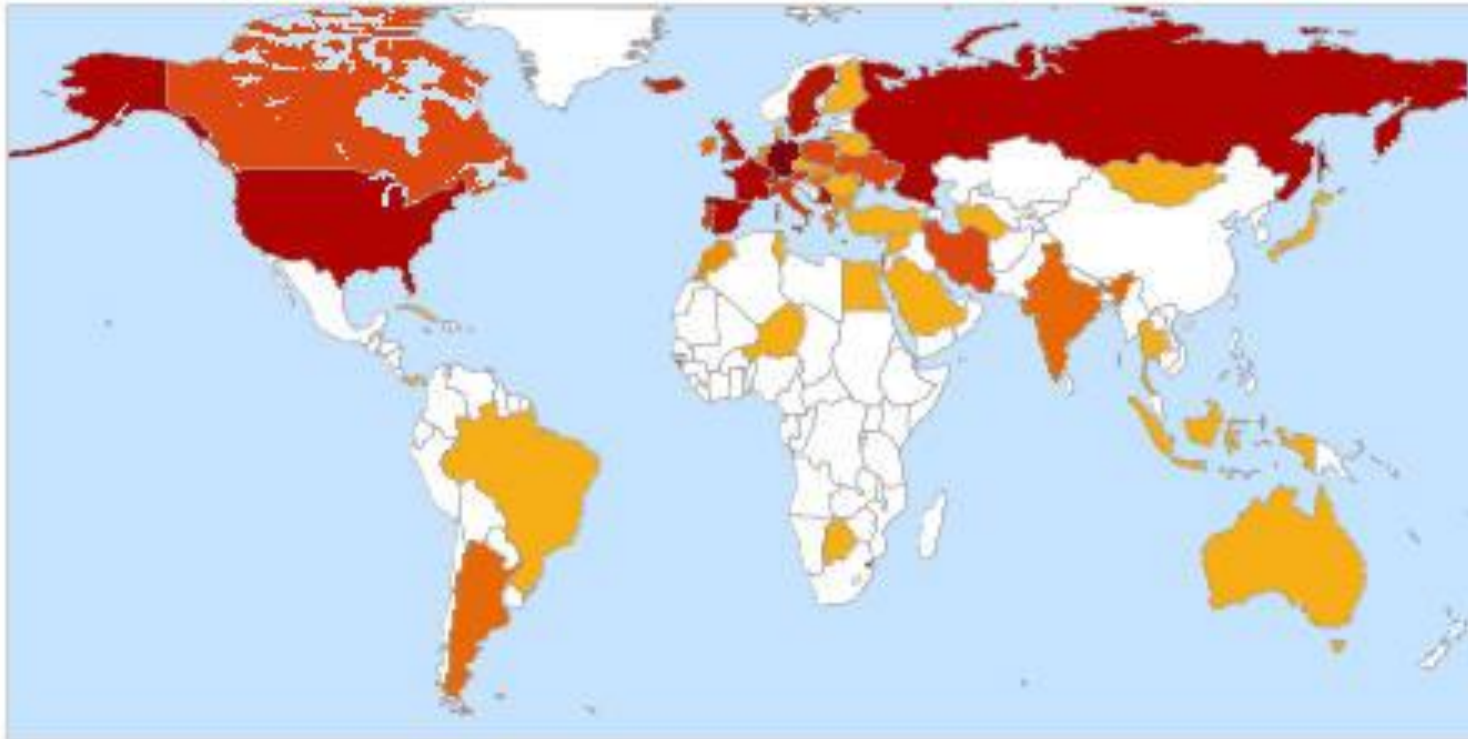
View the Countries List below for more details.

