

Exchange of usage metadata in a network of institutional repositories

the case of Economists Online

Academic Online Resources : assessment and usage
International Symposium, Lille
27 November, 2009

Benoit PAUWELS - Université Libre de Bruxelles

Agenda

- Network of Economists Online (NEEO) project
 - Facts, infrastructure, Economists Online portal service
- SWUP
Scholarly Works Usage Community Profile
- Use of SWUP within EO

NEEO project - facts

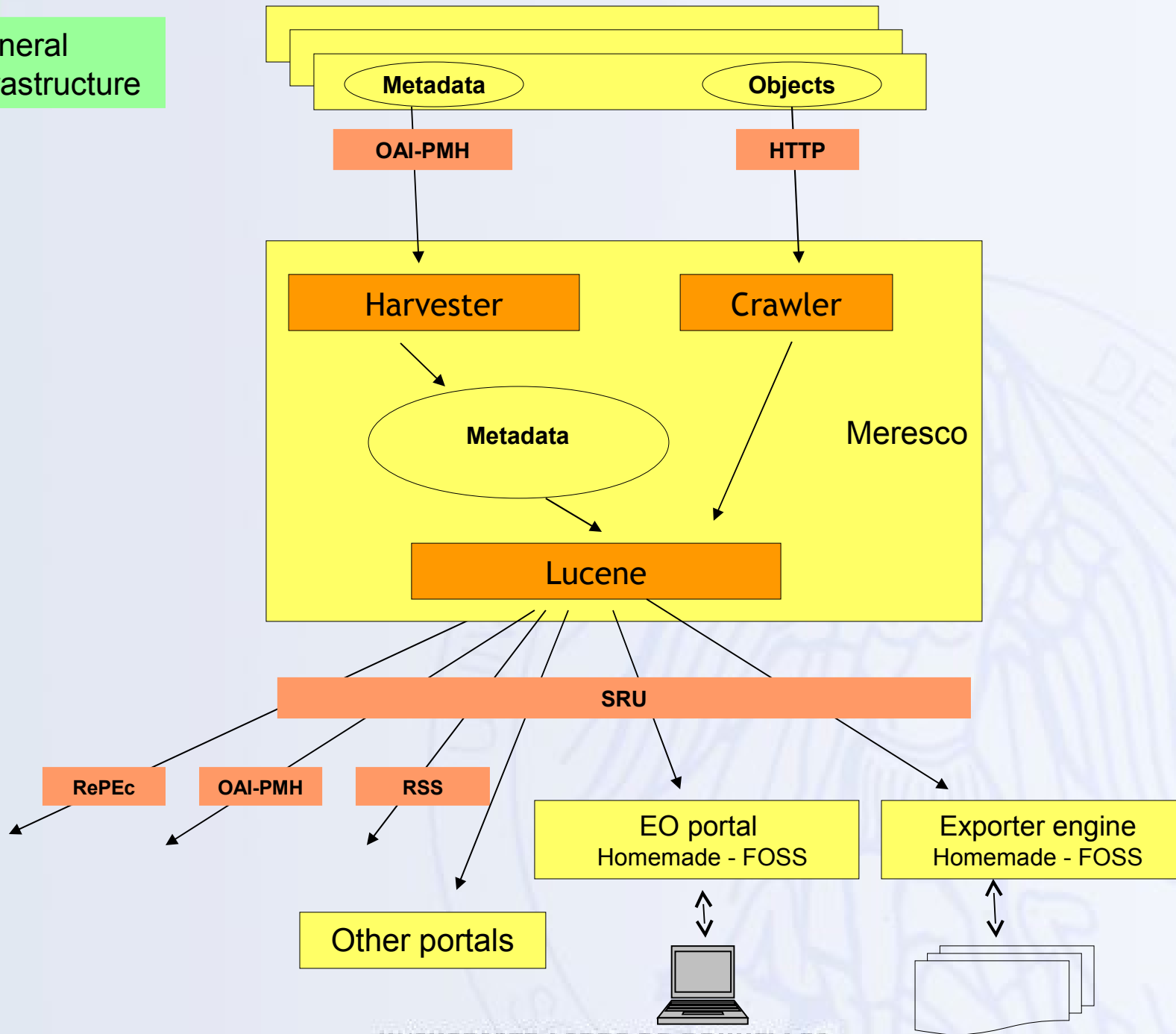
- Key objectives

- Improve usability and global visibility of economics research
