

National Partnership for Advanced Computational Infrastructure

- **Facilitate the conduct of science through development of knowledge resources**
 - Publish - Data collection infrastructure
 - Info discovery - Digital Library infrastructure
 - Data access - Data handling infrastructure
- **Apply to federal, state, and university projects**
 - NSF / DOE / NASA / USPTO / NARA / Census Bureau
 - California Digital Library
 - UCSD - Pacific Rim Digital Library Alliance

Common Information Model

- **eXtensible Markup Language (XML)**
 - Use tags to define semantic context for components of the data set
- **Document Type Definition (DTD)**
 - Provides semi-structured representation for organizing tags that can be applied to groups of digital objects
- **Development of standards for tags**
 - Digital sky, Protein Data Bank, Neuroscience brain images
 - California Digital Library - Art Museum Image Consortium

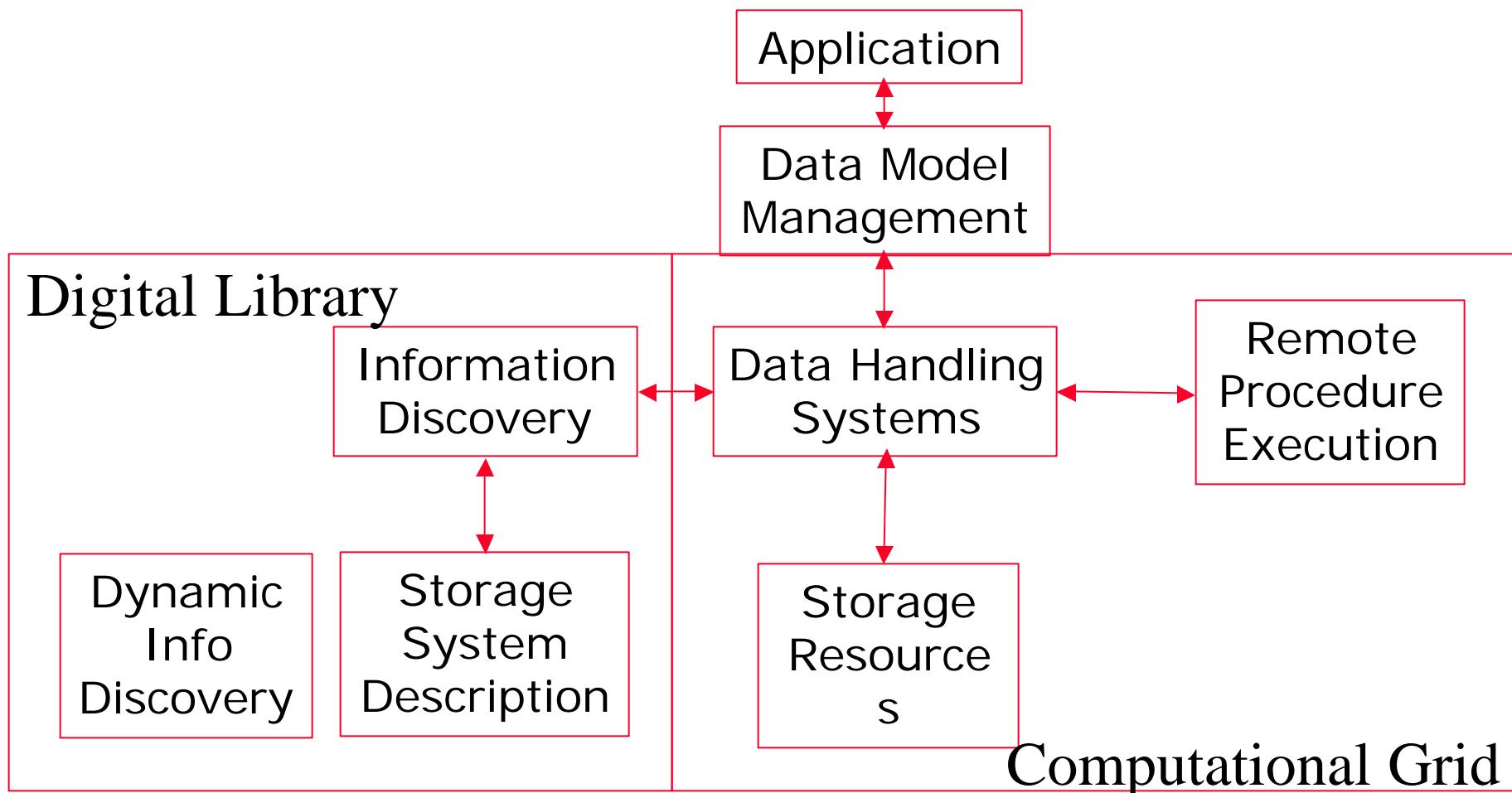
Technology Sources

- **Archive Community**
 - IEEE Mass Storage Systems Technical Committee
 - Scalable storage systems
- **Digital Library Community**
 - NSF Digital Library Initiative, Phase II
 - Information management mediation - XML
- **Supercomputer Community**
 - Scalable analysis platforms
- **Grid Forum**
 - Data handling systems for interoperability
- **Archivist Community / Library Community**
 - Management policies and standards