Map View:

World

Europe

Asia



Low  High

[View Countries List](#)

### Publication History






### Identifiers


- 1,073 unique ISBN's

## Personal Information

Gender: Male

Nationality:

RU - Russian Federation   

SU - Soviet Union 

Language:

rus - Russian 

## External Links

[Wikipedia \(test\)](#)

[WorldCat Identities](#)



# MARC 21

Chekhov

<u>400</u>	1	‡aצ'כוב, א. פ. ‡5 LC
<u>400</u>	1	‡aצ'כוב, א. פ. ‡d1860-1904 ‡5 LC
<u>400</u>	1	‡aצ'כוב, אנטון ‡5 LC
<u>400</u>	1	‡aצ'כוב, אנטון ‡5 LC
<u>400</u>	1	‡aצ'כוב, אנטון פ. ‡5 LC
<u>400</u>	1	‡aצ'כוב, אנטון פולוביץ' ‡5 LC
<u>400</u>	1	‡aצ'כוב, אנטון פולוביץ', ‡d19041960- ‡5 LC
<u>400</u>	1	‡aצ'כוב, א. פ. ‡5 LC
<u>400</u>	1	‡aצ'כוב, אנטון ‡d1860-1904 ‡5 EGAXA
<u>400</u>	1	‡aצ'כוב, אנטון פולוביץ', ‡d1860-1904 ‡5 EGAXA
<u>400</u>	1	‡aצ'כוב, אנטון ‡d1860-1904 ‡5 EGAXA
<u>400</u>	1	‡aצ'כוב, אנטון פולוביץ', ‡d1860-1904 ‡5 EGAXA
<u>400</u>	1	‡aצ'כוב, אנטון ‡d1860-1904 ‡5 EGAXA
<u>400</u>	1	‡aצ'כוב, אנטון פולוביץ', ‡d1860-1904 ‡5 EGAXA
<u>400</u>	1	‡aצ'כוב, אנטון ‡d1860-1904 ‡5 LC
<u>400</u>	1	‡a契诃夫 ‡d1860-1904 ‡5 LC
<u>400</u>	1 0	‡aCechov, Antòn ‡d1860-1904 ‡5 BNE



# VIAF and Catalogers

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Use as a reference tool:

- To resolve conflicts, questionable dates, forms of name, etc.

Cite as source in 670 \$a, for example:

- BNF in VIAF, date searched
- BNE in VIAF, date searched
- Nat. Lib. of Australia in VIAF, date searched
- LAC in VIAF, date searched





# Next steps for VIAF

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- Better searching
- More “Linked data”
  - Related persons as in WorldCat Identities, Wikipedia, etc.
- Participants beyond libraries
  - Rights management agencies, Publishers
  - Museums, Archives
- More name types
  - Corporate and Family names
  - Uniform titles
  - Geographic names
  - ... not topical terms



---

**<http://www.viaf.org>**



# SKOS

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- Simple Knowledge Organization System
- “Provides a model for expressing the basic structure and content of concept schemes such as thesauri, classification schemes, subject heading lists, taxonomies, folksonomies, and other similar types of controlled vocabulary”—*SKOS Primer*



# SKOS

---

- Based on the Resource Description Framework (RDF)
  - Resources can be exchanged between software applications and published on the Web
  - Interconnects data on the Web, helping create the Semantic Web



# id.loc.gov/authorities

---

- “Authorities & Vocabularies” from the Library of Congress
- Intent: To provide human and programmatic access to commonly found standards and vocabularies developed by LC

# “Authorities & Vocabularies”

---

- *LCSH* is the first offering
  - Subject headings
  - Genre/form headings
  - Children’s subject headings
  - Subdivision records
  - Validation records
- Provides links from *LCSH* headings to RAMEAU headings
  - Exploring Répertoire de vedettes–matière (RVM)



# “Authorities & Vocabularies”

---

- To come:
  - *Thesaurus for Graphic Materials (TGM)*
  - MARC geographic area codes
  - MARC language codes
  - MARC relator codes



# “Authorities & Vocabularies”

---

## ○ Benefits

- Servers can download entire controlled vocabularies and the values within them, in multiple formats
- Available for free on the Web





# “Authorities & Vocabularies”

---

- Human end-users can search and view individual headings and data elements and view
  - Details of the record
  - Visualization



## Authorities &amp; Vocabularies

## Authorities &amp; Vocabularies



- [Authorities & Vocabularies](#)
- [About](#)
- [Technical Center](#)
- [Search & Download](#)
- [Contact Us](#)

|| [About](#) ||

The Library of Congress Authorities and Vocabularies service enables both humans and machines to programmatically access authority data at the Library of Congress via URIs.