- Provide easier and open access to high-quality multilingual academic output of leading economics institutes and their researchers
- Via a sustainable portal with aggregated and enhanced metadata enabling an infrastructure for new services

- Background

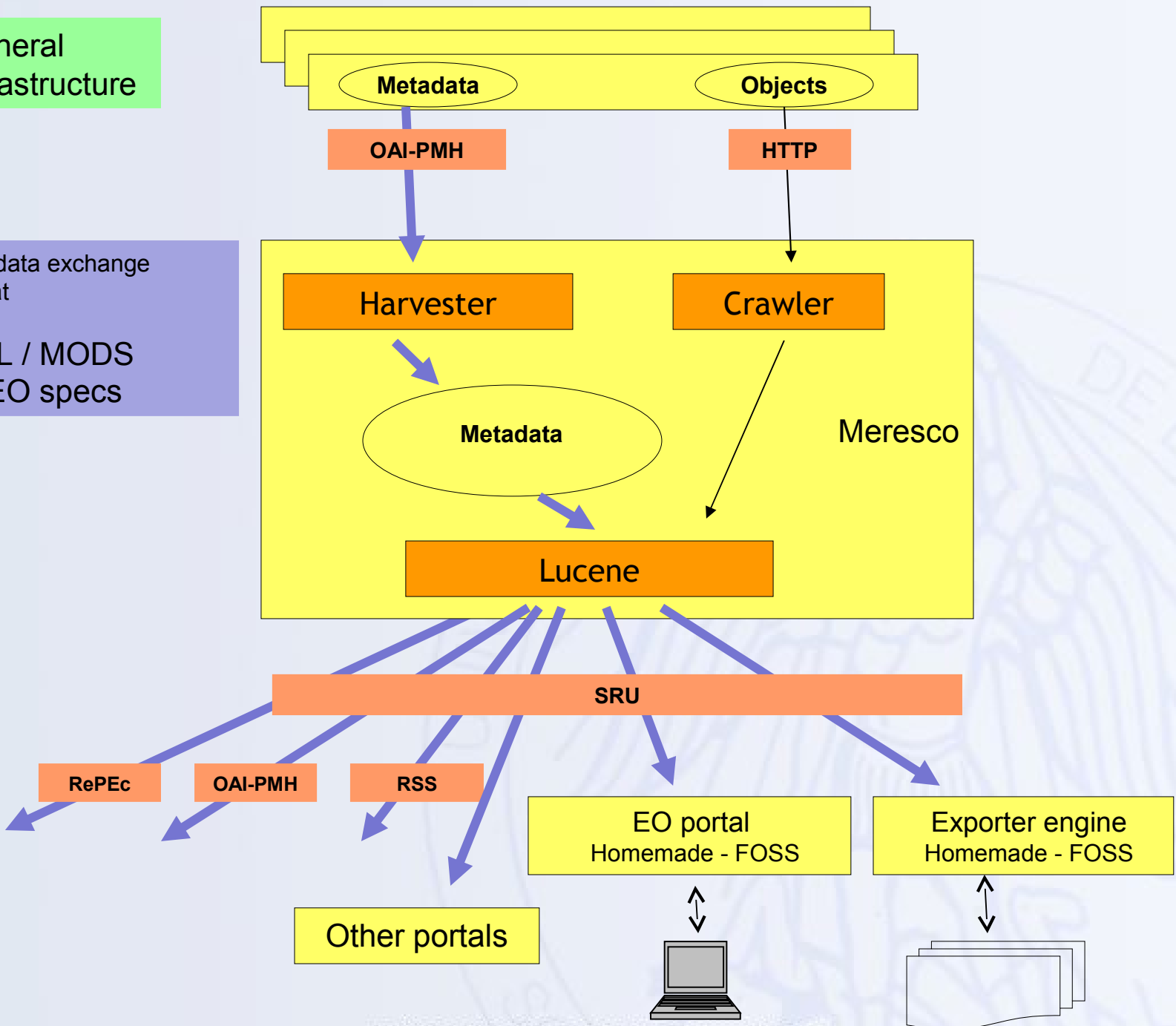
- 21 partners (LSE, Oxford, Tilburg, Leuven, UCL, ...)
- France: Paris Dauphine, Sciences Po, Université Toulouse 1 Capitole
- Initiated by Nereus - 23 european academic institutions/libraries with strengths in economics
- eContentPlus, €2m, 30 months (Sep 2007 - March 2010)

