Workshop at the
17th International World Wide Web Conference
April 22, 2008

Linked Data on the Web

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The Web of Documents and the Web of Data

The Web of Documents

- **Analogy**
  - a global **filesystem**
- **Designed for**
  - **human** consumption
- **Primary objects**
  - **documents**
- **Links between**
  - **documents** (or sub-parts of)
- **Degree of structure in objects**
  - fairly **low**
- **Semantics of content and links**
  - **implicit**

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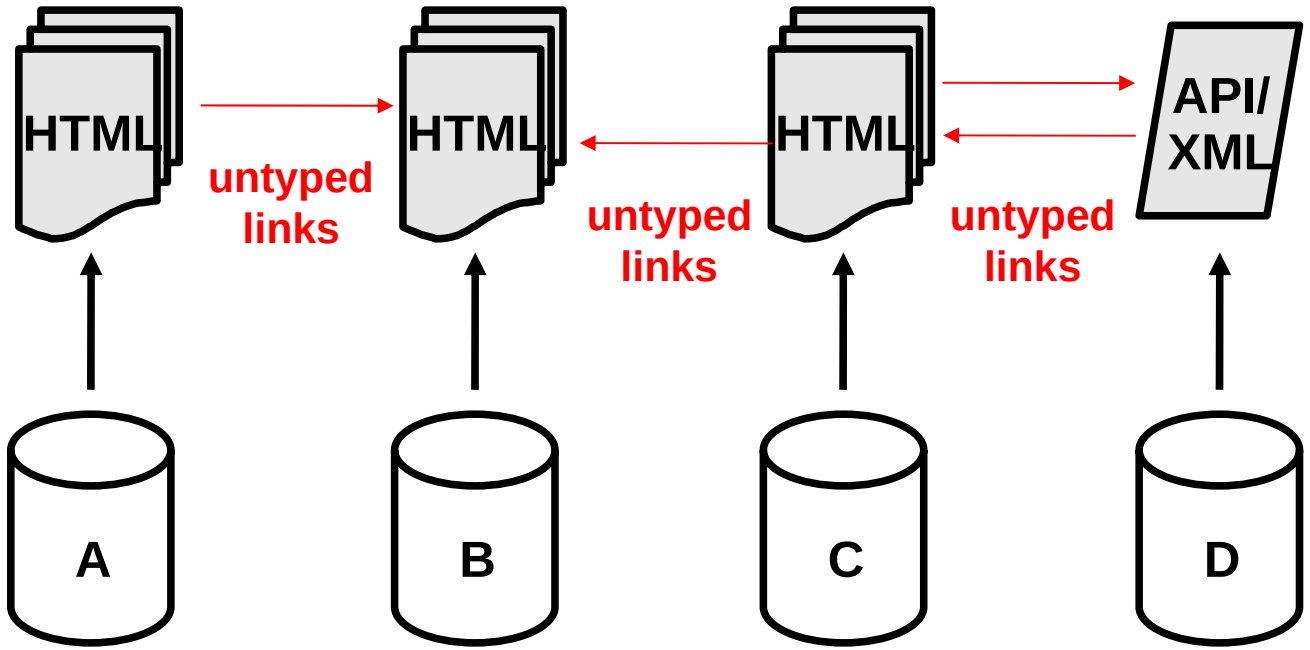
The Web of Documents

