Building Dynamic Market Places Using HyperQueries
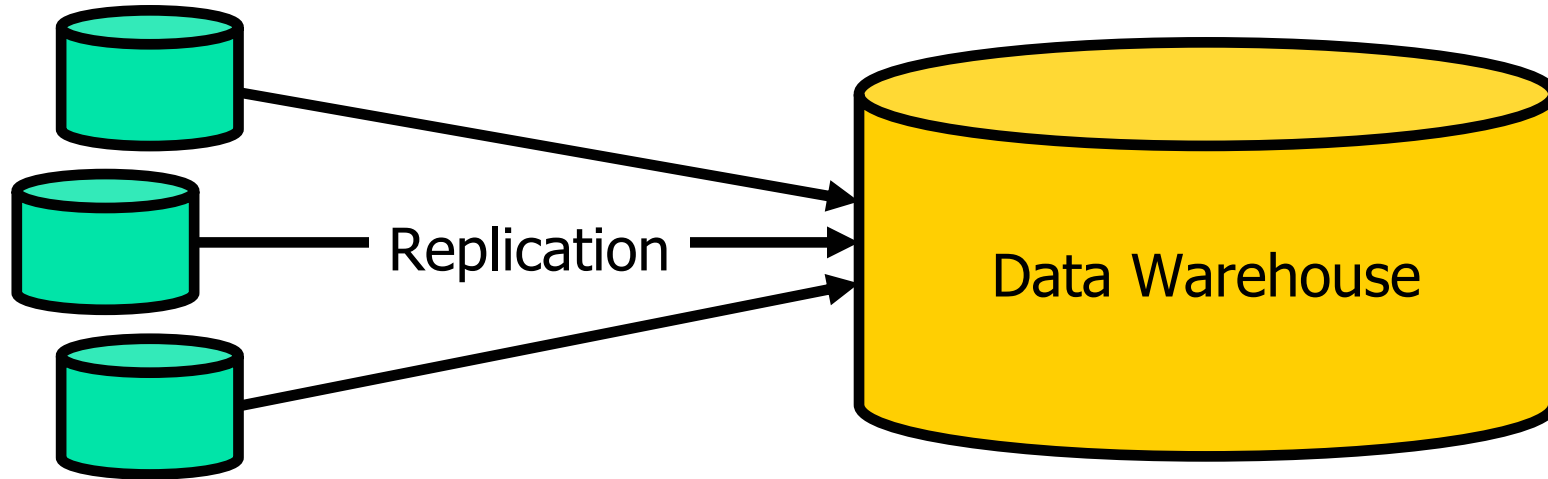
Christian Wiesner

Peter Winklhofer

Alfons Kemper

Universität Passau
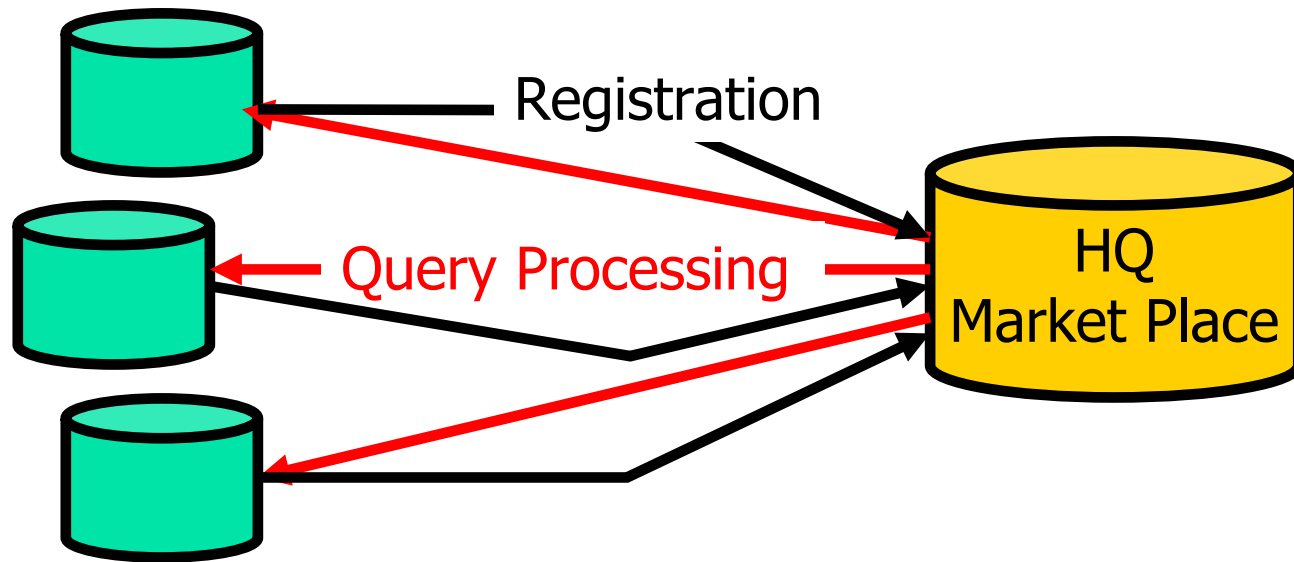
Traditional Virtual Market Places