General infrastructure



General infrastructure

Metadata exchange format
 DIDL / MODS
 NEEQ specs



EO portal - main features

- EO Gateway
 - harvesting 21 institutional repositories + all RePEc archives
 - +/- 800.000 bibliographic references | +/- 650.000 publications available on-line | +/- 250.000 open access
 - Lucene indexing; Meresco FOSS (<http://www.cq2.nl>)
- EO portal
 - search & find, facets, sorting, links to OA full-text, download statistics, permalink, OpenURL
 - complete publication lists for registered authors (PDF | RTF), with links to full-text
 - export: APA citations, BibTex, RIS; Coins/Zotero
 - full text searching
 - every search = 1 RSS feed
 - MLIA: search query English, find also French publications
 - public launch 28 January 2010
 - <http://www.economistsonline.org>
- Open standards:
 - Information exchange: OAI-PMH, SRU, RSS, OpenURL
 - Metadata formats: MPEG-21/DIDL, MODS, DDI, COINS, ReDIF, RDF/FOAF, SWUP

EO - admin

- Decentralised administration
- Admin file, maintained by and on web server of data provider
- Contains:
 - repository specs (PMH baseURL, PMH sets, ...)
 - information on institution, authors (DAI)
- Implemented with RDF/XML (FOAF)

[Home](#)
[Rechercher dans les publications](#) Avancée

Rechercher le(s) mot(s) (*)

Recherche multilingue

Your query language:

Rechercher

 (Conseils de recherche rapide) Cacher
Conseils de recherche rapide

- utilisez [™] pour rechercher des expressions exactes, ex. "union européenne"
- utilisez OR, AND, NOT pour combiner des termes de recherche, ex. (growth OR sell) AND trade
- utilisez * comme troncature, ex. econom* (pour trouver economy, economist, etc.).

 Besoin d'aide ? Cliquez sur l'icône Help
 sur chaque page de ce portail EO !

 [Rechercher dans l'historique](#) Cacher
Bienvenue sur le site Economists Online

Economists Online présente les chercheurs des institutions parmi les plus dynamiques du monde avec leurs publications académiques et les données de recherche qui leur sont liées.

Le contenu d'Economists Online s'ajoute aux données de RePEc pour constituer un nouveau service d'information pour les économistes.

Fin Avril 2009, le système contient plus de 700 000 références bibliographiques, avec de nombreux liens vers du texte intégral. Ce chiffre s'accroît de chaque en jour.

Economists Online est géré par le consortium [Nereus Consortium](#) et co-financé par l'Union européenne.