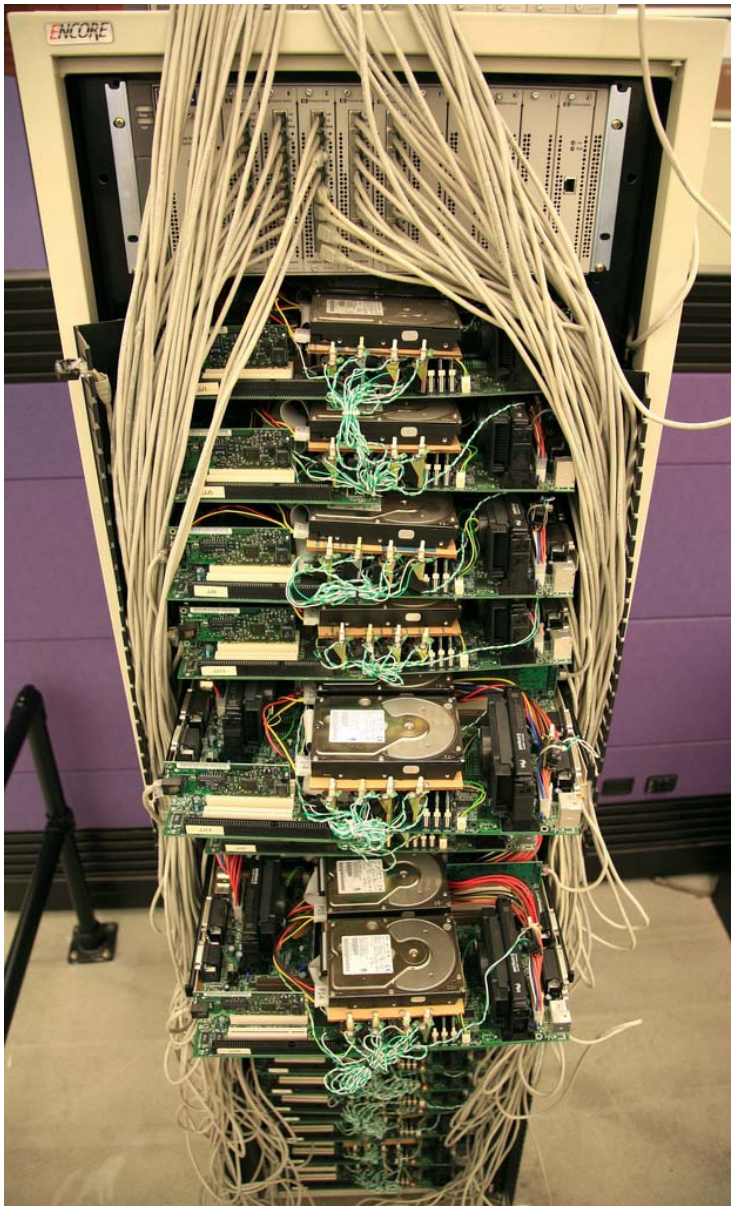


The Web of Documents: Issues

- **Simplicity**
  - Loosely structured data, untyped links, disconnected data sets
- **Integration**
  - Show me all the publications from Semantic Web-related conferences in 2007
- **Querying**
  - Which WWW2008 papers have been written by people from companies of less than 100 people?

The Web of Data

- **Analogy**
  - a global **database**
- **Designed for**
  - **machines** first**, humans** later
- **Primary objects**
  - **things** (or descriptions of things)
- **Links between**
  - **things** (including documents)
- **Degree of structure in (descriptions of) things**
  - **high**
- **Semantics of content and links**
  - **explicit**



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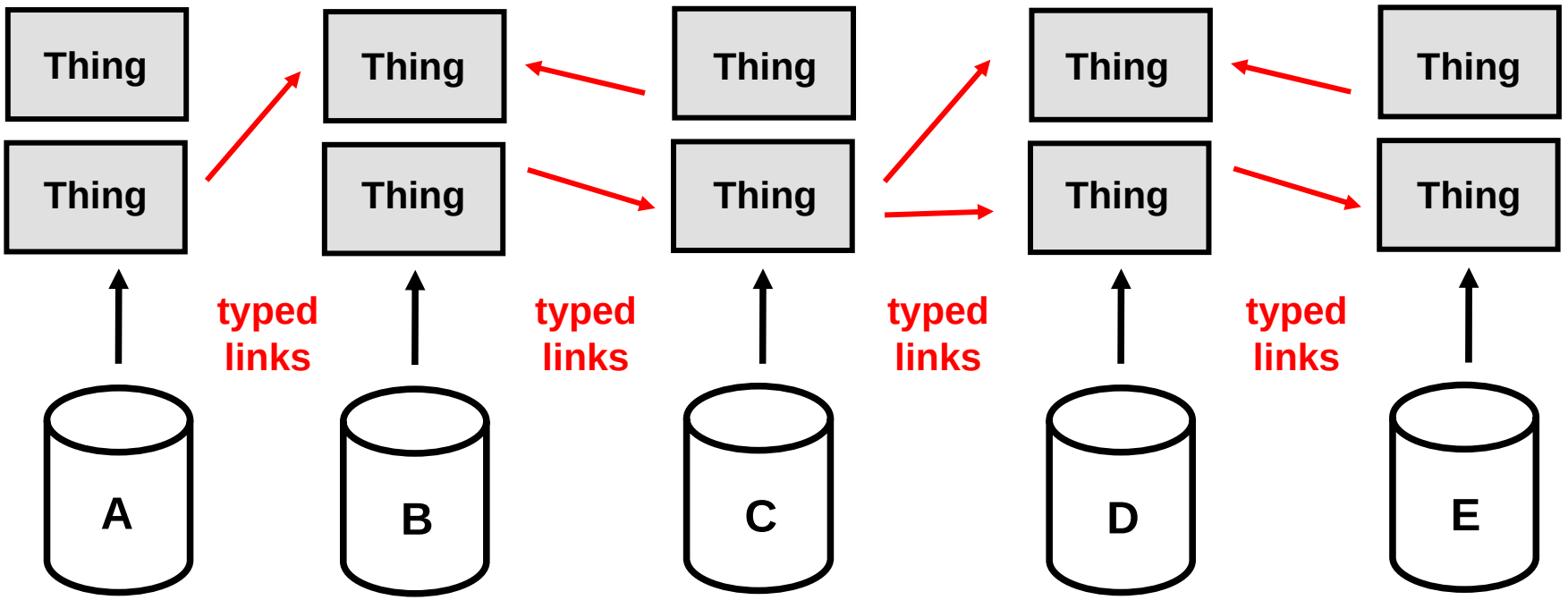
The Web of Data



