

# Inherent Dependencies in the OpenURL Reference Linking Model

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NISO Discovery to Delivery: Creating a First-Class User Experience  
Atlanta, Georgia, March 22, 2010  
[www.niso.org/news/events/2010/d2d](http://www.niso.org/news/events/2010/d2d)

## OpenURL model



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## OpenURL metadata exchange

### incoming OpenURL

[http://linkresolver.library.cornell.edu:4550/resserv?url\\_ver=339-88-2004&url\\_ctx\\_fmt=info:ofi/fmt:kev:mtx:ctx&url\\_val\\_fmt=info:ofi/fmt:kev:mtx:journal&rt.attle=item-level+usage+statistics+a+review+of+current+practices+and+recommendations+for+normalization+and+exchange&rt.aulint=c&rt.aulast=merk&rt.date=2009&rt.epage=162&rt.genre=article&rt.issn=0737-8831&rt.issue=1&rt.place=bingley&rt.pub=emerald+group+publishing+limited&rt.page=151&rt.sttle=lib+hi+tech&rt.title=library+hi+tech&rt.volume=27&rt\\_id=info:sid/www.isinet.com:wok:wos&rt.au=scholze,+f&rt.au=windsch,+n&rt\\_id=info:doi/10.1108%2f07378830910942991/](http://linkresolver.library.cornell.edu:4550/resserv?url_ver=339-88-2004&url_ctx_fmt=info:ofi/fmt:kev:mtx:ctx&url_val_fmt=info:ofi/fmt:kev:mtx:journal&rt.attle=item-level+usage+statistics+a+review+of+current+practices+and+recommendations+for+normalization+and+exchange&rt.aulint=c&rt.aulast=merk&rt.date=2009&rt.epage=162&rt.genre=article&rt.issn=0737-8831&rt.issue=1&rt.place=bingley&rt.pub=emerald+group+publishing+limited&rt.page=151&rt.sttle=lib+hi+tech&rt.title=library+hi+tech&rt.volume=27&rt_id=info:sid/www.isinet.com:wok:wos&rt.au=scholze,+f&rt.au=windsch,+n&rt_id=info:doi/10.1108%2f07378830910942991/)

### in our knowledge base?

title: Library hi tech issn: 0737-8831 start date: 19970101 end date:

### link-to syntax for Emerald

<http://www.emeraldinsight.com/rpsv/cgi-bin/cgi?body=linker&reqidx=#@ISSN-HYPHEN#@DATE#@VOLUME#@ISSUE#@SPAGE#>

## knowledge base

Z39.88  
OpenURL



[www.niso.org/workrooms/kbart](http://www.niso.org/workrooms/kbart)



OpenURL Quality Initiative

[www.niso.org/workrooms/openurlquality](http://www.niso.org/workrooms/openurlquality)

## What is a knowledge base?

- A database
- Contains information about web resources
  - e.g. what journal holdings are available in JSTOR
  - and how would you link to articles in them
- Contains information about the resources a library has licensed/owns
  - May contain electronic and print holdings (in addition to a number of other services)



## So why is it so important?

- It knows where all the content is
- It knows which versions the library is able to access
- So – it’s the only place that can get a user to an “appropriate copy”



## Going public

- Final Phase I KBart report now released!  
[www.uksg.org/kbart](http://www.uksg.org/kbart)
- Feedback and suggestions welcomed!
- Phase II about to start



## Phase II / Next Steps

- Change of leadership and team members
- Definitions for global vs local updates
- Consortia-specific metadata transfer
- Institution-specific metadata transfer
- Documentation of guidelines for non-text content metadata transfer
- Review of metadata transfer for e-books
- Exchange of ERM data



## OpenURL metadata quality



## OpenURL Quality Initiative

**Adam Chandler** (chair). Cornell University Library

**Susan Marcin**. Columbia University

**Oliver Pesch**. EBSCO Information Services

**Ellen Rotenberg**. Thomson Reuters

**Elizabeth Winter**. Georgia Tech Library



## OpenURL Quality Initiative

- Focus on incremental improvements to OpenURL metadata, based around quarter (three month) time units
- Two year project. Report at the end of the two years will make a recommendation about continuation