Institutions**Katholieke Universiteit Leuven**
[Page d'accueil](#) | [Base de publications](#) | [Chercheurs](#) | [Davantage d'informations](#)
**London School of Economics and Political Science**
[Page d'accueil](#) | [Base de publications](#) | [Chercheurs](#) | [Davantage d'informations](#)
**University of Oxford**
[Page d'accueil](#) | [Base de publications](#) | [Chercheurs](#) | [Davantage d'informations](#)
**Erasmus University Rotterdam**
[Page d'accueil](#) | [Base de publications](#) | [Chercheurs](#) | [Davantage d'informations](#)
**Tilburg University**
[Page d'accueil](#) | [Base de publications](#) | [Chercheurs](#) | [Davantage d'informations](#)
**Carlos III University of Madrid**
[Page d'accueil](#) | [Base de publications](#) | [Chercheurs](#) | [Davantage d'informations](#)
**University College Dublin**
[Page d'accueil](#) | [Base de publications](#) | [Chercheurs](#) | [Davantage d'informations](#)
**University College London**
[Page d'accueil](#) | [Base de publications](#) | [Chercheurs](#) | [Davantage d'informations](#)
**Université catholique de Louvain**
[Page d'accueil](#) | [Base de publications](#) | [Chercheurs](#) | [Davantage d'informations](#)
**Université libre de Bruxelles**
[Page d'accueil](#) | [Base de publications](#) | [Chercheurs](#) | [Davantage d'informations](#)
**Maastricht University**
[Page d'accueil](#) | [Base de publications](#) | [Chercheurs](#) | [Davantage d'informations](#)
**Université Toulouse 1 Capitole**
[Page d'accueil](#) | [Base de publications](#) | [Chercheurs](#) | [Davantage d'informations](#)
**Charles University in Prague, Center for Economic Research and Graduate Education**
[Page d'accueil](#) | [Base de publications](#) | [Chercheurs](#) | [Davantage d'informations](#)
**Columbia University in the City of New York**
[Page d'accueil](#) | [Base de publications](#) | [Chercheurs](#) | [Davantage d'informations](#)
**Université Paris-Dauphine**
[Page d'accueil](#) | [Base de publications](#) | [Chercheurs](#) | [Davantage d'informations](#)
**European University Institute**
[Page d'accueil](#) | [Base de publications](#) | [Chercheurs](#) | [Davantage d'informations](#)
**Kiel Institute for the World Economy**
[Page d'accueil](#) | [Base de publications](#) | [Chercheurs](#) | [Davantage d'informations](#)

→ List de publication

Rechercher dans la liste des chercheurs

Nom du chercheur

Rechercher →

Collection (Désélectionner tout)

Institutions


- Université libre de Bruxelles (55)
- Tilburg University (69)
- Maastricht University (158)
- London School of Economics and Political Science (45)
- Columbia University in the City of New York (57)
- Charles University in Prague, Center for Economic Research and Graduate Education (34)
- Carlos III University of Madrid (19)
- University College London (50)
- Kiel Institute for the World Economy (42)
- University College Dublin (32)
- University of Oxford (32)
- Erasmus University Rotterdam (46)
- Université Paris-Dauphine (23)
- European University Institute (15)
- Université Toulouse 1 Capitole (148)
- Université catholique de Louvain (28)
- Katholieke Universiteit Leuven (94)

211-225 de 947

< Page précédente 1 13 14 15 16 17 64 Page suivante >

Nom commence par:

D

	De Rock, Bram	Université libre de Bruxelles (European Center for Advanced Research in Economics and Statistics)
	Debackere, Koenraad	Katholieke Universiteit Leuven (Faculteit Economie en Bedrijfswetenschappen)
	Debondt, Raymond	Katholieke Universiteit Leuven (Faculteit Economie en Bedrijfswetenschappen)
	Debruyne, Guido	Katholieke Universiteit Leuven (Faculteit Economie en Bedrijfswetenschappen)
	Declerck, Fany	Université Toulouse 1 Capitole (L'école d'économie de Toulouse)
	Decoster, André	Katholieke Universiteit Leuven (Faculteit Economie en Bedrijfswetenschappen)
	Dedene, Guido	Katholieke Universiteit Leuven (Faculteit Economie en Bedrijfswetenschappen)
	Deelstra, Griselda	Université libre de Bruxelles (European Center for Advanced Research in Economics and Statistics)
	Degryse, Hans	Katholieke Universiteit Leuven (Faculteit Economie en Bedrijfswetenschappen)
	Degryse, Hans	Tilburg University (Faculty of Economics and Business Administration)
	Dehez, Pierre	Université catholique de Louvain (Center for Operations Research and Econometrics)
	Dehon, Catherine	Université libre de Bruxelles (European Center for Advanced Research in Economics and Statistics)