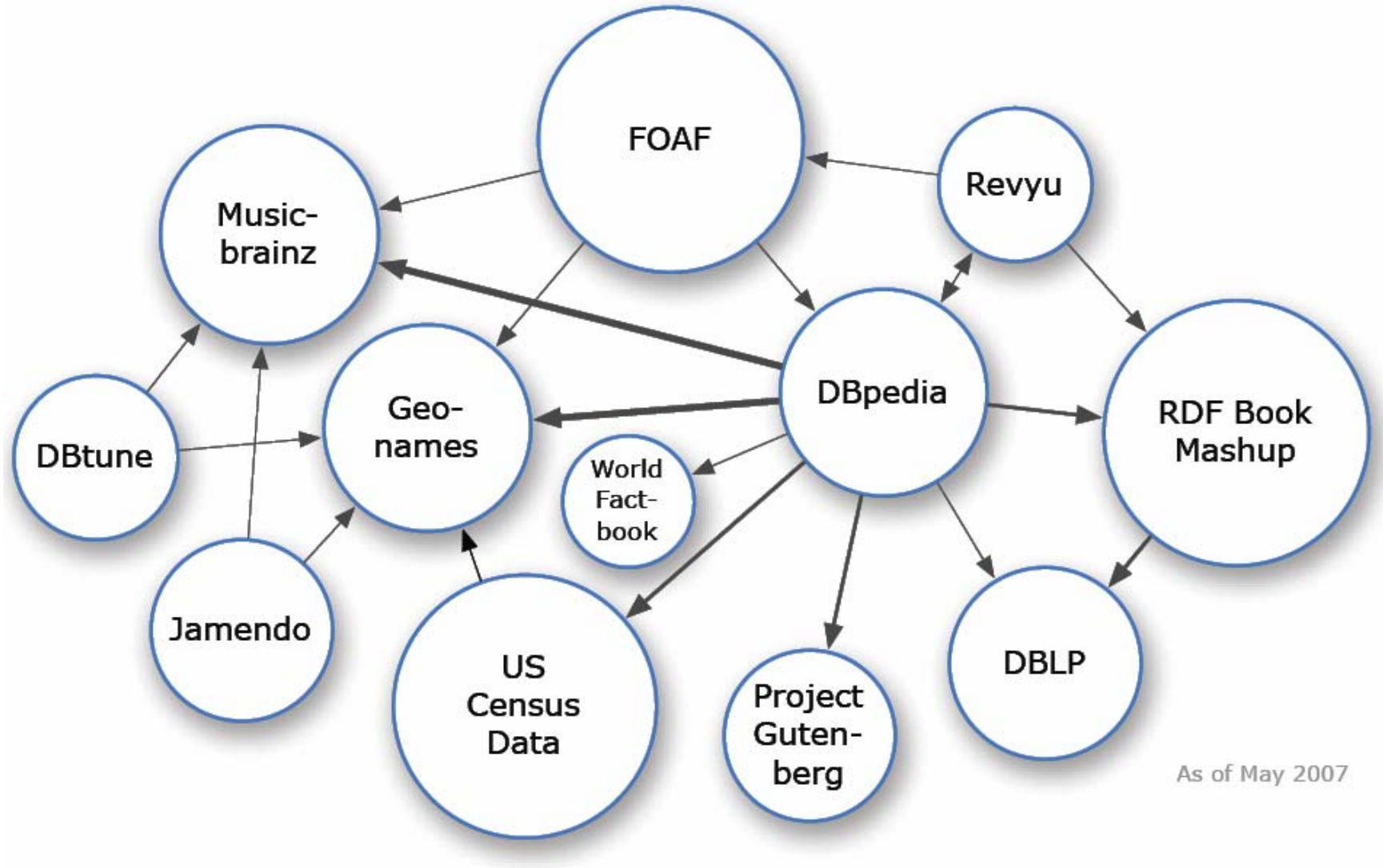
Linked Data Principles

1. Use URIs as names for things
2. Use HTTP URIs so that people can look up those names
3. When someone looks up a URI, provide useful RDF information
4. Include RDF statements that link to other URIs so that they can discover related things

