

Using the Handle System for archive references

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Why the Handle System?

- store persistent handles (URID) to point to resource information (similar to ISBN)
- distributed, scalable solution
 - secure automated sync with mirrors
- storage for generic typed key value pairs
 - web redirection service for type “URL” values
 - not limited to a fixed set of item properties
- web gateway for simple queries
 - free client browser plug-ins available
- configuration-free client library

Problems and solutions

- no reverse lookup (current URL to handle)
 - possible via SQL if locally hosted domain
- no efficient storage bundle of data for 1 URID
 - use “1 row per resource” archive database, sync with local handle server SQL database
- write access via handle protocol is very slow
 - write to SQL database of local server instead
 - write to “transaction log” of local server to let server propagate changes automatically

What do you get?

- URID
- current URL
- supplementary info

Handle Proxy - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://hdl.handle.net/

Handle System®

Handle Values for: 1839/00-0000-0000-0001-2A71-E

Index	Type	Timestamp	Data
100	HS_ADMIN	NA	handle=0.NA/1839; index=200; [add val,read val]
1	URL	NA	http://corpus1.mpi.nl/qfs1/media-archive/demo/pewi/Metadata/kleve-route.imdi
2	CRAWLTIME	NA	2006-11-28 16:00:22.758
3	FILESIZE	NA	21408
4	ONSITE	NA	true
6	FILETIME	NA	2006-07-06 14:34:10.0

[Handle System Web Site](#)

Please contact hdladmin@cnri.reston.va.us for your handle questions and comments.

Done

How does it work?

- URID prefix selects name space
 - 1839/00-0000-0000-0001-2A71-E
 - global naming authority provides “DNS”
 - suffix is free-form, e.g. number with checksum
- 0.NA/prefix describes servers for prefix
 - a prefix can have several sites (redundancy)
 - a site can have several servers (load balancing)
 - server provides data about particular URID

How does it find your server?

- Example: NA data for 10050/
 - public key auth for NA updates
 - or just email...
 - site keys allow to sign traffic
 - HS_SITE data points to server
- fully automatic

Handle Proxy - Mozilla Firefox

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Calendar of MPI, Nijmegen IMDI Browser Handle Proxy

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Handle Values for: 0.NA/10050

Index	Type	Timestamp	Data
100	HS_ADMIN	Tue Oct 03 2006 11:46:13 EDT	handle=0.NA/0.NA; index=200; [delete hdl,add val,re
101	HS_ADMIN	Wed Jan 10 2007 08:56:50 EST	handle=0.NA/10050; index=200; [create hdl,add val,i
2	EMAIL	Tue Oct 03 2006 11:46:13 EDT	tomas.schonthal@sol.lu.se
200	HS_VLIST	Tue Oct 03 2006 11:46:13 EDT	300:0.NA/10050
1	HS_SITE	Mon Nov 27 2006 11:24:54 EST	000102010002800200000000000000001000000046465
300	HS_PUBKEY	Mon Nov 27 2006 11:25:06 EST	0000000B4453415F5055425F4B455900000000001500
3	HS_SITE	Mon Nov 12 2007 11:05:00 EST	000102010001000200000000000000001000000046465
301	HS_PUBKEY	Mon Nov 12 2007 11:05:36 EST	0000000B4453415F5055425F4B455900000000001500

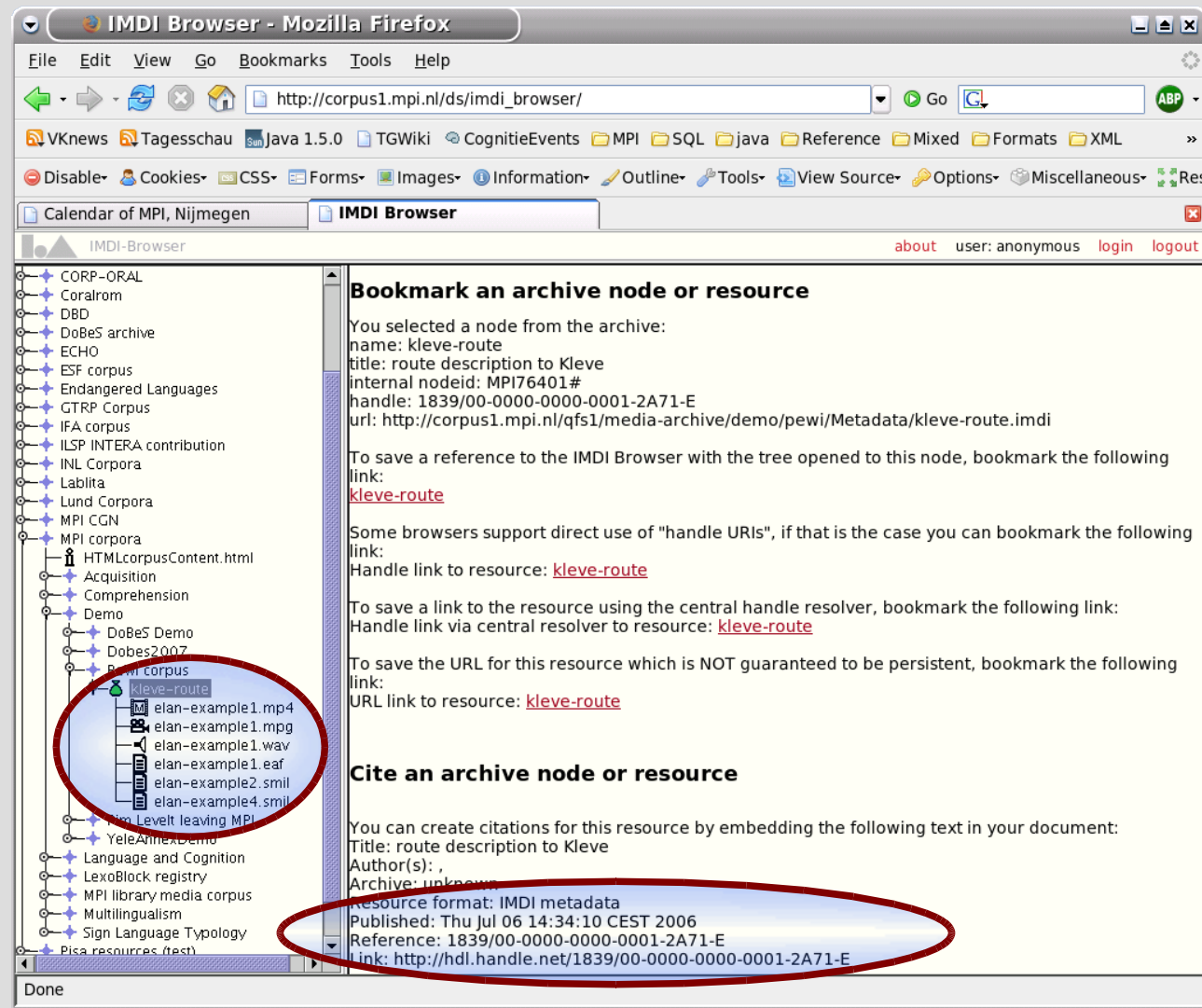
[Handle System Web Site](#)

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Done

But what does it do for me?

- persistent URID for bookmarks
 - always find current URL
 - check other resource info
 - via WWW or client lib / API



Handle System integration

- Java Handle Server
 - server SQL package usable for direct access
 - small fee to register prefix at naming authority
- client library
 - in Java and C, bindings for Perl and others
 - free copyrighted open source, same as server
- human users
 - browser plug-ins and <http://hdl.handle.net/>

Brought to you by...

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