<http://openurlquality.niso.org/>



### OpenURL Quality Metrics

log file source

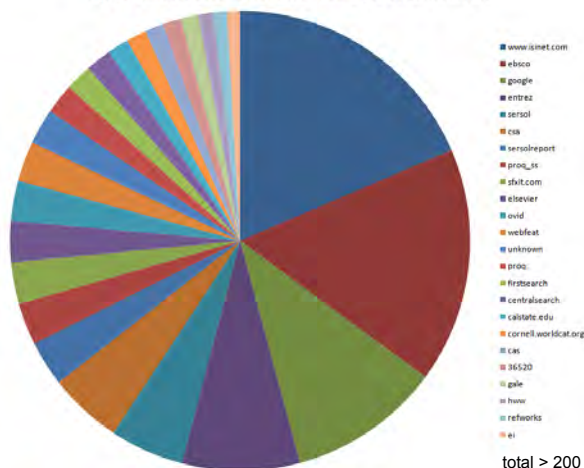
- element or string pattern variations for a vendor or service id
- core element frequency across vendors or service ids
- string pattern frequency across vendors or service ids

Submit

log file source	# of openurls analyzed
Cornell University	999524
EBSCO Information Services	370451
Georgia Institute of Technology	401628
Kansas State University	353232
Serials Solutions	2870303
	4475138

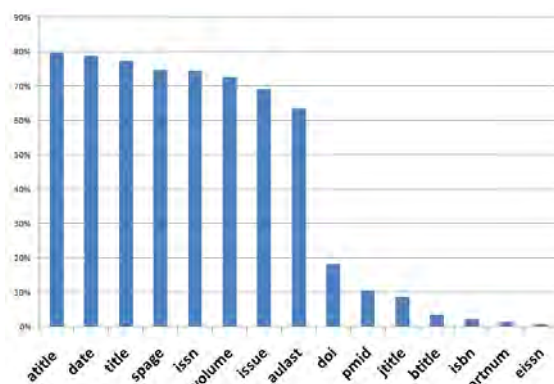
About | Blog | Registry

Top 25 vendors account for 94% of all OpenURLs in sample



element frequency

Element frequency (4,475,138 OpenURLs)



Constant: Core elements used by content providers in their link-to targets

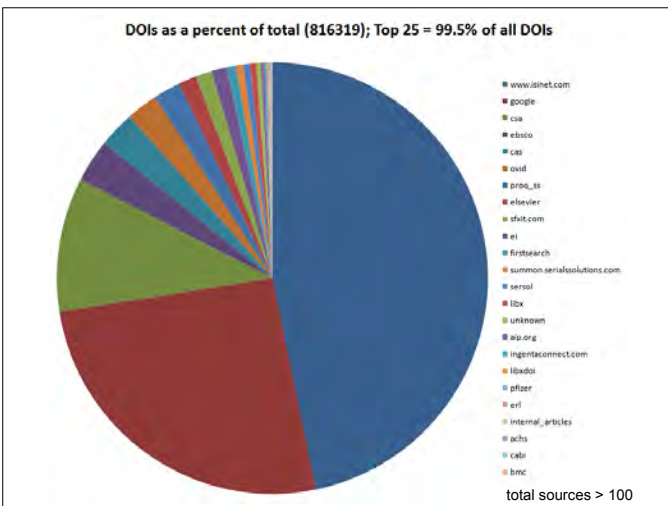
- title - 64%
- spage - 64%
- volume - 61%
- issue - 60%
- date - 48%
- aulast - 47%
- issn - 35%
- atitle - 35%
- DOI - 14%
- ISBN - 5%

Based on an analysis of link-tos in the Cornell instance of the III WebBridge link resolver product.

OpenURL source	link resolver vendor	target
		JSTOR
	SFX	
Web of Knowledge		

OpenURL source	link resolver vendor	target
Web of Knowledge	EBSCO link resolver	ScienceDirect

OpenURL source	link resolver vendor	target
	OCLC/Openly link resolver	
Web of Knowledge		
		Proquest



OpenURL Quality

home / define parameters / report by origin | report type = elements

origin: www.isinet.com  
 logsource: all  
 totalopenurls: 591751  
 totalopenurls analyzed from www.isinet.com: 128342

	% link-tos that recommend or require element	% of www.isinet.com openurls that contain element	% of all other openurls that contain element
title	64	100	75
btitle	8	35	8
jtitle	0	0	5
spage	64	96	74
volume	61	97	72
issue	60	93	69
date	48	100	78
aulast	47	100	60
issn	35	98	71
atitle	35	100	79
doi	14	47	20
isbn	5	1	3
pmid	1	1	20
eissn	0	0	1

