

Database and Business Intelligence

XBRL Pacific Rim Technology & Workshop Summit

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UBmatrix



Topic

- The very promise of XBRL is to provide comparability across documents.
- Until now, the standard approach has been to shred the XBRL instance document into a standard relational database or attempt to leverage an XML data store.
- What are the challenges of applying standard database, ETL and query tools to XBRL



Topic

“What about the consumer?”

– Mark Bolgiano
July 29th 2009



3 Different Perspectives

- **Morningstar** – Morningstar, Inc. is a leading provider of independent investment research in North America, Europe, Australia, and Asia.
 - Yi Wang
 - Ivy Li
- **Informatica** – Informatica enables organizations to gain a competitive advantage in today's global information economy by empowering them to access, integrate and trust all their information assets.
 - Karen Hsu
- **Oracle** – Oracle is the world's largest business software company.
 - Mark Drake
 - Vikas Arora



What Are The Database and Business Intelligence Challenges?

- **From Documents to Data**
 - without losing the metadata
- **Taxonomy – Access to metadata / information**
- **Taxonomy – a moving target**
 - Multiple taxonomies
 - Taxonomy extensions
 - Taxonomy versions
- **Instance Document**
 - Contexts, scenarios, dimensions
- **Performance**
 - Thousands to millions of instance documents
 - Query response in seconds



Let's Get Interactive

(Trying to channel John T)

- **Who here is collecting / consuming XBRL documents?**
- **What do you do with them once you collect them?**
- **How do you store them?**
 - As documents / blobs
 - Shredded into relational tables
 - In an XML database
- **How many?**
- **What are your issues?**



Typical XBRL Queries

– Current Data

- **Taxonomy Based**

- Retrieve Entire Data Set for “Current” positions

- Retrieve Part Data Set for “Current” positions

- Examples

- Balance Sheet for IBM for 2006

- Including Corrections or Re-statements

- Leverage Taxonomy

- Concepts in Balance Sheet

- Custom Reports Defined with Private Extensions

- Leverage Taxonomy Labels, Language, Dimensions



Typical XBRL Queries

- Fact Values

- **Fact Based**

- Traditional SQL Queries

- Examples

- Total Assets for IBM for 2007
 - Entities with Total Assets > 1B

- Leverage Taxonomy

- Leverage Taxonomy Labels, Language, Dimensions



Typical XBRL Queries

- MultiDocument Queries

- **Fact based across all documents**

- Based on Traditional SQL Queries

- Examples

- Compare Net income for companies > \$1B sales
 - Key ratios for competitors

- Leverage Taxonomy

- Leverage Taxonomy Labels, Language, Dimensions
 - Treat filings as collections of facts



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Second Try

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