How Business Architecture Drives BI

Robert J. Abate
RCG IT
March 25, 2008
### How Business Architecture Drives BI

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Background & Definitions

How Business Architecture Drives BI

Robert J. Abate, Global Managing Principal
RCG INFORMATION TECHNOLOGY

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IEEE Defines “Architecture” As:

- “The fundamental organization of a system, embodied in its components, their relationships to each other and the environment, and the principles governing its design and evolution”
- They limit the use of this term to the development of Information Systems
  - “An architecture framework is a tool which can be used for developing a broad range of different architectures. It should describe a method for designing an information system in terms of a set of building blocks, and for showing how the building blocks fit together”

The IEEE & The Open Group (as so many others do), limit the concept of “System” to “Information System”

- You would not build a house without an architecture (blueprint)?
- This common myopia is one of the reasons why the business oriented disciplines fright away from using the word “Architecture”
- Unfortunate; because they also miss the advantages of using Architecture to gain understanding in the ever increasing complexity of current, often networked processes, organizations, data, OLAP and Reporting Products
Define the domain as a template or drawing

- Vocabulary to communicate
- Stresses commonality of solutions
- Defines abstractions
- “A Picture Is Worth A Thousand Words”

A reference architecture provides a proven template solution for an architecture for a particular domain. It also provides a common vocabulary with which to discuss implementations, often with the aim to stress commonality.

A reference architecture often consists of a list of functions and some indication of their interfaces (or APIs) and interactions with each other and with functions located outside of the scope of the reference architecture.

Reference architectures can be defined at different levels of abstraction. A highly abstract one might show different pieces of equipment on a communications network, each providing different functions. A lower level one might demonstrate the interactions of procedures (or methods) within a computer program defined to perform a very specific task.

Reference Architecture Definition From: www.wikipedia.com
Background & Definitions

Example Reference Architecture

BUSINESS ARCHITECTURE

INFORMATION ARCHITECTURE
Data Integration, Data Architecture, Master Data Management, Metadata Management, Data Delivery Architecture, Dashboards, Performance Measurement, Analytics, Business Intelligence, Enterprise Reporting

APPLICATIONS ARCHITECTURE
Process Alignment, Services Definition, Services/Event Architectures, Custom Application Development, Enterprise Applications Integration Components

INFRASTRUCTURE ARCHITECTURE
Legacy (Non-Service Enabled) Applications
Networks, Servers / Hardware, Operating Systems

INTEGRATED GOVERNANCE
Security, Data, SLAs, Services and IT Portfolio Management

QUALITY CONTROL
Quality Assurance, Testing, Data Quality Management
Background & Definitions

**Traditional Information Architecture**
- Business Rules Engine
- Central Metaprocess & Metadata Library
- Business Rules Engine
- ETL / Data Integration Hub
- Enterprise Data Structures
- EDW & Data Marts
- Integrated Trx Data Store
- Trx Processing
- Reporting
- Analytics
- Master Data
- Customer, Value, Control Data, ID X-ref
- Product, Value, Control Data, ID X-ref
- Organisation, Value, Control Data, ID X-ref
- Org. Chart

**Logical Reference Architecture**
- Secure, Managed Delivery
- Portal
- SSO
- Applications / Services Metaprocesses
- App Rules
- Application Svcs
- App Svc Integration Broker
- Services Library
- Data Delivery Svcs
- Messaging Svcs
- Application Svcs
- Services Mgmt
- Process Choreography
- Svcs Orchestration
- Event Correlation

**Infrastructure Architecture**
- Existing Application Backbone for Transaction Processing (includes Legacy Applications)

**Business Architecture**
- WHO
  - Organization
- WHAT
  - Data
- WHERE
  - Location
- WHEN
  - Time
- HOW
  - Function
  - Process
- WHY
  - Strategy

**Applications Architecture**
- Services Library
- Data Delivery Svcs
- Messaging Svcs
- Application Svcs

**Information Architecture**
- Enterprise Reporting
- Integrated KPIs & Dashboards
- Data Quality, Profiling & Cleansing

**Applications Architecture**
- Secure, Managed Delivery
- Portal
- SSO

**Logical Reference Architecture**
- Applications / Services Metaprocesses
- App Rules
- Application Svcs
- App Svc Integration Broker
- Services Library
- Data Delivery Svcs
- Messaging Svcs
- Application Svcs
- Services Mgmt
- Process Choreography
- Svcs Orchestration
- Event Correlation