Tim Berners-Lee 2007

http://www.w3.org/DesignIssues/LinkedData.html

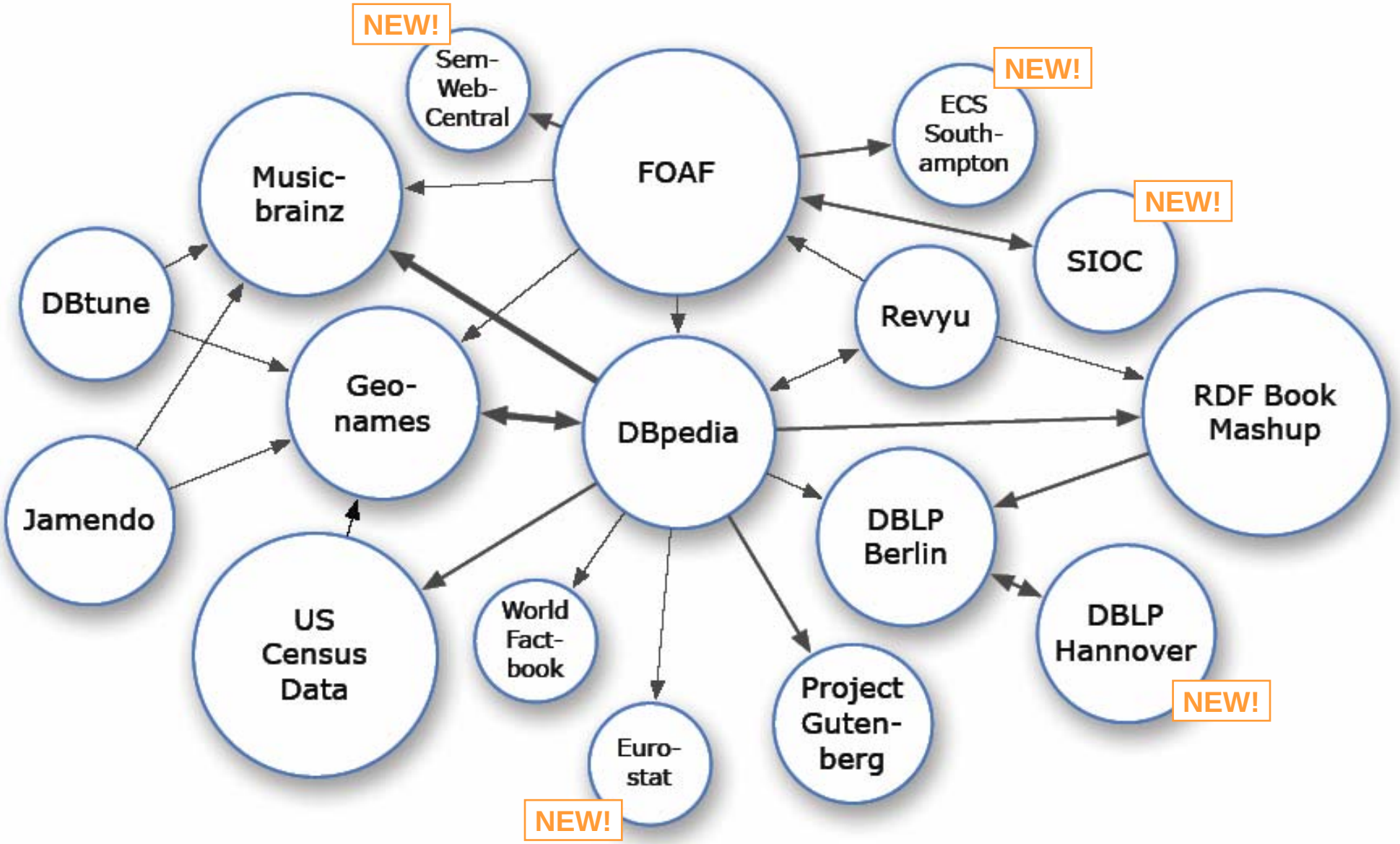
Linked Data on the Web: May 2007



- Over 500 million RDF triples
- Around 120,000 RDF links between data sources

Tim Berners-Lee, Christian Bizer, Tom Heath, Kingsley Idehen: Linking Data on the Web (4/22/2008)

