

# Efficient Query Execution In Replicated Environments

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# WALS AIP

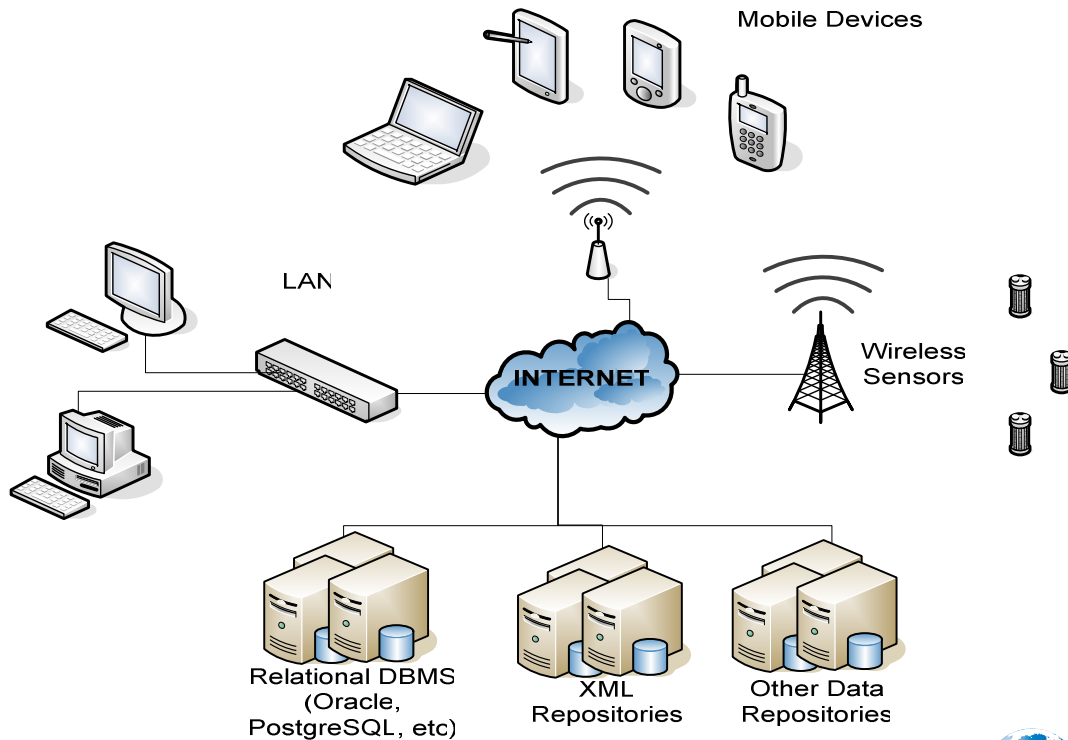
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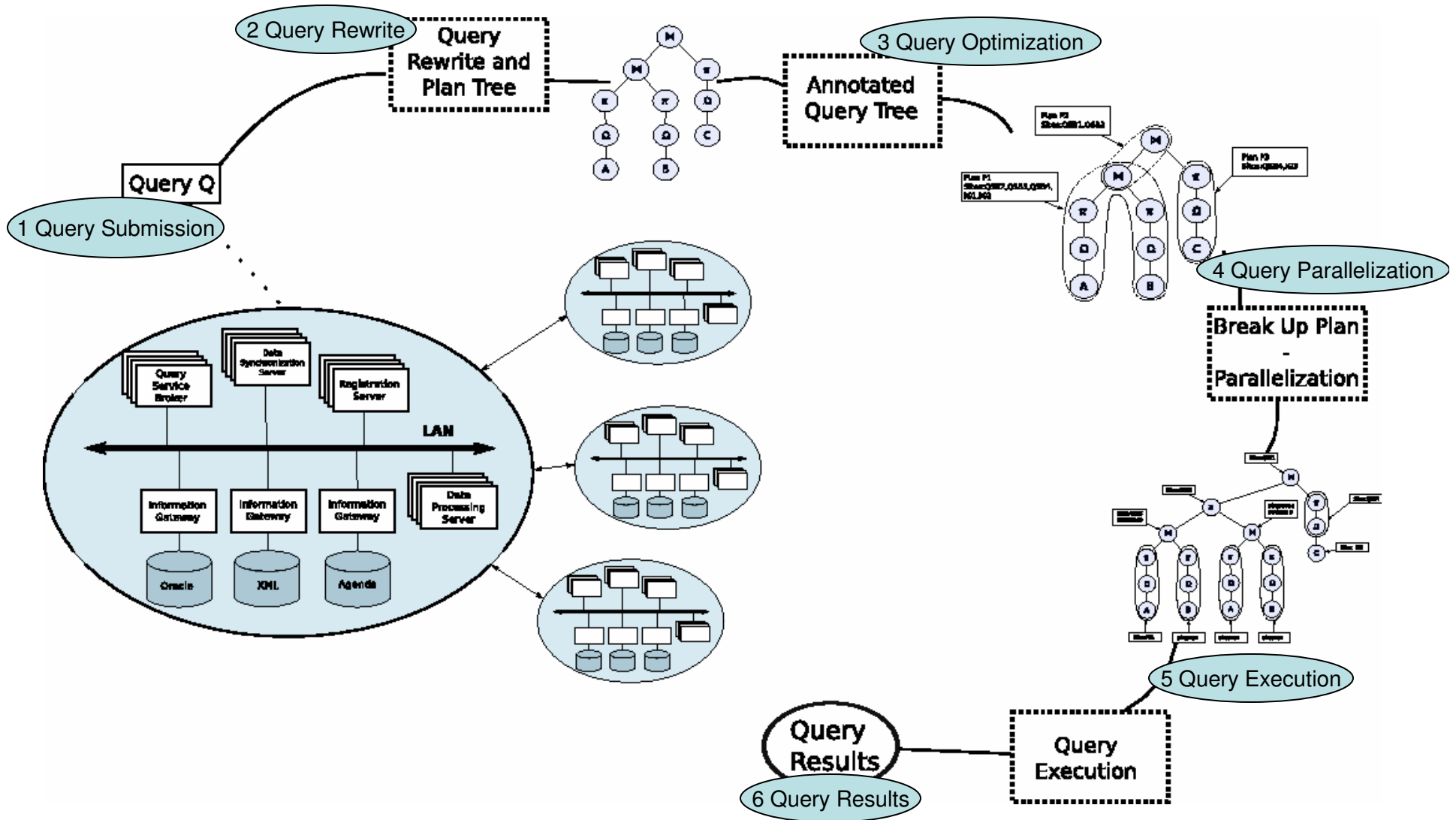


# Problem Formulation

- How to Solve distributed queries in cooperative fashion for Database Middleware Systems (DMS) on replicated environments.
- DMS have been widely used to integrate and access vast quantities of data, but it is time consuming solution.
- Research efforts on DMS usually considered replication as a way to ensure reliability and availability but little attention to address time constraints.



# Methodology



# Application Tools

- Java SE 1.5 – programming language
- Axis Web Toolkit – Web services
- Eclipse 3.2 – development environment
- JDBC – database connectivity
- Apache Tomcat – Web container
- Relational DBMS
  - PostgreSQL
- Unix

# Research Results

- Parallel Query Execution Algorithms
  - Modified Grace Hash Join
  - Hash Access Mechanism
- Load-balancing via a Hybrid Strategy for query processing amongst replicas
  - Static data and plan partitioning methods
  - Dynamic data and plan partitioning methods
- IEEE ICDE 2008 Paper submission (06/07)
- Upcoming Software Release (08/07)