➤ [Read more...](#)

|| [Available Authorities & Vocabularies](#) ||

➤ [Library of Congress Subject Headings](#)

LCSH has been actively maintained since 1898 to catalog materials held at the Library of Congress. By virtue of cooperative cataloging other libraries around the United States also use LCSH to provide subject access to their collections. In addition LCSH is used internationally, often in translation.

## Search

Your search for "**animated films**" retrieved **17** results. Do you need [assistance with your search?](#)

Heading	Concept Type	LCCN
<a href="#">Animated films</a>	Topical Term →	sh85088032
<a href="#">Animated films</a>	Genre/Form Term	sh2007025313
<a href="#">Animated films</a>	Topical Term →	sj96004798
<a href="#">Animated films and children</a>	Topical Term	sh2005002226
<a href="#">Animated films--Bulgaria</a>	Topical Term	sh85088034
<a href="#">Animated films--France</a>	Topical Term	sh85088035
<a href="#">Animated films--History and criticism</a>	Topical Term	sh2003003086
<a href="#">Animated films--Hungary</a>	Topical Term	sh85088036
<a href="#">Animated films--Japan</a>	Topical Term	sh99004613
<a href="#">Animated films--Kazakhstan</a>	Topical Term	sh86006561
<a href="#">Animated films--Sound effects</a>	Topical Term	sh2003010291
<a href="#">Animated films--Soviet Union</a>	Topical Term	sh86005226
<a href="#">Animated films--Switzerland</a>	Topical Term	sh85088037
<a href="#">Animated films--Ukraine</a>	Topical Term	sh86004276
<a href="#">Animated films--United States--History and criticism</a>	Topical Term	sh2007101146

# “Authorities & Vocabularies”

---

- URI for specific LCSH records/  
concepts:  
    id.loc.gov/authorities/[LCCN]  
    id.loc.gov/authorities/sh8508803

## Animated films

This heading is used as a topical heading for works about films that create the illusion of movement in drawings, clay, inanimate objects, or the like, through an animation technique. When used as a topical heading it is subdivided by the appropriate geographic, topical, and/or form subdivisions.

Works on the technical aspects of making animated films, television programs, or videos are entered under Animation (Cinematography).

**URI:** <<http://id.loc.gov/authorities/sh85088032#concept>>

**Type:** Topical Term

**Alternate Labels:** Animated cartoons (Motion pictures); Cartoons, Animated (Motion pictures); Motion picture cartoons; Moving-picture cartoons

### Broader Terms:

- [Caricatures and cartoons](#)
- [Motion pictures](#)

### Narrower Terms:

- [Clay animation films](#)
- [Machinima films](#)
- [Private Snafu films](#)
- [Television broadcasting of animated films](#)
- [Tom and Jerry films](#)

# Animated films

## Related Terms:

- [Abstract films](#)
- [Animation \(Cinematography\)](#)
- [Animation cels](#)

## Examples:

- Note under Animation (Cinematography)

## Sources:



- Hennepin.
- Beaver, F. Dict. of film terms, 1983.
- Katz, E. Film encyc., 1979: under animation.
- LC database, Sept. 24, 1987 (animated film(s); animated cartoon film; animated movies; movie cartoon; animated cartoons)