Linked Data on the Web: July 2007



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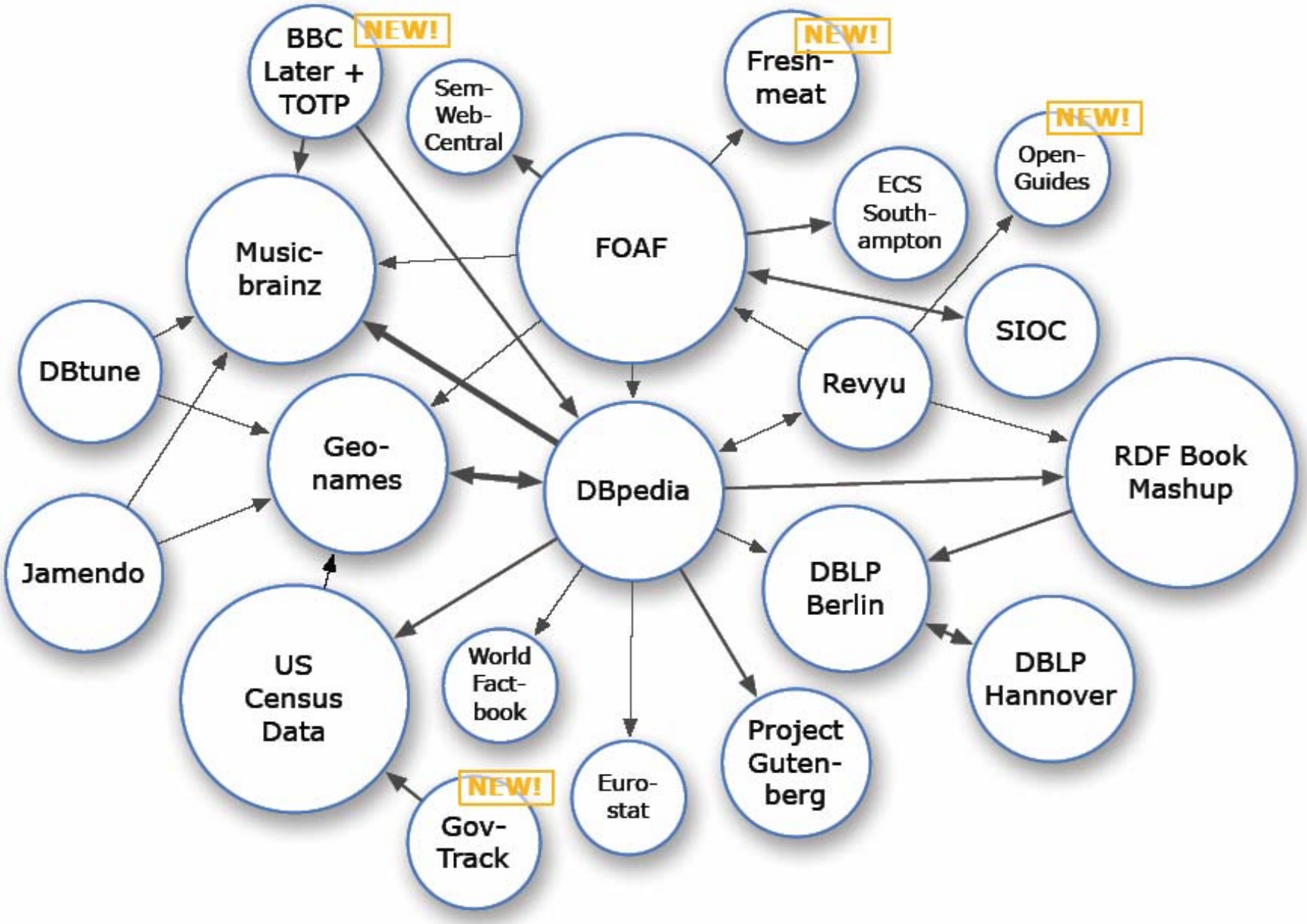
Linked Data on the Web: August 2007



