<WEB
Stand/>

New Web Standards in the Making

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WebStand Project

- **Supported by French Governmental Agencies**

  - Agence Nationale de la Recherche 2006-2009
  - Partners :
    - INRIA-Futurs (GEMO)
    - CNRS (PRiSM, LRI, LEST, IRISSO)

- **Main goals**

  - Computer Science: XML based web warehousing
  - Political science: Analyze Web standardization

Outline

- **Challenges**
  - Innovation returns vs shared innovation
  - Web standards (XML): Xquery, XML Schema

- **The XML standardization process**
  - Corporate networks in the W3C
  - Forum shifting to ISO
  - Resource shifting

- **Concluding remarks on XML**
  - Two ISO standards: what does this mean?

Challenges

Standards and markets

- Stakes:
    - reduce uncertainty in innovative markets
    - control destruction-creation process (Schumpeter)
    - organize the future market (market shares, firms)

Innovation returns

- Schumpeter: innovation needs a form of monopoly (patents, merging competitors, industrial secrets, and so on)

- Network effects (Katz, Shapiro, 1985)

- Sponsored standards with patent-pools (Liebowitz, Margolis, 1994, 1995 ; Tirole, Lerner, 2007).

Shared innovation

- Open source as shared innovation(Von Hippel, Von Krogh, 2003 ; Gallaway, Kinnear, 2004) :
  - Affordability
  - Availability
  - Flexibility
- For firms (Lerner, Tirole, 2005 ; Lerner, Pathak, Tirole, 2006) :
  - no hold up effect
  - no patent-thicket problem

- **Do open source standards mean open markets ?**

XML Standardization

From W3C corporate rulers…

…to ISO trench fighters

# Web standards: XML and XQuery

○ **Why XML ?**

 ○ New Web language (Web Services)

  ○ Language for Web Data

  ○ Future "Cloud Computing" language?

  ○ XQuery is the W3C XML Query Language (*à la* SQL)

○ **W3C**

  ○ Promotes open source and open standards

  ○ ***Coopetition*** : collaborative work and then competition

  ○ => using Web languages technology is free but applications/services are a competitive market