**LC Classification:** NC1765

**Created:** 1986-02-11

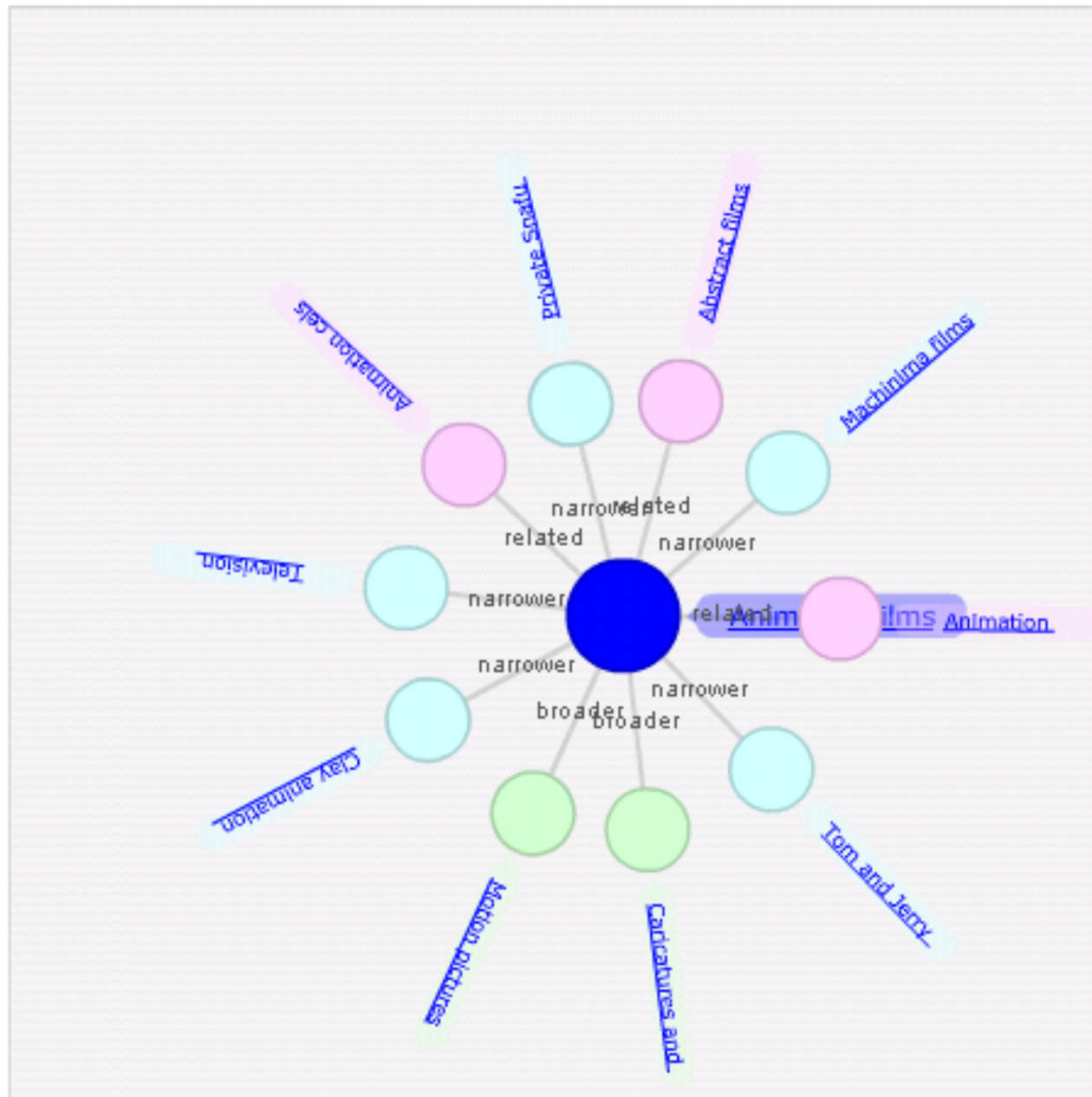
**Last Modified:** 2009-01-16 08:53:06

## Similar concepts from other vocabularies:

- <http://stitch.cs.vu.nl/vocabularies/rameau/ark:/12148/cb12549607c> 
- <http://stitch.cs.vu.nl/vocabularies/rameau/ark:/12148/cb11955103d> 

**Alternate Formats:** [RDF/XML](#), [N-Triples](#), [JSON](#)

## Animated films



# “Authorities & Vocabularies”

---

## ○ Contact information

- Content of site:

Libby Dechman, [edec@loc.gov](mailto:edec@loc.gov)

- Technical questions:

Larry Dixon, [ldix@loc.gov](mailto:ldix@loc.gov)





## “Authorities & Vocabularies”

---

- A comment form and discussion list are available at

<http://id.loc.gov/authorities/contact.html>



# RDA: Resource Description and Access

## (U.S. RDA Test Timeline)

---

- June 2010 ALA releases RDA Toolkit
- June–Aug.31 ALA allows free access to RDA Toolkit to everyone who registers
- June–Sept. 30 U.S. testers get training and have time to practice
- Oct. 1–Dec. 31 U.S. test of RDA
- Jan–Mar 2011 analysis of test results and decisions by U.S. national libraries