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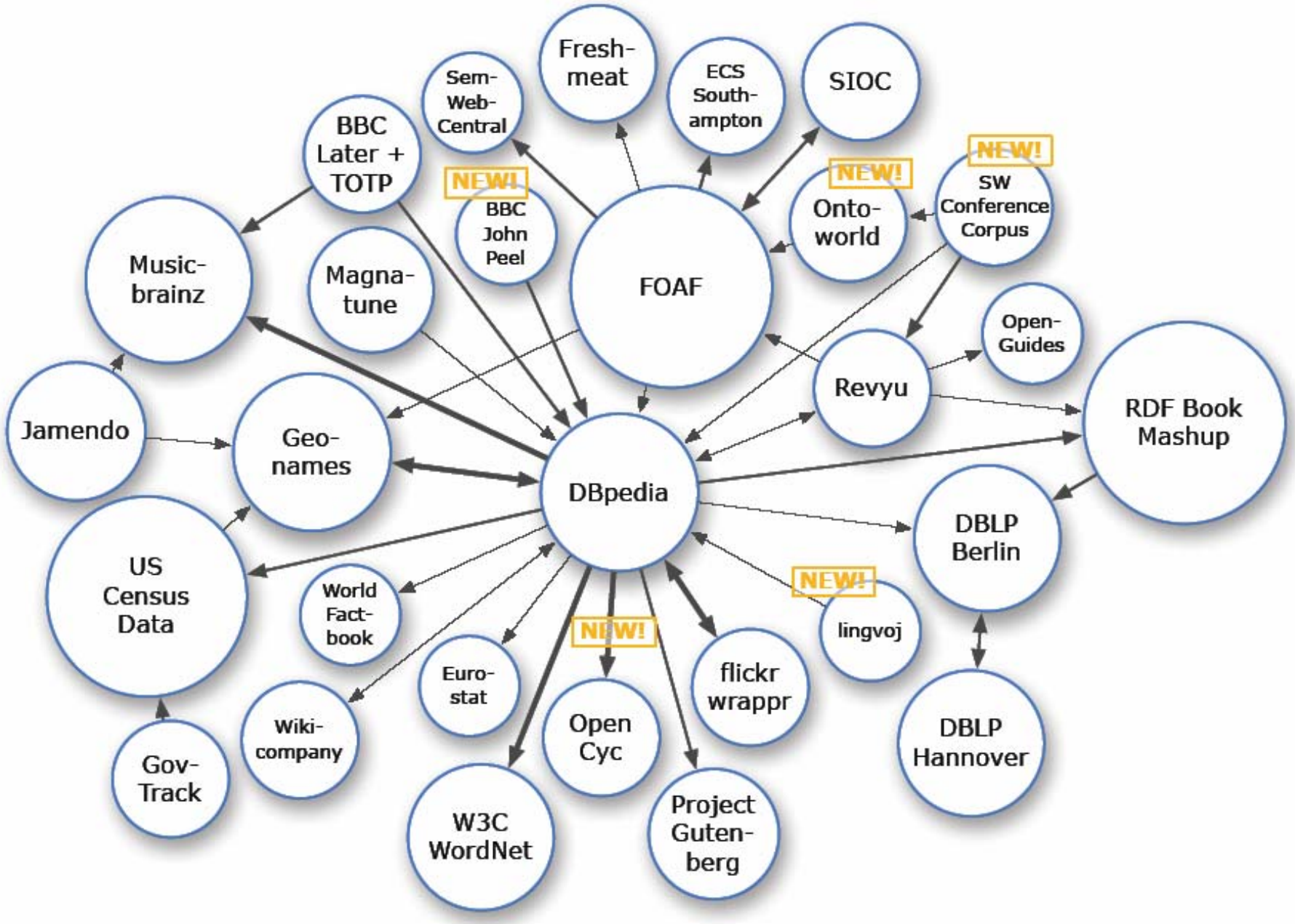