W3C XML Editors: mainly corporate rulers

INSTITUTION	TYPE	# INDIV	TOTAL TEXTS	REC.	W3C WG NOTES	DRAFTS
IBM	Corp	11	13		2	3
Oracle	Corp	8	13		1	6
AT&T	Corp	2	7			3
Microsoft	Corp	5	6			2
No affiliation	n.a.	2	3			
Sun Microsystems	Corp	1	3			
Data Direct	Corp	1	6		2	2
Univ. Edimbourg	Uni	2	3		1	
Saxonica	Corp	1	2			
Infonyte GmbH	Corp	1	3		2	
Brown University	Uni	1	1			
CommerceOne	Corp	1	1			
Inso	Corp	1	1			
Kaiser Permanente	Org	1	1			
SIAC	Corp	1	1			
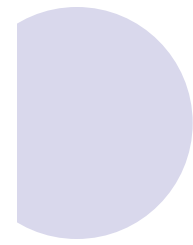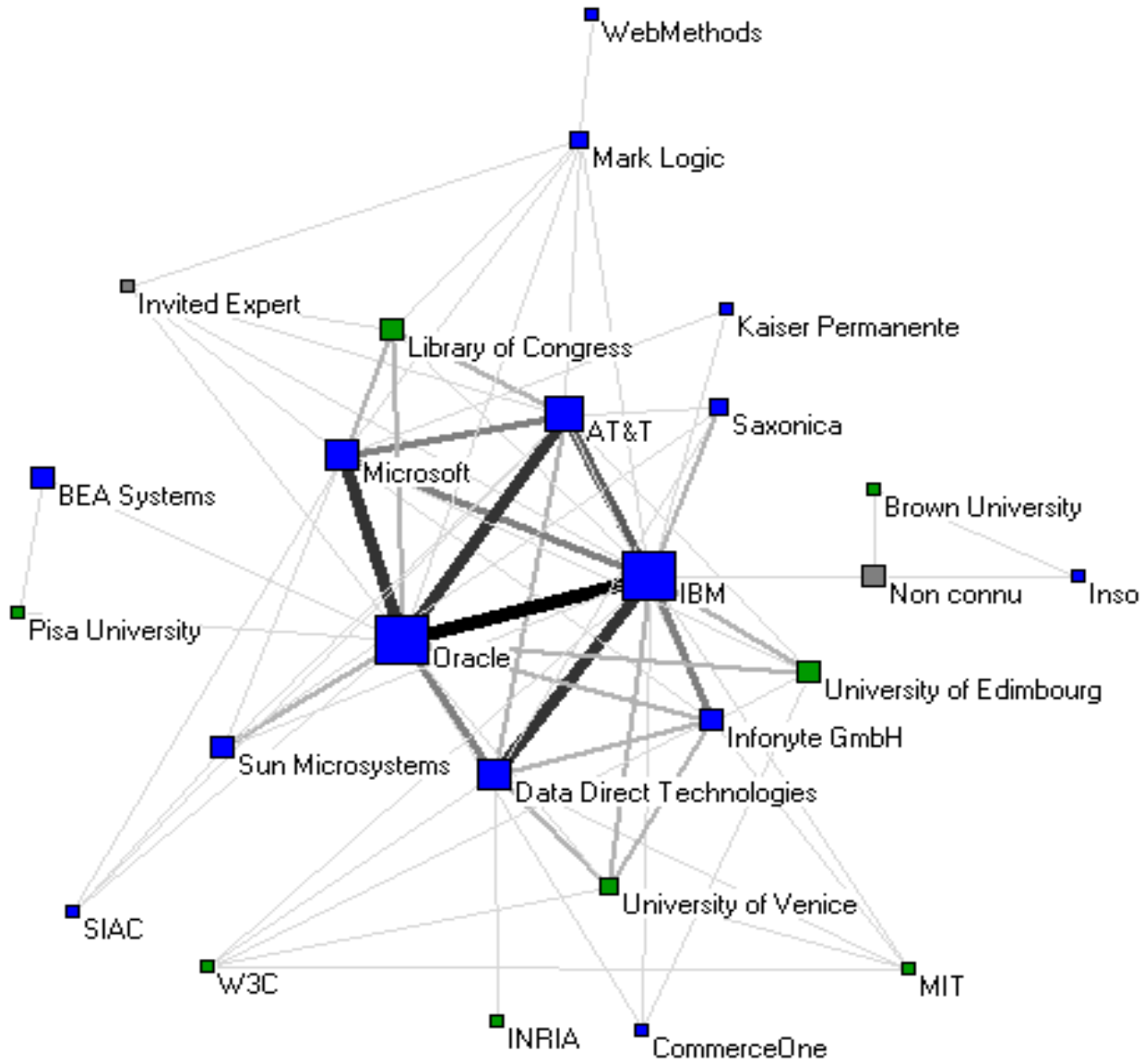
Structural network of the W3C XML texts' co-authoring / by institutions

From W3C to ISO : Forum Shifting

o **ODF (Open Document Format)**

- 2005: OASIS (led by Sun and IBM)(May) => ISO 26300 (september)
- IBM: *Lotus Symphony* (based on ODF)
- Business model (BM) based on services

o **OOXML (Office Open XML)**

- Microsoft's BM questioned => MS challenges the standard => ISO Fast track procedure
- 1st round (september 2007): disapproved (China, India, Brazil, Spain, France)
- 2nd round (29 March 2008): approved ISO DIS 29500

Resource Shifting

o **Why require new arbitrations?**

  o Not only a question of preventing network effects

  o But also gain political support

  o In a way to **impose** a business model and to **exclude** rival ones **before competing**