**Infrastructure Architecture**
- Existing Application Backbone for Transaction Processing (includes Legacy Applications)
Formal Definition: “The grouping of business functions and related business objects into clusters (‘business domains’) over which meaningful accountability can be taken as depicted in the high level description of the related business processes”

Although the Open Group limits their framework to be used to develop Information Systems only, their framework includes the word “Business Architecture”

- This is described as: “a business (or business process) architecture - this defines the business strategy, governance, organization, and key business processes”
- It is distinguished by the reference architecture components: Business, Application, Data and Infrastructure (or Technology) Architecture.
- This classification refers to the domain-dimension of the TOGAF. Architectures for the business domain are less common than architectures of any of the other domains

1 – Wikipedia Definition Of “Business Architecture”
Translation of all the garble is

- The capture of key aspects of business process and business strategy enabling the translation into actionable IT projects (or in other words – aligned and detailed graphical requirements)
- Graphical model or drawing based (like a blueprint) rather than word or spreadsheet based

Business Architectures gives structure to all the aspects that are in the business domain (not the IT domain)

Business Architecture Is Based Upon Business Strategy
There is tension today between Business and IT

- It's widely accepted that IT is not performing
- There's a broad array of historical evidence and opinion surveys that point out that:
  - IT is a major inhibitor to corporate progress. IT systems cannot be changed fast enough to meet market demands, seize opportunity or comply with a new requirement.
  - There is generally weak alignment between IT and business strategy marked by an intractable language barrier. Typically, IT does not know or follow corporate strategy.
  - Regardless of corporate wishes, IT almost never is the source of innovations that most companies are anxious to find.”

Source: Gartner Research
64% of CIO's answer ‘No’ to the question: “Is management getting the right (secure) access and integrated information for making smart business decisions?”
1. As proposed by the project sponsor
2. As defined by the requirements doc's
3. As designed by the Senior Analyst
4. As produced by the programmers
5. As installed at the user’s site
6. What The User Really Wanted!

THIS CARTOON HAS BEEN CIRCULATING WITHIN IT FOR OVER 20 YEARS!
“Analysts report that as many as 71% of software projects that fail do so because of poor requirements management, making it the single biggest reason for project failure”

– CIO Magazine, November 15th, 2005
Model Driven Development [MDD] follows business architecture and engineering and is: “the capture of key aspects of business process and business strategy (in diagram/picture form) enabling the translation into actionable IT projects with detailed requirements that are unambiguous.”
Integrating (model-based) architectures deliver

- Business, Applications, Information & Infrastructure and all interconnected – think that way
  - Development of Information, Infrastructure and Application Architectures requires the definition of Business Architecture

- Layered abstractions provide ability to ignore issues that would prohibit development
  - Business Process changes but the underlying data does not
  - Data changes owners as it moves through an organization
  - Data layer isolation allows ignoring of business rules

- Integrating architectures require Metadata!
  - All layers use a single source of definitions for the enterprise

- Models support impact analysis and traceability
Requirements are satisfied by a design component and each component is assigned to a test group with test cases. Thus test cases test requirements. Test results can then be measured against acceptance criteria.
Business Architecture models define key aspects of the business process and business strategy and facilitates the translation of the business strategy into actionable IT projects with detailed requirements.

- Process models are not “Rich” enough to capture the details of the Business Architecture (need data, organization, locations, …)
- Provides consistent analysis approach (and common language)
- Engages the key business constituents in the definition of the requirements (rather than technology – i.e.: data models)
- Provides an enterprise “context” for the change
- Is reusable, and accelerates efficiencies as the Business architecture is further defined
- Provides “linkage” to the other Enterprise Architecture layers
Individual Diagrams...

Enterprise Repository Model (Tool)

- Strategy
  - Goals
  - Objectives (Why)

- Location
  - Where

- Data
  - What

- Organization
  - Who

- Flow
  - How

- Function / Event
  - When
  - What Happens

ONE MODEL (One Tool)

...All Linked Together
BA Basics

Putting This In Perspective....

Enterprise Model...