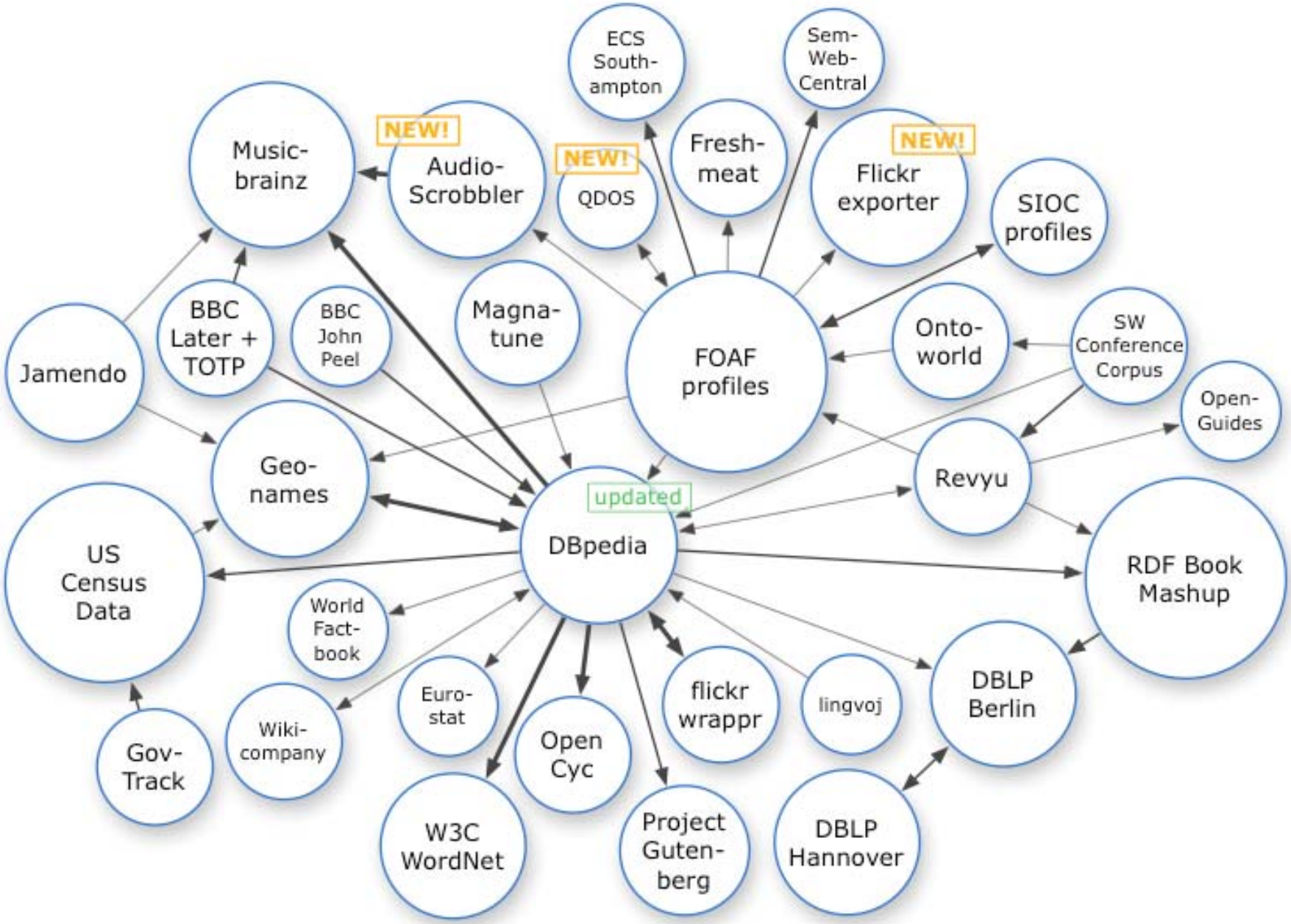
Linked Data on the Web: November 2007