→ Rechercher dans les publications | Résultats 'contracting'

Rechercher dans les publications Avancée

Rechercher le(s) mot(s) (*)

contracting

Recherche multilingue

Your query language:

Rechercher →

(Conseils de recherche rapide) Afficher

Préciser votre recherche Cacher

Collections

- Tilburg University(26)
- LSE(38)
- Columbia University(40)
- EUI(1)
- EUR Rotterdam(18)
- Kiel Institute(2)
- KU Leuven(24)
- Maastricht University(2)
- University of Oxford(17)
- UCD, Dublin(8)
- UCL, Louvain(5)
- univ-tlse1-fr(26)

Année

- 2009(19)
- 2008(11)
- 2007(25)
- 2006(12)
- 2003(20)
- + Plus

Type de publication

- article(75)
- bookPart(18)
- doctoralThesis(11)
- report(10)
- workingPaper(84)
- + Plus

Classification

- HB Economic Theory(11)
- HD Industries. Land use. Labor(18)
- L33 - Comparison of Public and Private Enterprises; Privatization; Contracting Out(10)
- M(14)
- O32(8)
- + Plus



Ajouter tous les résultats au dossier

1-15 de 207

1 2 3 ... 14 Page suivante >

Datum

 Swinnen, Johan , & Vandeplass, Anneleen (2009). *Rich consumers and Small Farmers: Contracting and Rent distribution in Food value chains.*Afficher le texte intégral | Afficher davantage d'informations | Ajouter au dossier Niesten, E.M.M.I. (2009). *Regulation, Governance and Adaptation: Governance transformations in the Dutch and French liberalizing electricity industries.* Erasmus Research Institute of Management (ERIM), Erasmus University Rotterdam (ERIM is the joint researchinstitute of the Rotterdam School of Management, Erasmus University and the Erasmus School of Economics (ESE) at Erasmus University Rotterdam).

JEL : M10 - L2 - M12 - M (doctoralThesis)

Afficher le texte intégral | Afficher davantage d'informations | Ajouter au dossier Niesten, E.M.M.I. (2009). *Regulation, Governance and Adaptation: Governance transformations in the Dutch and French liberalizing electricity industries.* Erasmus Research Institute of Management (ERIM), Erasmus University Rotterdam (ERIM is the joint researchinstitute of the Rotterdam School of Management, Erasmus University and the Erasmus School of Economics (ESE) at Erasmus University Rotterdam).

JEL : M10 - L2 - M12 - M (doctoralThesis)

Afficher le texte intégral | Afficher davantage d'informations | Ajouter au dossier Bottazzi, L. , Da Rin, M. , & Hellmann, T. (2009). *The Importance of Trust for Investment: Evidence from Venture Capital. 2009-020 (TILEC Discussion Paper).* (workingPaper)Afficher le texte intégral | Afficher davantage d'informations | Ajouter au dossier Martimort, David , Poudou, Jean-Christophe , & Sand-Zantman, Wilfried (2009). *Contracting for an Innovation under Bilateral Asymmetric Information.* (article)Afficher le texte intégral | Afficher davantage d'informations | Ajouter au dossier Bottazzi, L. , Da Rin, M. , & Hellmann, T. (2009). *The Importance of Trust for Investment: Evidence from Venture Capital. 2009-43 (CentER Discussion Paper).* Tilburg University. Center for Economic Research.

