

Business Intelligence
for a **PASSIONATE**
COMMUNITY



Combining Disparate Data Sources for Reporting:
Which Method Should I Use?

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About Altek Solutions

- SAP BusinessObjects partner since 2000
- Specialize in Business Intelligence solutions
 - Consulting services
 - Education
 - Software development
 - Resell SAP BusinessObjects software
- www.alteksolutions.com
- Ryan Muldowney – Solutions Architect
- Mike Allison – Managing Consultant



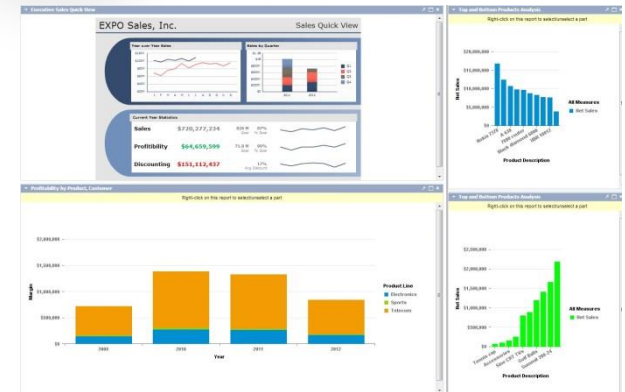
Combining Disparate Data Sources

- Bringing data together for reporting has always been a challenge
- Multiple sources and platforms for data
 - RDBMS
 - Transactional systems
 - Flat files, Excel, Access
- Data is not always in the best format for reporting



Reportable Data

- What is reportable data?
 - Easy to use
 - Intuitive
 - Flexible
 - Accurate
- Should be #1 Priority in all Business Intelligence projects
- Once data is reportable, performance will follow suit
- Makes BI development easier moving forward



Setting your Expectations

- All organizations are different
 - Data
 - Resources
 - Budget
- One-Size does not always fit all
- Multiple methods can be utilized to fulfill project requirements
- Develop standards that work for your organization



What are my options?

- Several options for combining data
 - Manually in Excel
 - In a Data Warehouse using an ETL process
 - In a Web Intelligence or Crystal Report
 - In the Universe (UNX)



Combining Data Manually

- Datasets can be combined manually using Excel
 - Data Dump from source system
 - Vlookups
- Manipulate data leveraging Excel functions
 - Sums
 - Counts
 - Complex functions
- Visualize by using built-in Excel graphs or consume in a reporting tool like Web Intelligence



Combining Data Manually

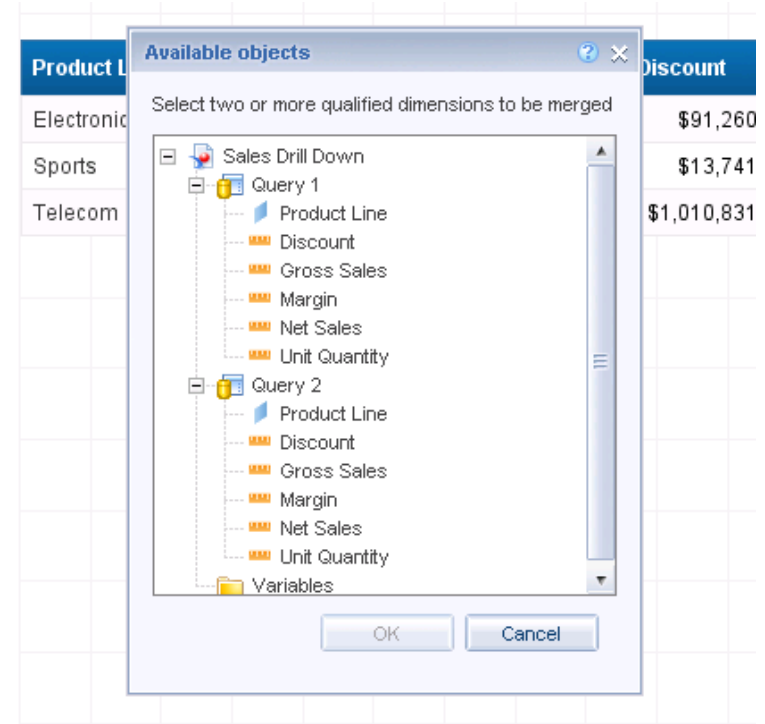
- Pros
 - End users are comfortable working in Excel
 - Flexible functions for data manipulation
- Cons
 - Manual process means human error
 - Requires significant effort to combine and validate the data

Combining Data Manually

- Recommendations
 - Don't do it!
 - Limit as much as possible
 - Might be useful in rare occasions for one-off reports and combining data in SAP BusinessObjects Dashboards (Xcelsius)

Combining Data on a Report

- Data can be combined in Web Intelligence using multiple queries and Merge Dimensions
 - 2 Universes
 - Universe and Excel
 - Other Options
- There must be common elements to join the two datasets