SDLC

Portfolio Management

Application Specific Models (i.e. BPMN)

Document

BI & Project Specific Models (i.e. Data Models)

Document

Document

ERM

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How Business Architecture Drives BI

Robert J. Abate, Global Managing Principal
RCG INFORMATION TECHNOLOGY

How BA Is Driving Development Of BI
We NEED A Flexible Way Of Getting Access To Our Data!
Definition of a flexible architecture (from Dictionary.com):

- **Architecture:** “Orderly arrangement of parts; structure”
- **Flexibility:** “Responsive to change; adaptable”
- **Responsive:** “readily reacting to events or stimuli”

Therefore, a flexible architecture is one that is:

- Readily adaptable to events or stimuli that require it to change
- Designed to provide the key capabilities necessary for BI today

And an inflexible architecture is one that is:

- Hard or time-consuming to change
- Unable to incorporate new capabilities when needed
Intersection Of Strategy, Architecture & Delivery Of Info

- It is a managed environment (with end-to-end data control)
- Incorporating:
  - Where data is known to be of high quality
  - Information is wrapped with (or having) governance
  - Contain a single source of truth
  - Flexible structure or “architecture”
  - Responsive to change
  - Supportive of integration and delivery of information

It is a highly flexible structure for delivering information

- Business needs are changing at an accelerating pace
- It is the core feature that allows IT to be responsive in meeting new business requirements
The role of data management in the business is evolving from “A Single Source Of Truth” to becoming “The Information Assurance And Delivery Mechanism”.

This requires:

- **Metadata management** for compliance enforcement, audit support, analysis, and reporting
- **Master data** integration and control
- **Near-real time** business information
- **Source data management** for controlling data quality at the transaction level
- **Effective governance** for a successful managed data environment
- **Integration** of analytics, reporting, and transaction control
- **Control** of business processes and information usage
- **Unstructured data** needs to be addressed as well
How BA Is Driving BI

- Controlled Information Lifecycle
- Flexible Data (Reference) Architecture
- Metadata / Information Taxonomy
- Master Data Management
- Model-Driven Development
- Data Integration & Delivery Tools
  - Architecture & Data Delivery Services
  - Data Movement [ETL]
  - Reporting & Analytics
  - Security
- Dimensional Models (Data Warehouse)
  - Conformed Dimensions
- Data Governance
- Data Quality
  - Data Profiling
  - Exception Handling

KEY CONCEPTS:
- Apply business rules
- Manage metadata
- Consolidate data
- Staging Area
- Movement w/ Batch ID’s

How Business Architecture Drives BI

How BA Is Driving BI

- Model-Driven Development (foundation is integration architecture)
- Metadata / Information Taxonomy (has an architecture)
- Master Data Management (has an architecture)
- Data Integration & Delivery (has an architecture)
  - Data Delivery Services Architecture
  - Extraction, Transformation & Loading [ETL] Architecture
  - Reporting & Analytics (BI / OLAP Architecture)
  - Security (Security Architecture)
- Dimensional Models (Data Warehouse – has a data architecture)
  - Data Model Derived From Business Process Model
  - Conformed Dimensions
- Data Governance (has a model or architecture for implementation)
- Data Quality (has exception handling architecture)
**How Business Architecture Drives BI**

**Flexible Data Architecture – Critical Points**

### Data Sources
- ERP
- SCM
- POS
- XLS
- Finance
- Others

### ETL/Data Integration Hub
- (Extract/Transform/Load)

### Managed Data
- Metadata
  - Aggregates & KPI’s
  - Dimensional
  - Drilling
  - Conformed
- Analytics
  - Transaction Level Detail
  - Granular
  - Denormalized
  - Integrated
  - Current & History
- Reporting
  - Transaction Level Detail
  - ‘Atomic’-level Data
  - Normalized (3NF)
  - Integrated
  - Temporary
- Integration
  - Transaction Level Detail
- Scoring Algorithms

### Data Delivery
- Metadata Inquiries
- Dashboards
- Reporting Server / Portal
- Reporting & Ad hoc Queries
- Predictive & Behavioral Analytics

### KEY CONCEPTS:
- Apply business rules
- Manage metadata
- Consolidate data
- Staging Area
- Movement w/ Batch ID’s
- Reusable Transforms
- Data Models based on BA
How Business Architecture Drives BI

Flexible Architecture Considerations...

1. How do you extract data: code, stored procedures, or GUI ETL? Is data pushed/pulled/event-driven?

2. How is your data moved and controlled during the data integration and warehouse loading processes?

3. How is your Metadata captured and used? Does it help you know what is happening in BI overall?

4. What principles are used in your data architecture? Does it make user self-service for reports easy?

5. Are you using OLAP and reporting technologies that promote report simplification and security?

6. Does your BI technology integrate its products easily? Are metadata and controls cohesive?

Because there are several technologies covered by this graphic, it is important that they “play well together”
And data growth: When tech analyst John Gantz at researcher IDC began tallying up all the digital information generated annually, he first looked in the obvious places.