JEL : G24 - G34 - K22 - M13. + G32 - C25 - J22 - Z13 - C91 - C32 - Q13 - D92 - C43 - I1 - C12 - J71 - G00 (workingPaper)

Afficher le texte intégral | Afficher davantage d'informations | Ajouter au dossier Habis, Helga , & Herings, P. Jean-Jacques (2009). *Cooperation under incomplete contracting.* (RM 09026). Maastricht University .

JEL : C71 - C73 - D52 + D3 - D11 (workingPaper)

Afficher le texte intégral | Afficher davantage d'informations | Ajouter au dossier Jullien, Bruno , Pouvet, Jérôme , & Sand-Zantman, Wilfried (2009). *Contracting and Regulation under the Threat of Duplication.* *IDEI Working Paper*, 563. (workingPaper)Afficher le texte intégral | Afficher davantage d'informations | Ajouter au dossier Martimort, David , Poudou, Jean-Christophe , & Sand-Zantman, Wilfried (2009). *Contracting for an Innovation under Bilateral Asymmetric Information.* *IDEI Working Paper*, 448. (workingPaper)Afficher le texte intégral | Afficher davantage d'informations | Ajouter au dossier Martimort, David , Poudou, Jean-Christophe , & Sand-Zantman, Wilfried (2009). *Contracting and Ideas Disclosure in the Innovation Process.* *IDEI Working Paper*, 567. (workingPaper)Afficher le texte intégral | Afficher davantage d'informations | Ajouter au dossier

Usage data: the EO use case

- Present download rates per:
 - Item
 - Scholar
 - Institution
- through:
 - EO portal
 - Usage reports (CSV)
- Bestsellers
- [Relevance ranking based on frequency of download of object files]

Usage data: the EO use case

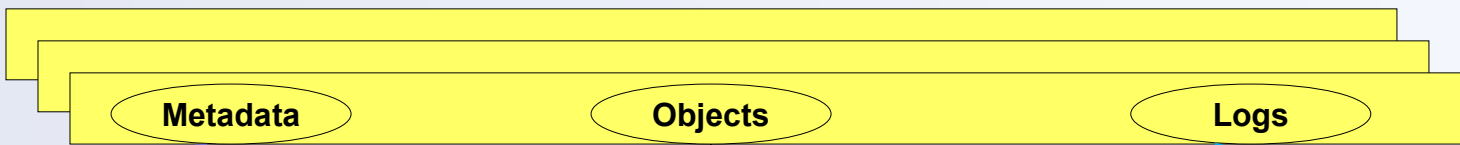
- Fairly limited use case
- As part of the general policy of NEEO to stimulate reusable data models, protocols, standards:
 - develop specifications for exchange mechanism in a network of institutional repositories
 - which permits more advanced services, but out of scope of NEEO project
 - the creation of a network of (clusters of) related publications
 - recommender systems
 - etc

Data provider log

- an identification of the object file that was downloaded
- an identification of the corresponding item
- an indication of the date and time at which this item was downloaded
- an identifier of an end user who downloaded this item
- an indication of what type of usage has been done (abstract view, download request)
- identification of the web page from which the request was initiated
- identification of the service from where the usage request was made by the end user
- application that has sent the request

Need for normalization

- This information is stored on the IR platform in log files of all sorts, with all sorts of formatting (Apache log, DSpace log, ...)
- We want to transfer this information to the EO gateway in a normalized way:
 - Decide on exchange format
 - Decide on way to exchange
- Inspired by MESUR project
- Proposal:
 - SWUP ContextObject
 - Scholarly Works Usage Community Profile
 - OAI-PMH