Concluding remarks on the XML case
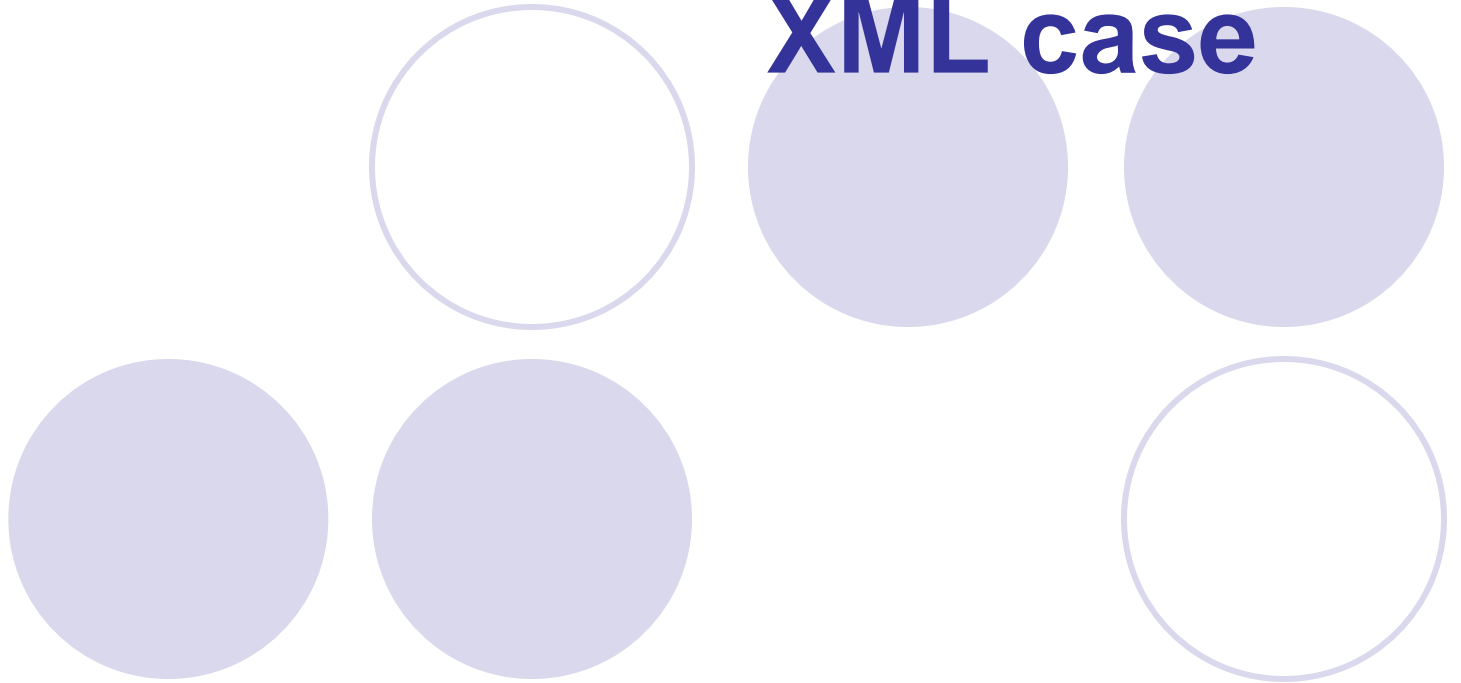
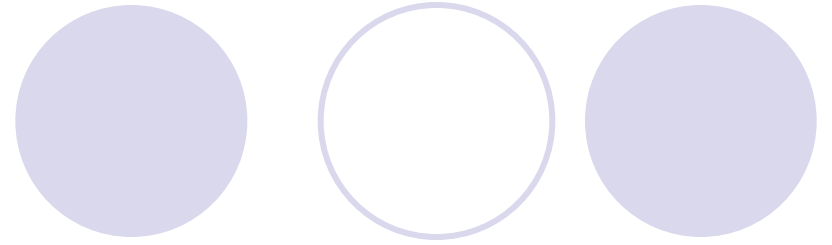# Facing an emerging standard