Information Management Architecture

- **Digital library community technologies**
 - Distributed information resources
 - Digital library interoperability protocols - SDLIP
 - Mediation of information using XML - MIX
- **Grid Forum technologies**
 - Support for distributed services / procedures
 - Inter-realm authentication
 - GSI Grid Security Infrastructure
 - Data handling system
 - Storage Resource Broker, Meta-data Catalog

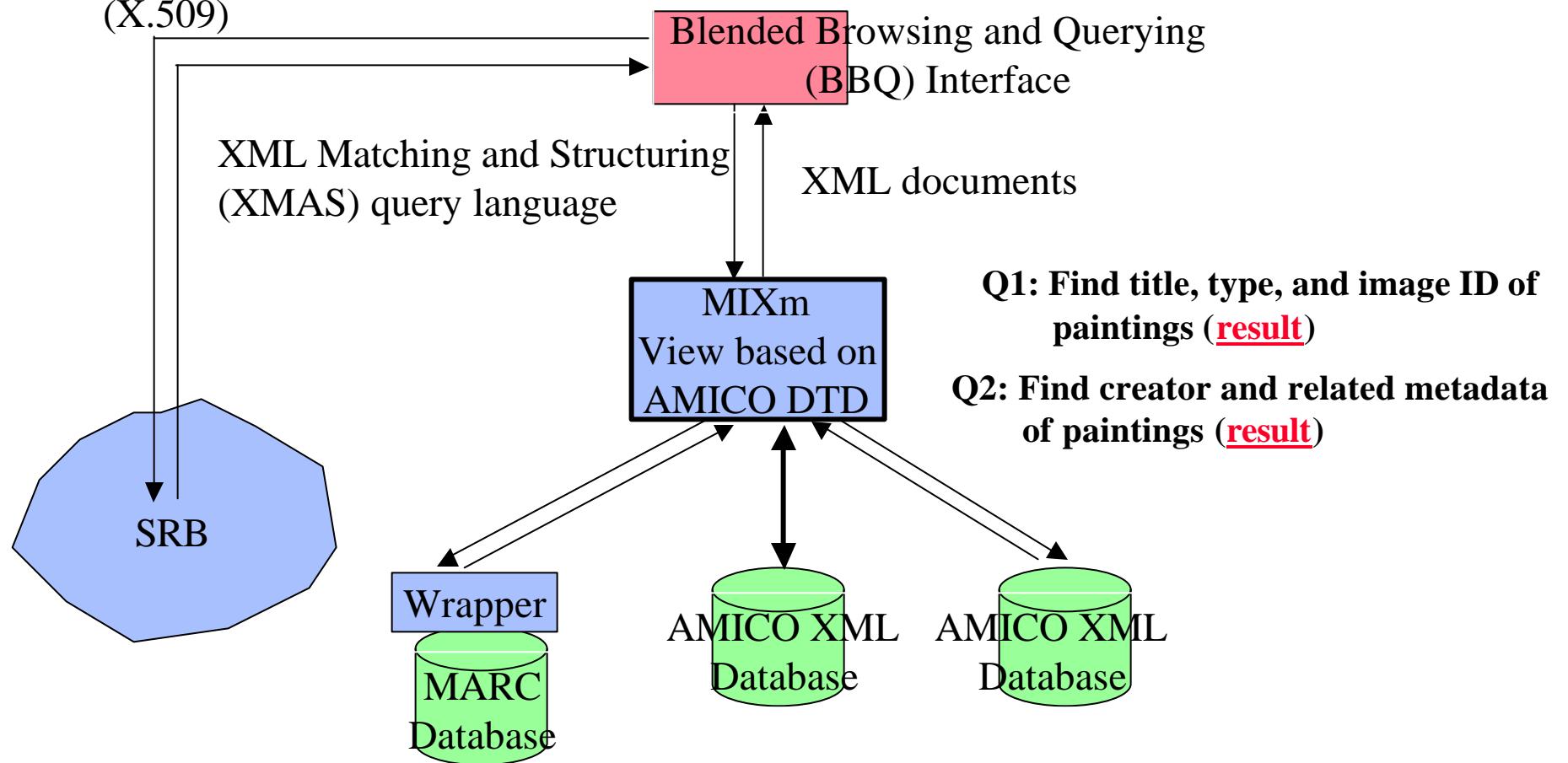