# RDA Controlled Vocabularies

## – Registries

---

- Free on the Web at Metadata Registry (NSDL hosting for now)

[http://metadataregistry.org/schemaprop/list/schema\\_id/1.html](http://metadataregistry.org/schemaprop/list/schema_id/1.html)

## Element Sets: Show detail for RDA Group 1 Elements

[Detail](#) [Elements](#) [History](#) [Maintainers](#)

Label	Type	URI	Status	Updated	Last Updated by	Actions
Title	property	.../Elements/title	New-Proposed	2009-08-09 14:46	DianeH	
Edition statement	property	.../Elements/editionStatement	New-Proposed	2009-08-13 13:25	DianeH	
Place of production	property	.../Elements/placeOfProduction	New-Proposed	2009-08-09 14:14	DianeH	
Date of production	property	.../Elements/dateOfProduction	New-Proposed	2009-08-09 14:29	DianeH	
Copyright date	property	.../Elements/copyrightDate	New-Proposed	2009-08-10 14:42	DianeH	
Identifier for the manifestation	property	.../Elements/identifierForTheManifestation	New-Proposed	2009-08-11 9:48	DianeH	
Publication statement	property	.../Elements/publicationStatement	New-Proposed	2009-08-20 12:10	DianeH	
Carrier type	property	.../Elements/carrierType	New-Proposed	2009-08-20 12:12	DianeH	
Medium	property	.../Elements/medium	New-Proposed	2009-08-20 9:46	DianeH	
Form	property	.../Elements/form	New-Proposed	2009-08-10 14:44	DianeH	

## Browse...

[Resource Owners](#)

[Vocabularies](#)

[Element Sets](#)

[SPARQL](#)

Feedback

Carrier type

## Element Sets: RDA Group 1 Elements

### Elements: Carrier type

Detail

Statements

History

#### Metadata +

##### Detail

Label:	Carrier type
Name:	carrierType
URI:	<a href="http://RDVocab.info/Elements/carrierType">http://RDVocab.info/Elements/carrierType</a> (RDF)
Description:	A categorization reflecting the format of the storage medium and housing of a carrier in combination with the type of intermediation device required to view, play, run, etc., the content of a resource.
Comment:	
Type:	property
Domain:	
Range:	
Status:	New-Proposed
Language:	English
Note:	Definition source: RDA 3.3.0.1.1