Gantz ultimately calculated that 161 exabytes of digital data -- or about 161 billion GB -- were generated in 2006.
Reporting toolsets are now integrated with:
- Data Modeling Tools
- ETL Tools / Metadata Tools
- Data Quality Products
- Relational & Multi-dimensional Databases
- Dashboard, Self Reporting & Query Capabilities
- OLAP and Analysis / Predictive Products

Having a single dictionary (Metadata / Repository) aides the organization in sharing of assets
- Breeds understanding and avoids confusion
- Report creation and distribution (write once & broadcast)
- Supportive of high-reuse of data and reports (searching)
How BA Is Driving BI

- Define business requirements in a manner that aligns IT and Business
- Requirements are graphical (pictures) and easy to understand
- Supports architectural integration of the varied components
- Process is vendor agnostic
- Enables rules established by Business Architecture
- Provide for checking consistency and completeness throughout
- Supports incorporation of quality control and governance processes
- Model-driven approach should use a repository-based tool
Data toolsets improved (and integration of..)

- BA / BI integration modeling toolsets (Kalido)
  - Now offer modeling, repository and integration adapters (Db's, ETL, BI Tools, etc.)
  - Metadata definition and integration points
- Data movement & profiling [“ETL”] (metadata)
- Data quality analysis (metadata)
- BI / OLAP / Analytical Toolsets (metadata)
- Iterative development methodologies (metadata)
- Entity complexity / reporting analytics (metadata)
- Data governance (metadata)
Integrated architectures dominate today

- Business, Applications, Information & Infrastructure and all interconnected – think that way
  - Development of Information, Infrastructure and Application Architectures requires the definition of Business Architecture

- Layered Abstractions & Reference Architectures provide ability to ignore prohibitive issues
  - Business Process changes but the underlying data does not
  - Data changes owners as it moves through an organization

- BA → Data layer modeling supports rapid changes
  - Impact analysis as well

- Integrating arch’s require Metadata / Repository!
  - All layers use a single source of definitions for the enterprise
IT and business are not “BI” aligned

Inflexible Architectures (i.e. traditional DW/BI approaches) prevent this alignment
  ➢ Especially when things change

A business modeling approach drives a more aligned and highly flexible BI

More flexible BI gives business and IT a chance to serve the business with better information, faster and cheaper!
How Business Architecture Drives BI

John Evans – Director, Product Marketing
KALIDO

What’s Behind Your BI?
What’s behind your BI today?

“Show me profitability across all product segments.”

+ 4 weeks

CRM
ERP
Legacy
HR

ETL, EAI

BI

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How quickly can you adjust to new business conditions?

“Show me profitability across all product segments.”

“We’re changing our geographic definitions.”

+ 4 weeks  + 3 weeks
How well can you accommodate change?

- "Show me profitability across all product segments."
- "We're changing our geographic definitions."
- "Launch a new reseller distribution channel."

Slower, inconsistent information delivery
Kalido behind your BI can unlock true intelligence

**BENEFITS**
- Manage changes with a visual business modeler
- Automates manual tasks, eliminates costly custom code
- Captures changes, providing unmatched auditability

**Faster, more accurate information**
- Customer profitability
- Key performance indicators
- Historical and projected performance
- Sales margins
- Metrics by geography
- Projected M&A impact
- Product profitability
- Dashboards
- Financial Mgmt.
What Kalido delivers:

A robust,

business model-driven,

best practice-based,

information management engine

that can automatically feed information to end users through their BI tools

making them more productive far more quickly and reducing internal costs.
Kalido Information Engine

- Staging Tables
- Data Marts
- Data Storage
- Master Data Management
- BI Tool configuration

- CRM
- ERP
- Legacy
- HR

- Data Sourcing
- ETL

- Information Delivery
  - BI Tools
  - Customer profitability
  - Product profitability
  - Metrics by geography
  - Key performance indicators
  - Financial Mgmt.
  - Projected M&A impact

- BI Tool configuration
Business Model: Draw a Diagram to Configure Your BI

- Graphical representation of the way information flows through the business
- Common definition of the business for both Business and IT Users
- Separates the physical data model from how business wants to analyze information
Control Panel for Validating the Model
### Detail Level for Architects and DBAs