Tim Berners-Lee, Christian Bizer, Tom Heath, Kingsley Idehen: Linking Data on the Web (4/22/2008)

Linked Data on the Web: February 2008



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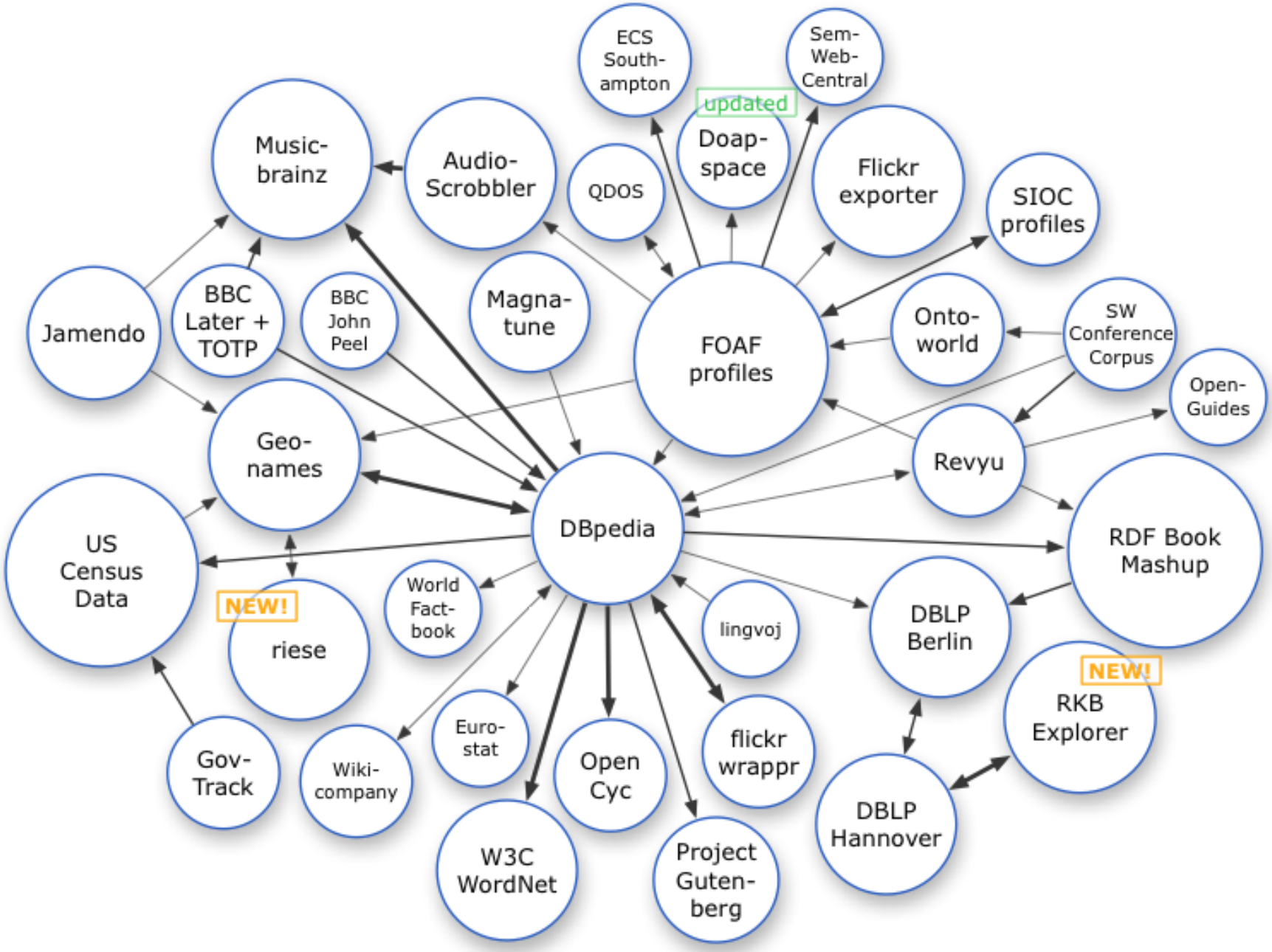
Linked Data on the Web: April 2008



Tim Berners-Lee, Christian Bizer, Tom Heath, Kingsley Idehen: Linking Data on the Web (4/22/2008)

Triple Count

- More than 2 billion RDF triples
- Interlinked by around 3 million RDF links

(rough estimates)

Linked Data Browsers

- Tabulator Browser (MIT, USA)
- Disco Hyperdata Browser (FU Berlin, DE)
- OpenLink RDF Browser (OpenLink, UK)
- Zitgist RDF Browser (Zitgist, USA)
- Humboldt (HP Labs, UK)
- Fenfire (DERI, Irland)
- Marbles (FU Berlin, DE)

Web of Data Search Engines

- Falcons (IWS, China)
- Sindice (DERI, Ireland)
- Watson (Open University, UK)
- SWSE (DERI, Ireland)
- Swoogle (UMBC, USA)
- MicroSearch (Yahoo, Spain)

Structure of the Day

1. **Session: Populating the Web with Linked Data**

   8:50-10.10

   10:30-12:10

2. **Session: Consuming Linked Data from the Web**

   13:30 – 3:10

3. **Session: Architecture and Conceptual**

   15:30 – 17:30

4. **Discussion about further Research and Deployment Agenda**

   17:30 – 18:00