URI



# RDA Carrier Types

Vocabulary: Show detail for RDA Carrier Type

**Details**

Concepts

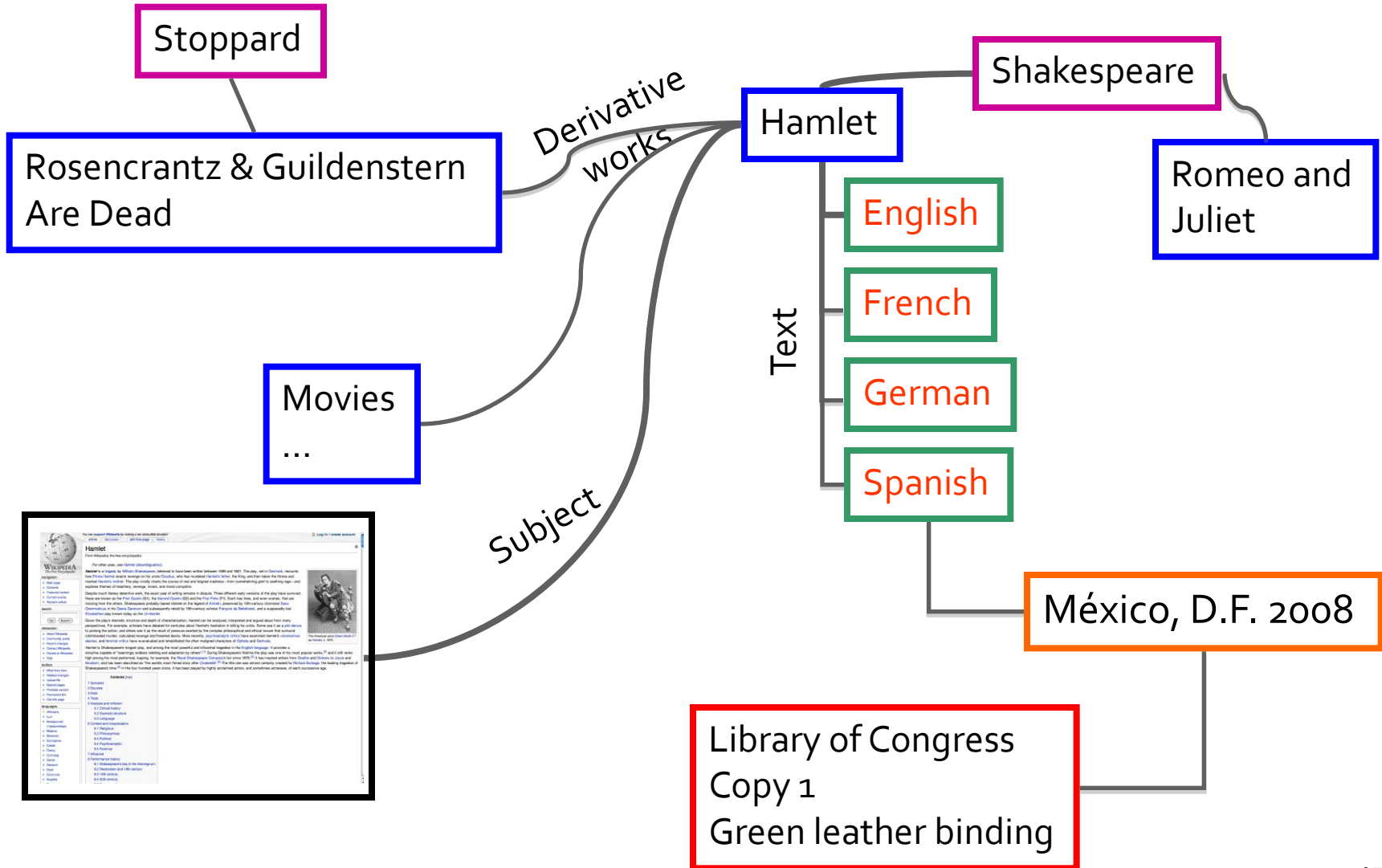
History

Versions

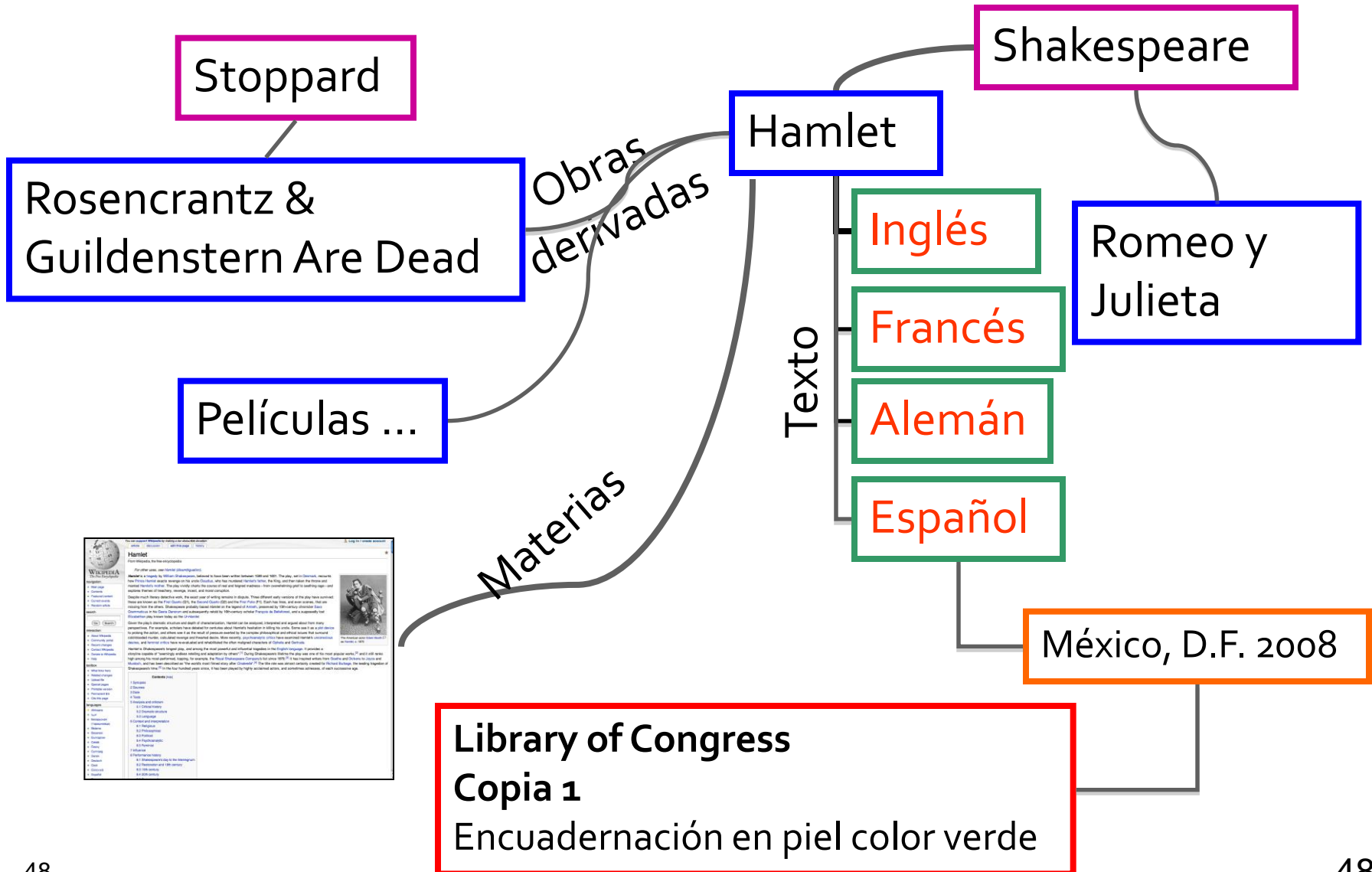
Maintainers

	Preferred Label	URI	Status	Updated
	aperture card	.../termList/RDACarrierType/1021	New-Proposed	2009-08-06 0:47
✓	Audio carriers	.../termList/RDACarrierType/1001	New-Proposed	2010-01-05 4:58
	audio cartridge	.../termList/RDACarrierType/1002	New-Proposed	2009-11-08 9:48
	audio cylinder	.../termList/RDACarrierType/1003	New-Proposed	2009-08-06 0:24
	audio disc	.../termList/RDACarrierType/1004	New-Proposed	2009-08-06 0:26
	audio roll	.../termList/RDACarrierType/1006	New-Proposed	2009-08-06 0:29
	audiocassette	.../termList/RDACarrierType/1007	New-Proposed	2009-08-06 0:31
	audiotape reel	.../termList/RDACarrierType/1008	New-Proposed	2009-08-06 0:32
	card	.../termList/RDACarrierType/1045	New-Proposed	2009-08-06 1:45
	computer card	.../termList/RDACarrierType/1011	New-Proposed	2009-08-06 0:34
✓	Computer carriers	.../termList/RDACarrierType/1010	New-Proposed	2009-08-06 0:33
	computer chip cartridge	.../termList/RDACarrierType/1012	New-Proposed	2009-08-06 0:35
	computer disc	.../termList/RDACarrierType/1013	New-Proposed	2009-08-06 0:36
	computer disc cartridge	.../termList/RDACarrierType/1014	New-Proposed	2009-08-06 0:38
	computer tape cartridge	.../termList/RDACarrierType/1015	New-Proposed	2009-08-06 0:39
	computer tape cassette	.../termList/RDACarrierType/1016	New-Proposed	2009-08-06 0:40
	computer tape reel	.../termList/RDACarrierType/1017	New-Proposed	2009-08-06 0:41