- Four kinds of strategy
  - Leading the process in order to control market developments (IBM, Sun, Oracle)
  - Challenging the standard (Microsoft)
  - Buying firms
    - 2003 : Software Progress (0) => DataDirect Technologies (6)
    - 2007 : Software AG (0) => WebMethods (1)
    - 2008 : Oracle (13) => BEA Systems (3)
    - 2009? : IBM (13) => Sun Microsystems (3)
  - Leaving the market
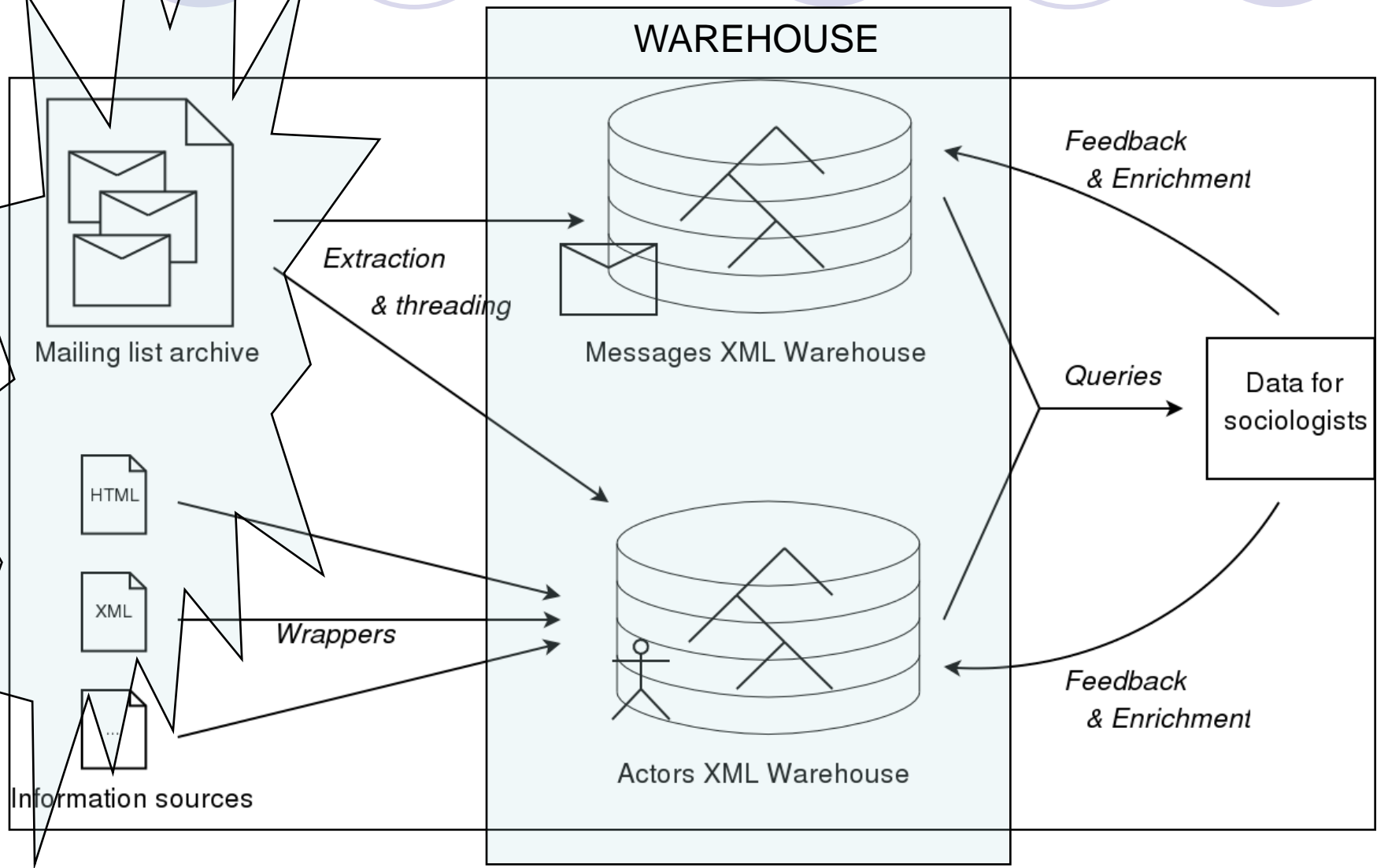
Two ISO standards: what does this mean?

- Is it a kind of Yalta?
  - MS business model for mass consumers
  - IBM business model for corporate market
- Or is IBM's Empire striking back?
- Firm concentration : back to Schumpeter's theory of monopoly
- Open source standards do not necessarily lead to an open market

Thank you

Any questions ?

WEB Methodology

WAREHOUSE

Feedback & Enrichment

Extraction & threading

Messages XML Warehouse

Mailing list archive

Queries

Data for sociologists

HTML

Wrappers

XML

Feedback & Enrichment

...