Technology Sources



XML Query Language

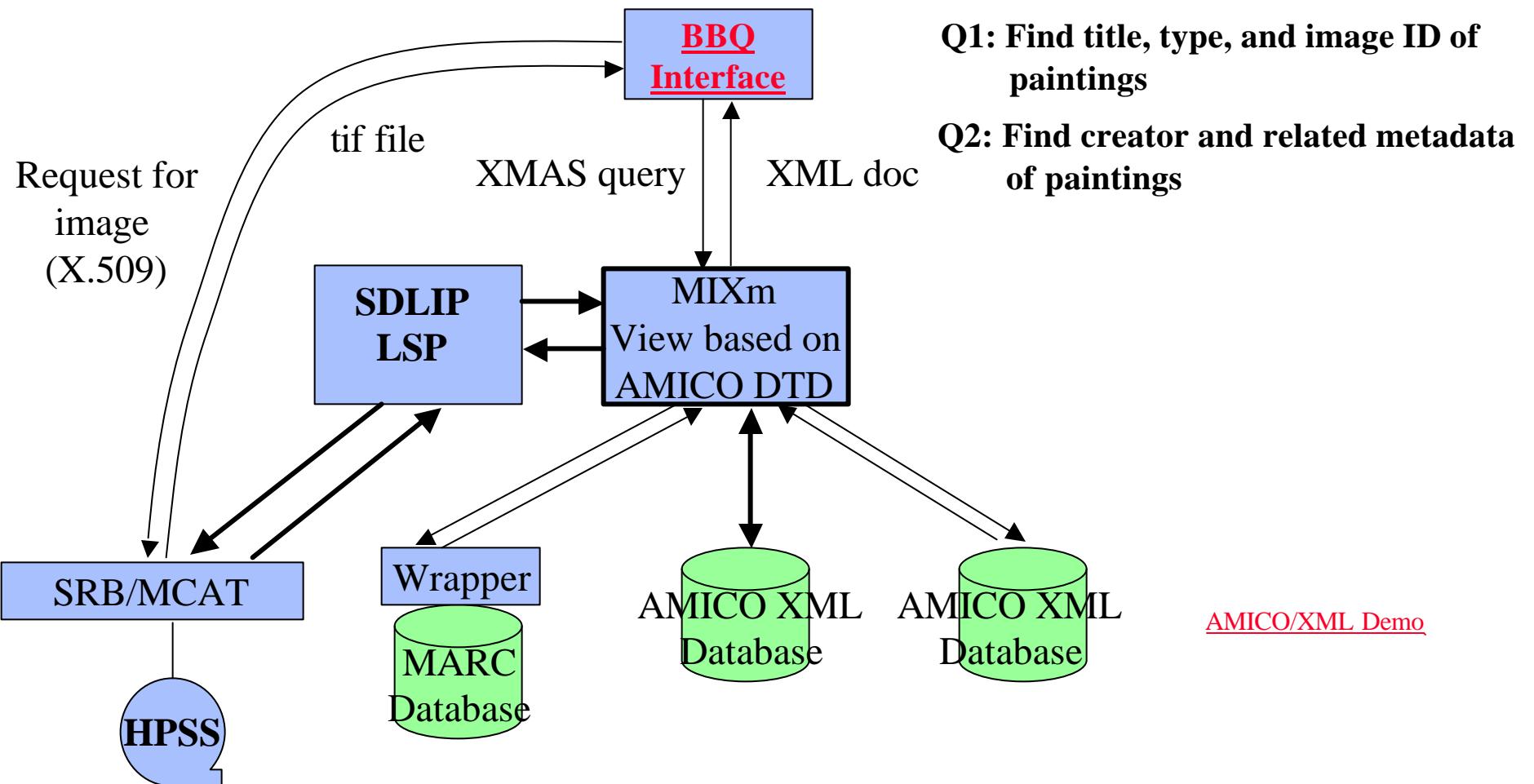
Joint research effort with UCSD Database Lab
(Yannis Papakonstantinou)

Request for data
(X.509)



California Digital Library (CDL) Prototype

The Art Museum Image Consortium (AMICO)





AMICO Presentation Interface

UCSD DB-Lab

UC San Diego, Database Laboratory

San Diego Supercomputer Center

SDSC/DICE

Federation of Data Collections into Digital Libraries