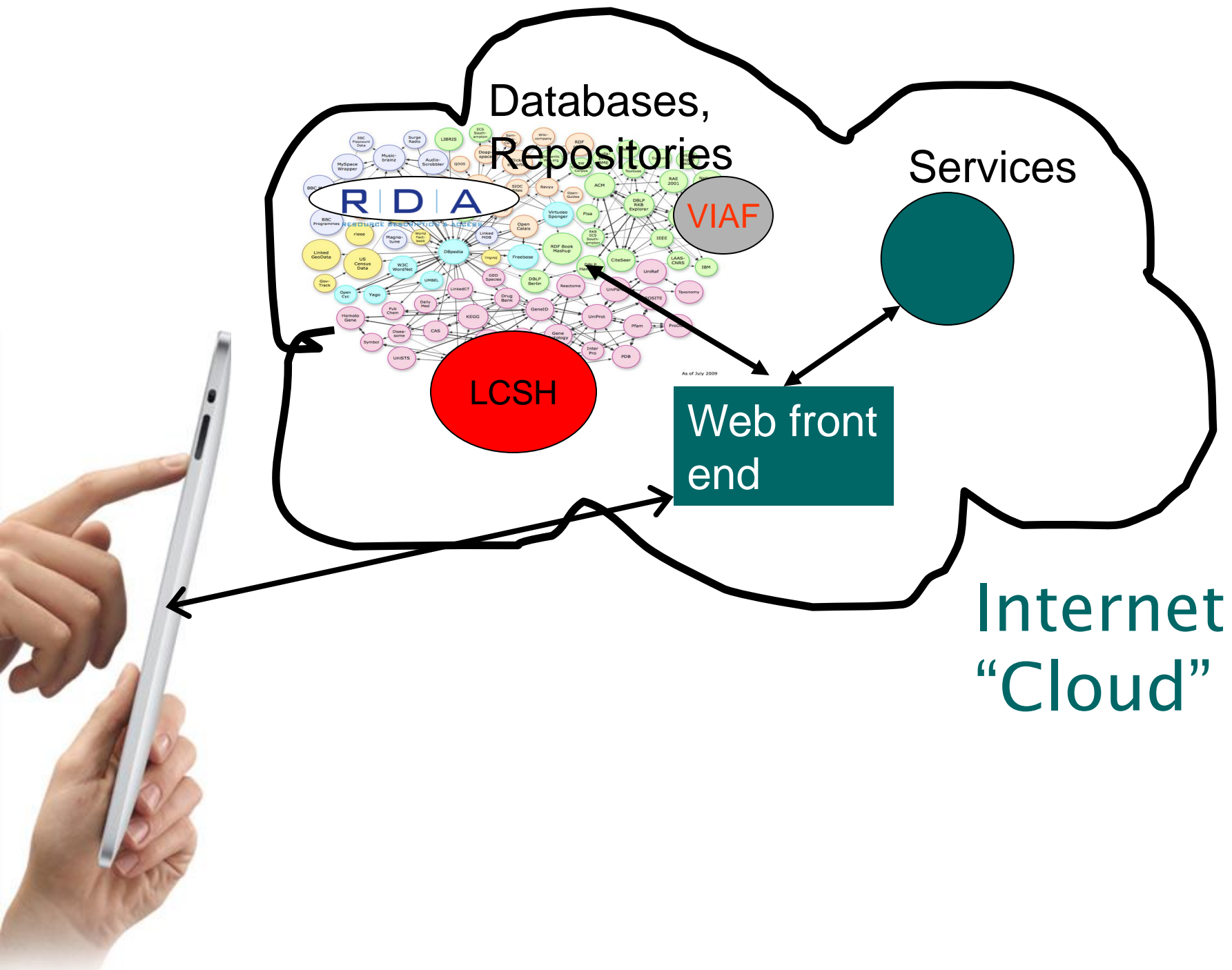
# RDA Linked Data



## Obras relacionadas







# iPhone apps to connect to libraries via WorldCat (OCLC)

---

- Pic2shop app

- <http://www.youtube.com/watch?v=MHiuaDXipWQ>

- RedLaser app

- <http://www.youtube.com/watch?v=fDv1cAYR5wc&feature=related>