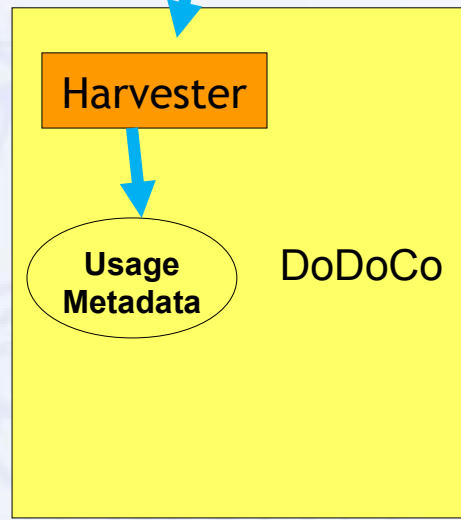
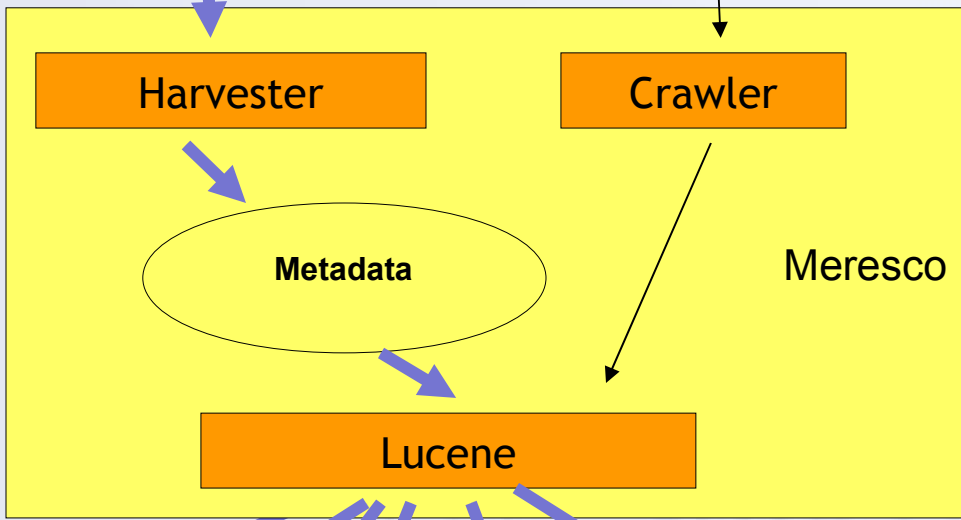
OAI-PMH

HTTP

OAI-PMH

Metadata exchange format
DIDL / MODS
NEEO specs

Usage metadata exchange format
SWUP
OFI Comm Profile



SRU

Proprietary web service

RePEc

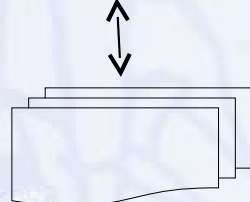
OAI-PMH

RSS

EO portal
Homemade - FOSS

Exporter engine
Homemade - FOSS

Other portals



OpenURL ContextObject

- An *OpenURL ContextObject*
 - used to express the context in which services are requested for a given object
 - defined as a data structure that holds information on the following 6 entities

<i>Referent</i>	this entity corresponds to the resource which this ContextObject is about
<i>ReferringEntity</i>	an entity that references the Referent
<i>Requester</i>	an entity that describes the resource that requests services pertaining to the Referent
<i>ServiceType</i>	type of service requested
<i>Resolver</i>	a resource that can deliver the requested services
<i>Referrer</i>	a resource that generates the ContextObject

OpenURL ContextObject

- Each of these *entities* is described through *descriptors*, which can be of 4 different types:
 - *identifier*: identifier for the *entity*
 - *metadata-by-val*: metadata about the *entity*; the metadata is included 'by-value' in the ContextObject
 - *metadata-by-ref*: metadata about the *entity*; the metadata is available at a network location
 - *private-data*: metadata about the *entity*; the format is not defined within the OpenURL Framework (but rather defined within a specific community)
- SWUP = proposal on how to use the OpenURL ContextObject concepts to describe usage events

