

MDP2P : Massive Data in Peer-to-Peer (2003-2006)



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Objectives

- Potential of P2P systems
 - scale up to large numbers of nodes
 - high availability (through replication)
 - performance (through parallelism)
- MDP2P = *high-level services for managing text and multimedia data in large-scale P2P systems*
 - query capabilities
 - update support (and data consistency)
- Validation in two different P2P contexts:
clusters of PC and the Internet



Participants

- Atlas, INRIA & LINA, Nantes
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 - 1 ACI Ing. (16 months)
- Gemo, INRIA Futurs, Saclay
 - S. Abiteboul, **I. Manolescu**, T. Milo, M-C. Rousset
- Paris, IRISA, Rennes
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 - 1 ACI postdoc (1 year)

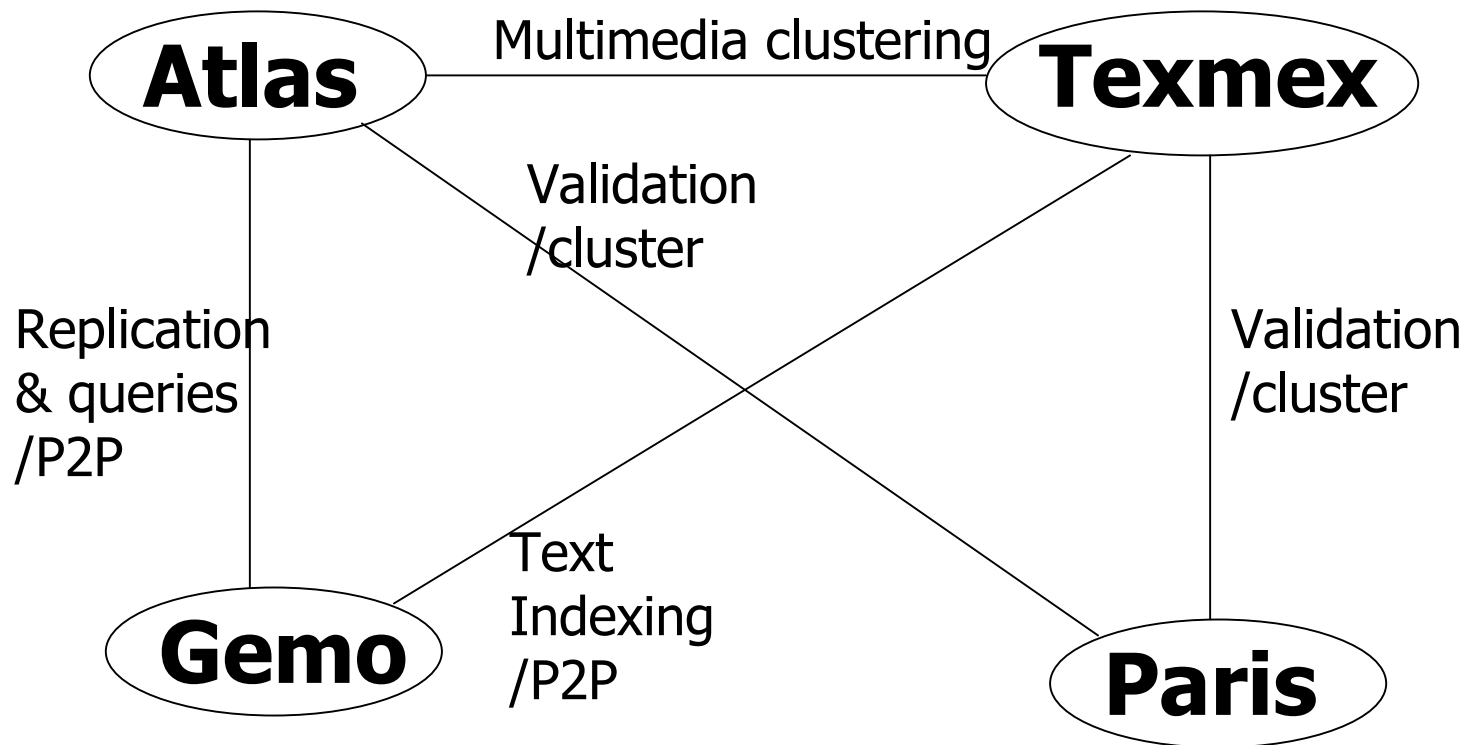


Research themes

- Scaling up data replication and load balancing
 - Support for update and retrieval queries
- Scaling up indexing and retrieval of text and multimedia documents
 - Exploit parallelism and clustering
- Massive data management in AXML
 - Support for XML documents with Web service calls



Inter-team collaborations





Progress at t_0+12

- RepDB*
 - Preventive DB replication software for database clusters
 - Validation on Paris' 32-node cluster
 - OSS version (GPL) delivered in 11/04
- Atlas P2P Architecture (APPA)
 - P2P network independent architecture
 - Replication, queries and caching solutions designed



Progress at t_0+12 (cont.)

- Multimedia data clustering
 - Parallelization of Cure algorithm
 - Validation on multiprocessors
 - OpenMP library for nested parallelism (to be delivered as OSS)
- AXML
 - Replication of AXML documents
 - Lazy evaluation of AXML queries
 - Global indexing of AXML resources using a DHT network (Pastry)



Future work

- APPA
 - Implementation and validation on JXTA
- Multimedia clustering
 - Validation on large clusters
- AXML
 - Intentional indexing of AXML resources (through web service calls)
 - Validation on large-scale P2P