## data patterns

The following data types are provided for the values of the Keys, which must be URL-encoded:

<data>	Character string
<id>	Character string for an Identifier (Z39.88-2004, Part 1, Section 7)
<fmt-id>	Character string for a Format Identifier (Z39.88-2004, Part 1, Sections 12 and 13)
<m-key>	Character string for a Metadata Key (Z39.88-2004, Part 2, Section 7.1)
<url>	Character string for a URL
<date>	Character string representing a date to the complete date level of the <a href="#">W3CDTF</a> profile of ISO 8601, of the form: [YYYY-MM-DD   YYYY-MM   YYYY]
<time>	Character string representing a date and time to the seconds level of the <a href="#">W3CDTF</a> profile of ISO 8601, of the form: [YYYY-MM-DDThh:mm:ssTZD   YYYY-MM-DD]

[http://alcme.oclc.org/openurl/servlet/OAIHandler/extension?  
verb=GetMetadata&metadataPrefix=mtx&identifier=info:ofi/fmt:mtx:journal](http://alcme.oclc.org/openurl/servlet/OAIHandler/extension?verb=GetMetadata&metadataPrefix=mtx&identifier=info:ofi/fmt:mtx:journal)

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<date>	Character string representing a date to the complete date level of the <a href="#">W3CDTF</a> profile of ISO 8601, of the form: [YYYY-MM-DD   YYYY-MM   YYYY]
<time>	form: [YYYY-MM-DDThh:mm:ssTZD   YYYY-MM-DD]

[http://alcme.oclc.org/openurl/servlet/OAIHandler/extension?  
verb=GetMetadata&metadataPrefix=mtx&identifier=info:ofi/fmt:mtx:journal](http://alcme.oclc.org/openurl/servlet/OAIHandler/extension?verb=GetMetadata&metadataPrefix=mtx&identifier=info:ofi/fmt:mtx:journal)

```
if (date =~ /^d{4}$/) {"date_ddd"}++;
elsif (date =~ /^d{4}-d{2}$/) {"date_ddd-dd"}++;
elsif (date =~ /^d{4}-d{2}-d{2}$/) {"date_ddd-dd-dd"}++;
elsif (date =~ /^d{4}-d{4}$/) {"date_ddd-dddd"}++;
elsif (date =~ /^d{8}$/) {"date_ddd-dddd"}++;
else {"date_dateother"}++; }
```

[http://linksource.ebsco.com/linking.aspx?  
sid=elsevier.com:mdconsult#journal&url\\_ver=Z39.88-2004&  
url\\_ctx\\_fmt=info%3Aofi%2Ffmt%3Akev%3Amtx  
%3Actx&rft\\_val\\_fmt=info%3Aofi%2Ffmt%3Akev%3Amtx  
%3Ajournal&rft\\_id=info%3Apmid  
%2F8597518&rft.genre=article&rft.atitle=Intraoperative  
%20radio-lympho-scintigraphy%20improves%20sentinel  
%20lymph%20node%20identification%20for%20patients  
%20with%20melanoma.&rft.jtitle=Annals%20of  
%20Surgery&rft.issn=0003-4932&rft.date=01-  
FEB-1996&rft.volume=223&rft.issue=2&rft.spage=217&rft.ep  
age=24&rft.req\\_dat=mdconsult%3Ajournal&rft.req\\_dat=mdconsult  
%3AMedColWisc&rft\\_id=info%3Asid%2Felsevier.com  
%3AMDConsult%23journal](http://linksource.ebsco.com/linking.aspx?sid=elsevier.com:mdconsult#journal&url_ver=Z39.88-2004&url_ctx_fmt=info%3Aofi%2Ffmt%3Akev%3Amtx%3Actx&rft_val_fmt=info%3Aofi%2Ffmt%3Akev%3Amtx%3Ajournal&rft_id=info%3Apmid%2F8597518&rft.genre=article&rft.atitle=Intraoperative%20radio-lympho-scintigraphy%20improves%20sentinel%20lymph%20node%20identification%20for%20patients%20with%20melanoma.&rft.jtitle=Annals%20of%20Surgery&rft.issn=0003-4932&rft.date=01-FEB-1996&rft.volume=223&rft.issue=2&rft.spage=217&rft.epage=24&rft.req_dat=mdconsult%3Ajournal&rft.req_dat=mdconsult%3AMedColWisc&rft_id=info%3Asid%2Felsevier.com%3AMDConsult%23journal)