Log information mapped to SWUP

- an identification of the object file that was downloaded; and an identification of the corresponding item
 - **Referent**
- an indication of the date and time at which this item was downloaded
 - **Contextobject attribute**
- an identifier of an end user who downloaded this item
 - **Requester**
- an indication of what type of usage has been done (abstract view, download request)
 - **ServiceType**
- identification of the web page from which the request was initiated
 - **ReferringEntity**
- identification of the service from where the usage request was made by the end user
 - **Referrer**
- application that has sent the request
 - **Resolver**

EO recommended SWUP

- Limit XML payload - exchange identifiers as descriptors of CO entities:
 - DateTime of download event
 - 1 Referent = 2 identifiers
 - object file = « ref » attribute contained in DIDL
 - item = OAI identifier of publication
 - 1 ReferringEntity = 1 identifier
 - URL of Web page from which download request originates
 - 1 Requester = 1 identifier
 - MD5 encrypted IP address
 - Geographical information (ISO3166)
 - 1 Referrer = 1 identifier
 - « User-Agent » HTTP header
 - 1 Resolver = 1 identifier
 - OAI-PMH baseURL of DP that generates CO

EO recommended SWUP - special issues

- Exchange of IP address of requester
 - Infringement on privacy laws
 - Anonymize through MD5 encryption
 - Geographical information
- Filtering out robot requests
 - At least 80% of download requests are triggered by bots, spiders, crawlers, ...
 - Filter out in data providers
 - List of 50 regular expressions
 - 3 years of manual verification at University of Minho
 - 3 years of logs at LSE
 - Feed list through mining of DoDoCo database
- Filtering out double clicks
 - Done in DoDoCo (not yet implemented)
- Data providers should only deliver SWUPs for EO publications
 - OAI set implementation
- Full specs at:

Current implementation status in NEEO

- Central EO Gateway
 - DoDoCo : Document Download Counter
 - PMH harvesting of SWUP ContextObjects into SQL database
 - Enrich with information on item, scholar, institution
 - Available in metadata store / admin file
 - EO portal and exporter services communicate over proprietary web service:
 - Level: item, scholar, institution
 - Time/date range
- Data providers
 - OAI-PMH compliant usage data repository
 - Early days
 - Generic solution for Apache web log (Combined Log Format)
 - DSpace specific solution
 - EO admin
 - Register usage repository

Related projects / Similar initiatives

- MESUR -- Metrics from Scholarly Usage of Resources
<http://www.mesur.org>
- Very similar specifications have been developed in parallel. All based on OpenURL ContextObject. Contacts exist. Specs are being compared.
Objective: register SWUP as community profile in OpenURL Registry
 - OA Statistik
<http://www.dini.de/projekte/oa-statistik/>
 - JISC PIRUS project
<http://www.jisc.ac.uk/whatwedo/programmes/pals3/pirus.aspx>
 - JISC Usage Statistics Review project
<http://www.jisc.ac.uk/publications/documents/usagestatisticsreviewreport.aspx>
 - SurfShare

Some references

- NEEO technical guidelines
 - [http://homepages.ulb.ac.be/~bpauwels/NEEO/WP5/WP5 Technical guid](http://homepages.ulb.ac.be/~bpauwels/NEEO/WP5/WP5_Technical_guidelines/)
- NEEO technical guidelines for the exchange of usage metadata / SWUP ContextObject
 - [http://homepages.ulb.ac.be/~bpauwels/NEEO/WP5/WP5 Usage metadat](http://homepages.ulb.ac.be/~bpauwels/NEEO/WP5/WP5_Usage_metadata/)
- NEEO project web site
 - <http://www.neeoproject.eu/>
- The OpenURL Framework for Context-Sensitive Services
 - <http://www.niso.org/standards/z39-88-2004/>