

Continuous RQL Query Processing on top of DHTs

Iris Miliaraki

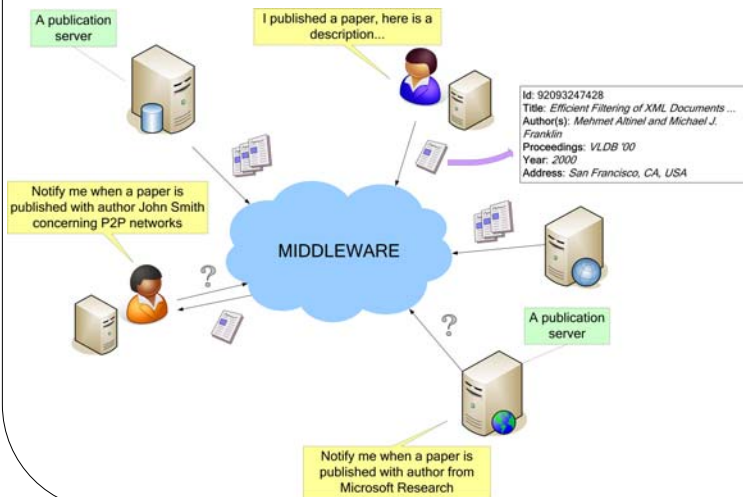
Supervisor: Manolis Koubarakis

Dept. of Informatics and Telecommunications

University of Athens



1. Publish/Subscribe scenario



1. A subscriber submits a **profile** or a **continuous query** describing the resources that interest him, *e.g. papers that he is interested in*.
2. A publisher publishes resources providing a **description** of them, *e.g. academic papers*.
3. Some **middleware** is used for matching profiles and resource descriptions and notifies subscribers when a resource arrives that matches their profile.

Problem

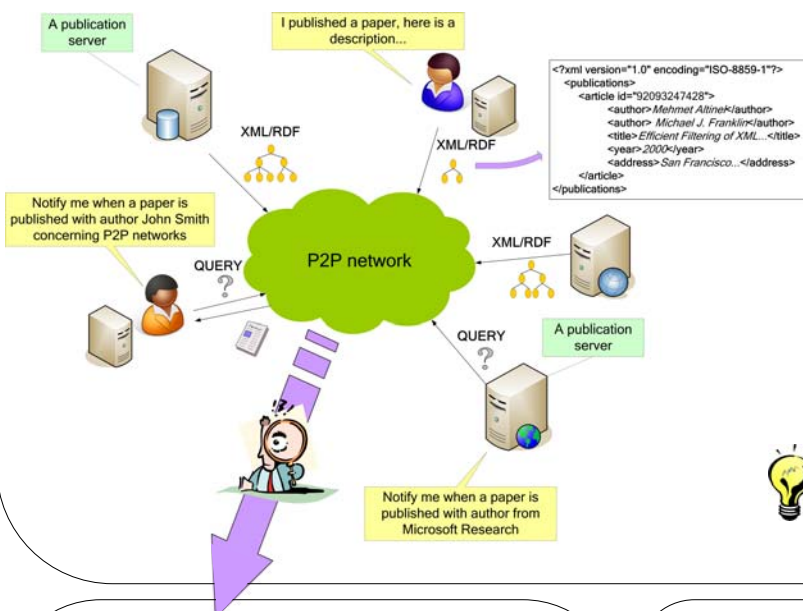
How to match efficiently profiles and resource descriptions?

Goal



Design a middleware that will provide **efficient** and **scalable** matching

2. Our work



1. Resources are described using the **XML** or **RDF** data model.
2. Profiles are written using a query language like **XPath** or **RQL**.
3. A **peer-to-peer** network is used as middleware for matching profiles against descriptions.

Research Problem

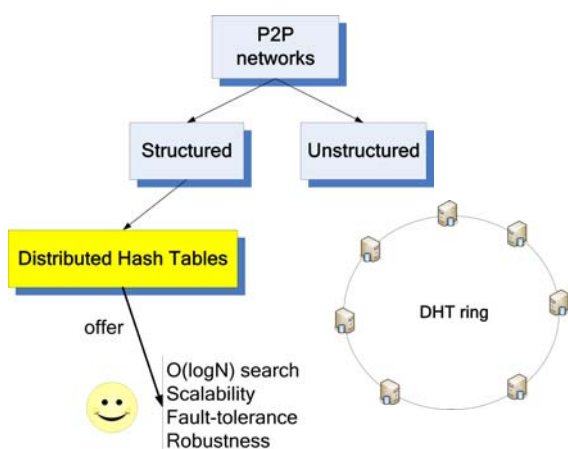
How to match efficiently profiles written using XPath or RQL and XML or RDF resource descriptions on top of a P2P network?

Research goal

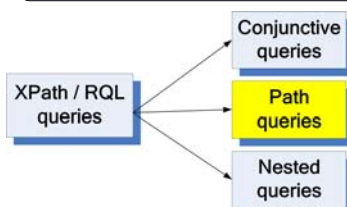


Design algorithms for providing efficient and scalable matching between XML or RDF descriptions and XPath or RQL queries on top of a P2P network

3. Distributed hash tables



4. Research status and next steps



- ✓ Current focus is on **path queries** in both XPath and RQL.
- ✓ Ongoing work will be submitted to international conference.
- Future work on other classes of queries.

5. Related work

- ✓ Work done previously from our group for **conjunctive triple-pattern RQL queries** (subset of RQL).
- ✓ Work on closely-related areas like **Information retrieval**.
- ✓ Work on XML filtering in a centralized manner.