[http://linksource.ebsco.com/linking.aspx?  
sid=elsevier.com:mdconsult#journal&url\\_ver=Z39.88-2004&url\\_  
ctx\\_fmt=info%3Aofi%2Ffmt%3Akev%3Amtx%3Actx&rft\\_val\\_fmt=info%3Aofi%2Ffmt%3Akev  
%3Amtx%3Ajournal&rft\\_id=info%3Apmid  
%2F8597518&rft.genre=article&rft.atitle=Intraoperative%20radio-lympho-scintigraphy  
%20improves%20sentinel%20lymph%20node%20identification%20for%20patients%20with  
%20melanoma.&rft.jtitle=Annals%20of](http://linksource.ebsco.com/linking.aspx?sid=elsevier.com:mdconsult#journal&url_ver=Z39.88-2004&url_ctx_fmt=info%3Aofi%2Ffmt%3Akev%3Amtx%3Actx&rft_val_fmt=info%3Aofi%2Ffmt%3Akev%3Amtx%3Ajournal&rft_id=info%3Apmid%2F8597518&rft.genre=article&rft.atitle=Intraoperative%20radio-lympho-scintigraphy%20improves%20sentinel%20lymph%20node%20identification%20for%20patients%20with%20melanoma.&rft.jtitle=Annals%20of%20Surgery&rft.issn=0003-4932&rft.date=01-FEB-1996&rft.volume=223&rft.issue=2&rft.spage=217&rft.epage=24&rft.req_dat=mdconsult%3Ajournal&rft.req_dat=mdconsult%3AMedColWisc&rft_id=info%3Asid%2Felsevier.com%3AMDConsult%23journal)

[rft.date=01-  
FEB-1996](http://linksource.ebsco.com/linking.aspx?sid=elsevier.com:mdconsult#journal&url_ver=Z39.88-2004&url_ctx_fmt=info%3Aofi%2Ffmt%3Akev%3Amtx%3Actx&rft_val_fmt=info%3Aofi%2Ffmt%3Akev%3Amtx%3Ajournal&rft_id=info%3Apmid%2F8597518&rft.genre=article&rft.atitle=Intraoperative%20radio-lympho-scintigraphy%20improves%20sentinel%20lymph%20node%20identification%20for%20patients%20with%20melanoma.&rft.jtitle=Annals%20of%20Surgery&rft.issn=0003-4932&rft.date=01-FEB-1996&rft.volume=223&rft.issue=2&rft.spage=217&rft.epage=24&rft.req_dat=mdconsult%3Ajournal&rft.req_dat=mdconsult%3AMedColWisc&rft_id=info%3Asid%2Felsevier.com%3AMDConsult%23journal)  
&rft.volume=223&rft.issue=2&rft.spage=217&rft.epa  
ge=24&rft.req\_dat=mdconsult%3Ajournal&rft.req\_dat=mdconsult%3AMedColWisc&rft\_id=info  
%3Asid%2Felsevier.com%3AMDConsult%23journal

rft.date=01-FEB-1996

```

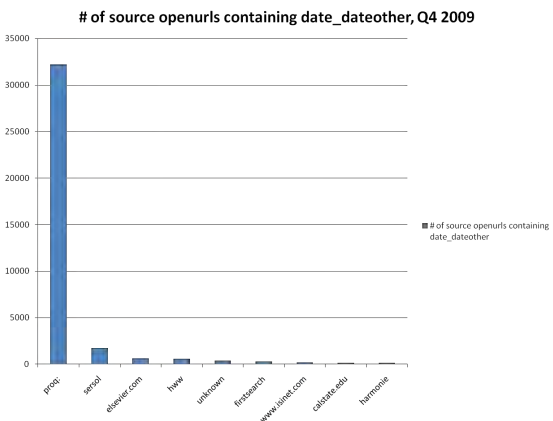
if (date =~ /^d{4}$/) {"date_ddd"}++;
elsif (date =~ /^d{4}-d{2}$/) {"date_ddd-dd"}++;
elsif (date =~ /^d{4}-d{2}-d{2}$/) {"date_ddd-dd-dd"}++;
elsif (date =~ /^d{4}-d{4}$/) {"date_ddd-dddd"}++;
elsif (date =~ /^d{8}$/) {"date_ddd-dddd-dddd"}++;
else {"date_dateother"}++;