Replication → Data Warehouse

Traditional techniques
- Replicate data in a central data warehouse
- Severe problems
  - Security and privacy violations
  - Coherence problems
  - Schema integration problems
  - Fixed query operators

HyperQuery Market Places

Registration

Query Processing
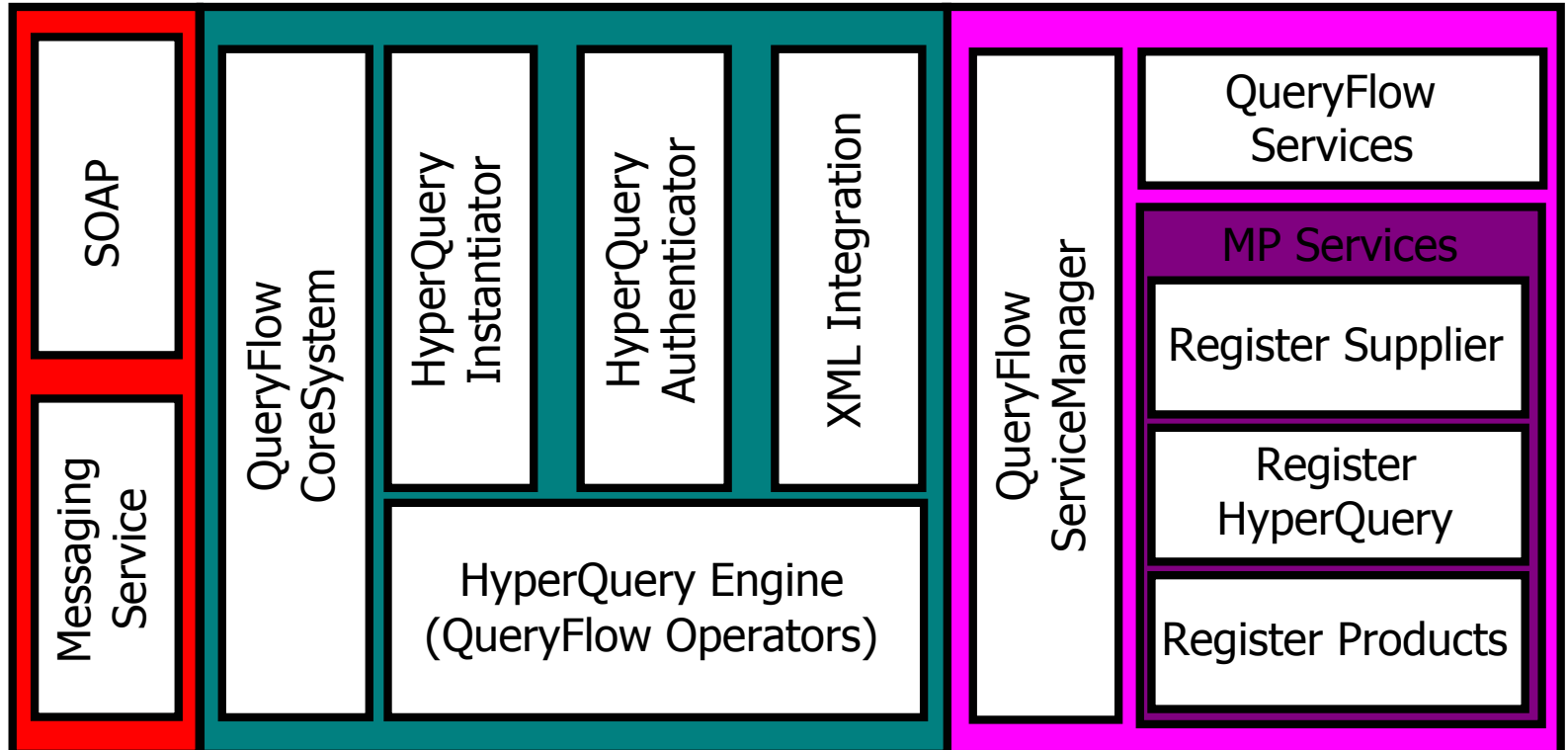
HQ
Market Place

HyperQuery framework

- Market place is intermediary
- Distribute query processing along allocation schema of data
- Objects & queries flow through the WWW
- Scalability

Architecture

Architecture diagram:

- **SOAP** / **Messaging Service** (red box)
- **QueryFlow CoreSystem** | **HyperQuery Instantiator** | **HyperQuery Authenticator** | **XML Integration** | **HyperQuery Engine (QueryFlow Operators)** (teal box)
- **QueryFlow ServiceManager** | **QueryFlow Services** | **MP Services**: Register Supplier, Register HyperQuery, Register Products (magenta box)

ObjectGlobe:
- **Distributed Query Processor**
- **Basic Security**

Demonstration

- Example market place
- Customers join the market place
- Companies join the market place
- Query processing

- **ObjectGlobe: Ubiquitous query processing on the Internet**
  Braumandl et.al. VLDBJ 2001
- **HyperQueries: Dynamic Distributed Query Processing on the Internet**
  Kemper, Wiesner. VLDB 2001
- http://www.db.fmi.uni-
  passau.de/projects/QueryFlow