Actors XML Warehouse

Information sources

"Technical characteristics"

- Data corpus
  - Lists : 8 (most of the W3C XQuery related lists)
  - Mails : 21 464
  - Actors : 3764 (72 key actors)
  - Recommandations (more than 10000 pages)
- Software used
  - Webstand protoype (acquisition, store, query, edit)
  - MonetDB (Freeware XML database)
  - XML Spy (schema management – to be replaced by in-house software)
  - Microsoft Access
  - Microsoft Exel
  - Pajek
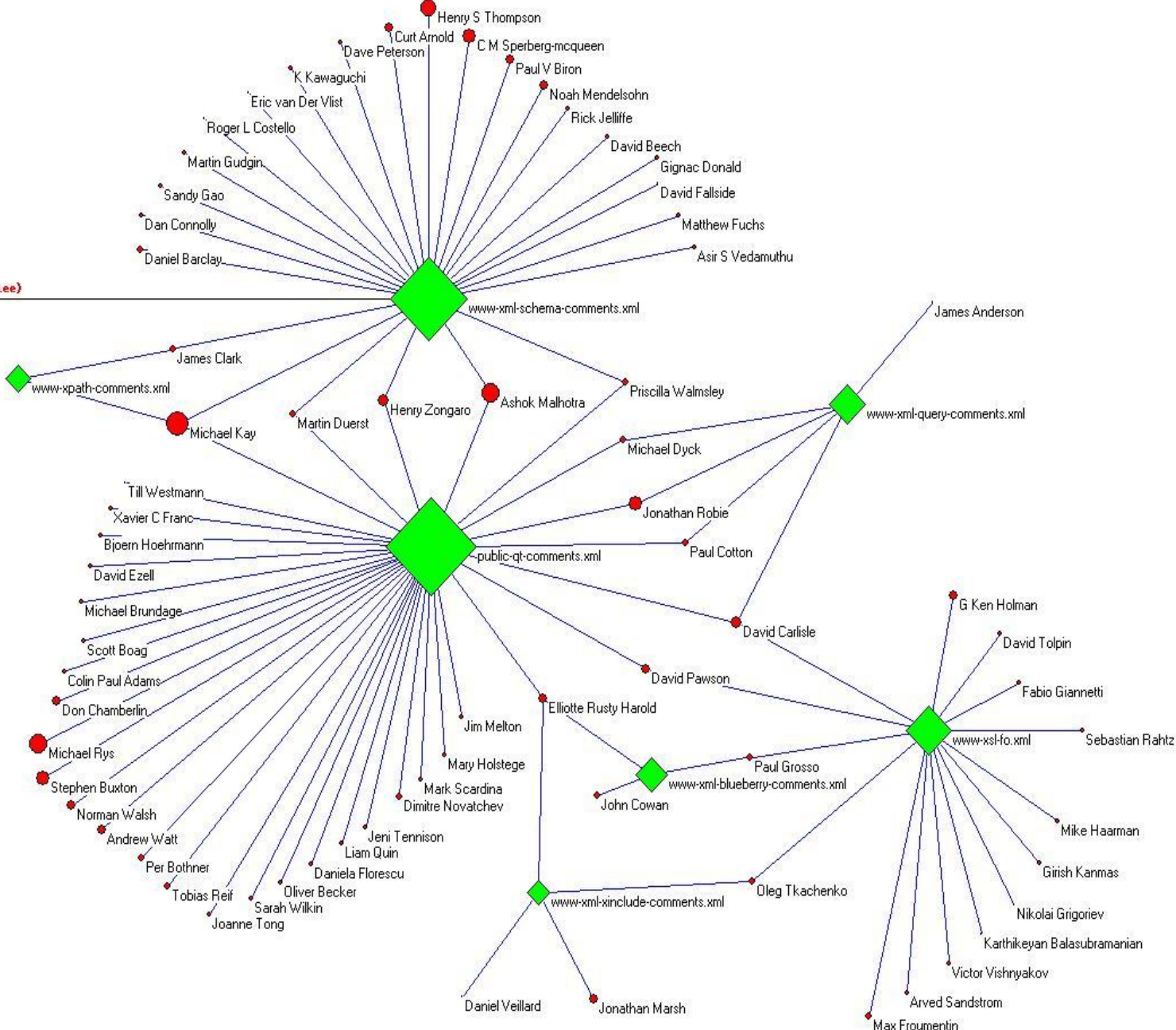
Mapping of the activism of individuals on the public mailing-lists of the W3C concerning XML standards