```

OpenURL source	link resolver vendor	target
elsevier.com		
	III WebBridge	Search Catalog

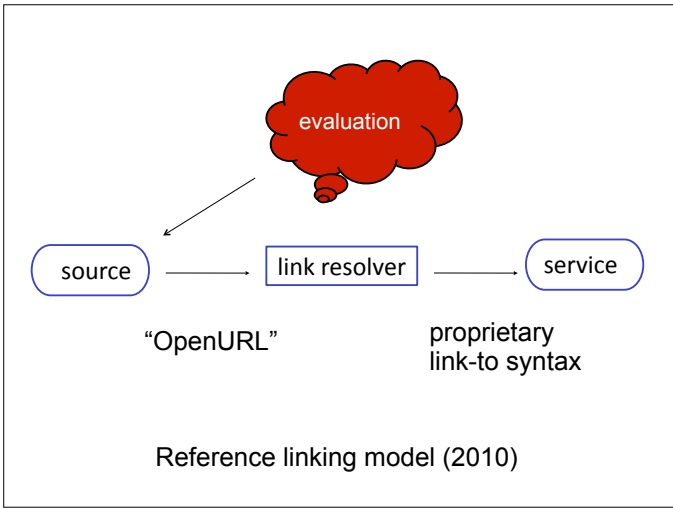
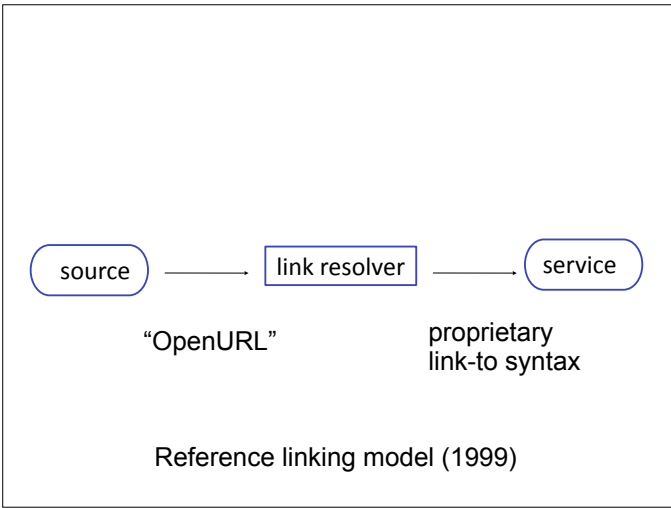
http://slinkresolver.com?  
 SS\_Source=3&genre=article&sid=ProQ:&atitle=General%20Patterns%20of  
 %20Cell%20Phone%20Usage%20Among%20College%20Student  
 s%3A%20A%20Four%20State%20Study&title=Services%20Marketing  
 %20Quarterly&issn=15332969&  
**date=01%2F**  
**01%2F2005**&volume=26&issue=3&spage=13&SS  
 \_docid=00  
 0000827098371&author=Jeff%20W%20Totten%3B%20Thomas%20J  
 %20Lipscomb%3B%20Roy%20A%20Cook%3B%20William%20Lesch

OpenURL source	link resolver vendor	target
proq:	Serials Solutions link resolver	?



“I hope you are successful with this NISO initiative. Until some sort of quality control (not too minimal mind you) can be achieved I think our end users will continue to experience a high level of frustration. Particularly when you take into account the constant ideology of seamless connectivity within a pre-existing complex network of systems and the market place.”

- Mies Martin  
 Digital Resource Coordinator  
 J.R. Van Pelt / Opie Library  
 Michigan Technological University



<http://openurlquality.niso.org/>

**NISO** OpenURL Quality Metrics

log file source

- element or string pattern variations for a vendor or service id
- core element frequency across vendors or service ids
- string pattern frequency across vendors or service ids

Search

log file source	# of openurls analyzed
Cornell University	430626
EBSCO Information Services	270471
Georgia Institute of Technology	491428
Kansas State University	233232
Serials Solutions	287083
	467513

Next / Back / Refresh

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your log file here

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