Combining Data on a Report

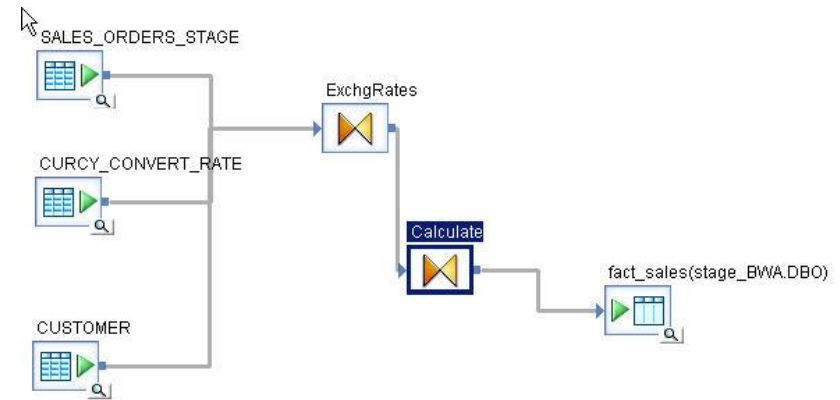
- Pros
 - Empowers report developers
 - More flexibility for data access
- Cons
 - Data from each query must be at the same level of detail
 - Possibility for human error in joining the queries
 - Training needed for both the data and reporting tool

Combining Data on a Report

- Recommendations
 - Useful for combining separate subject areas for comparison
 - Ensure that the data is at the same level of detail for accuracy and ease of reporting
 - Recommended for Power Users that understand requirements, universe structures and Web Intelligence

Creating a Data Warehouse with ETL

- Data can be combined using an ETL tool
 - SAP Data Services
 - SQL Server Integration Services (SSIS)
 - Informatica
- Bring together data from practically any source
 - Data Manipulation
 - Data Quality
 - Data Validation



Creating a Data Warehouse with ETL

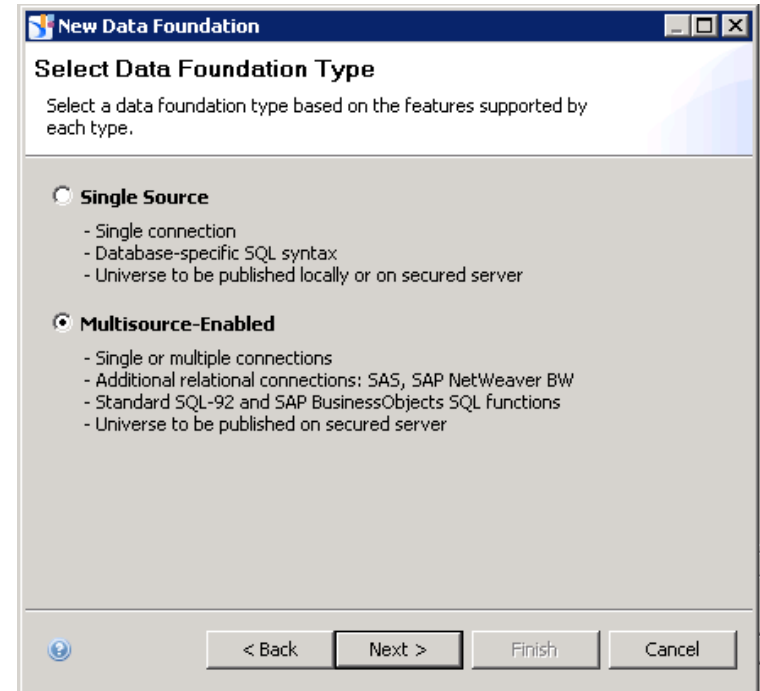
- Pros
 - Power to manipulate data into a reportable format
 - More control over data quality
 - Efficient, repeatable process
 - Best performance for reporting
- Cons
 - Development time and resources
 - Maintenance
 - Complexity
 - Data Lag

Creating a Data Warehouse with ETL

- Recommendations
 - The ideal solution, if requirements are clearly defined and resources are available
 - Understanding of data warehousing concepts and proper data model design are a must

Using Multi-source Universes (UNX)

- SAP BusinessObjects 4.0 introduced the new UNX universe format
- Provides the ability to create a universe with multiple data sources
- Similar to Data Federation in past releases, but integrated into the semantic layer
- Finally, a new option for combining data



Using Multi-source Universes (UNX)

- Pros
 - Ease of development and maintenance
 - Data is real-time from source systems
 - More resources likely available for Universe development
 - Shield end users from data complexity
- Cons
 - Lack of flexibility
 - Can only use generic SQL (SQL-92)
 - Performance can be poor
 - Limited data manipulation

Using Multi-source Universes (UNX)

- Recommendations
 - Short-term solution when a true DWH is not an option
 - Use with smaller data sets when a DWH doesn't make sense
 - Data should already be close to a reportable format
 - Can be useful for real-time reporting

DEMO

Review

	Excel	Report	Multisource UNX	Data Warehouse
Time to Implement	Low	Low	Medium	High
Flexibility	✓	✓	✓	✓
Reliability		✓	✓	✓
Reusability			✓	✓
Performance				✓

Questions



For More Information

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