#### Kalido Business Information Modeler

**File** | **Edit** | **View** | **Tools** | **Help**
---|---|---|---|---

#### Diagram | Table | EIV Operations

### Classes

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>To Class</th>
<th>To Cardinality</th>
<th>To Group</th>
<th>From Class</th>
<th>From Cardinality</th>
<th>From Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage of ISO Region in ISO Super Region</td>
<td>Class</td>
<td>Storage of ISO Region in ISO Super Region</td>
<td>Super Region</td>
<td>0..1</td>
<td>Optional</td>
<td>ISO Region</td>
<td>0..*</td>
</tr>
<tr>
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<td>Class</td>
<td>Storage of ISO Country in ISO Region</td>
<td>Region</td>
<td>0..1</td>
<td>Optional</td>
<td>Country</td>
<td>0..*</td>
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<tr>
<td>Classification of Quarter by Quarter Of Year</td>
<td>Class</td>
<td>CLS_QTR_BY_QTR_OF_YEAR</td>
<td>Quarter Of Year</td>
<td>1..1</td>
<td>Mandatory</td>
<td>Time</td>
<td>Quarter</td>
</tr>
<tr>
<td>Classification of Quarter by Year</td>
<td>Class</td>
<td>CLS_QTR_BY_YEAR</td>
<td>Year</td>
<td>1..1</td>
<td>Mandatory</td>
<td>Time</td>
<td>Quarter</td>
</tr>
</tbody>
</table>

### Generalization of Credit Rating by Credit Rating

| Generalization of Credit Rating by Credit Rating | General Credit Rating | 0..1 | Optional | Client | Specific Credit Rating | 0..* | Optionally Many Client |
| Classification of Product Group by Product Category | Classification of Product Group by Product Category | Product Category | 0..1 | Optional | Product | Product Group | 0..* | Optionally Many Product |
| Classification of Division by Corporation | Classification of Division by Corporation | Division | 0..1 | Optional | Internal Organization | Corporation | 0..* | Optionally Many Internal Organization |
| Classification of Supersector by Industry | Classification of Supersector by Industry | Industry | 0..1 | Optional | SubSector | Sector | 0..* | Optionally Many Supersector |
| Storage of State/Region in ISO Country | Storage of State/Region in ISO Country | Storage of State/Region in ISO Country | Region | 0..1 | Optional | Region | 0..* | Optionally Many Region |
| Classification of Packaging by Packaging | Classification of Packaging by Packaging | Packaging | 0..1 | Optional | Product | SubPackage | 0..* | Optionally Many Product |
| Generalization of Product Class by Product Class | Generalization of Product Class by Product Class | Generalization of | 0..1 | Optional | Product | Specialization of | 0..* | Optionally Many Product |

### Classification of Month by Month Of Year

| Classification of Month by Month Of Year | Classification of Month by Month Of Year | Month Of Year | 1..1 | Mandatory | Time | Month | 0..* | Optionally Many Time |

### Classification of Month by Quarter

| Classification of Month by Quarter | Classification of Month by Quarter | Quarter | 1..1 | Mandatory | Time | Quarter | 0..* | Optionally Many Time |

### Parenting of Month by Half Year

| Parenting of Month by Half Year | Parenting of Month by Half Year | Parent | 0..1 | Optional | Time | Child | 0..* | Optionally Many Child |

### Classification of Account by General Ledger Column

| Classification of Account by General Ledger Column | Classification of Account by General Ledger Column | Column | 0..1 | Optional | Finance | Account | 0..* | Optionally Many Finance |
| Classification of Account by Account | Classification of Account by Account | Account Classifier | 0..1 | Optional | Finance | Sub-Account | 0..* | Optionally Many Finance |

### Parenting of Nelson State by Nelson Region

| Parenting of Nelson State by Nelson Region | Parenting of Nelson State by Nelson Region | Parent | 0..1 | Optional | Internal Organization | Nelson State | 0..* | Optionally Many Internal Organization |

### Classification of Sector by Supersector

| Classification of Sector by Supersector | Classification of Sector by Supersector | Supersector | 0..1 | Optional | Sector | 0..* | Optionally Many Sector |

### Classification of Product Subgroup by Product Group

| Classification of Product Subgroup by Product Group | Classification of Product Subgroup by Product Group | Product Group | 0..1 | Optional | Product | Product Subgroup | 0..* | Optionally Many Product |

### Managing Department

| Managing Department | Managing Department | Managing Department | 0..1 | Optional | Internal Organization | Managed Department | 0..* | Optionally Many Internal Organization |

### Control of Department by Division

| Control of Department by Division | Control of Department by Division | Control of Department by Division | 0..1 | Optional | Internal Organization | Department | 0..* | Optionally Many Internal Organization |

### Storage of City in State/Region

| Storage of City in State/Region | Storage of City in State/Region | Storage of City in State/Region | State | 0..1 | Optional | City | 0..* | Optionally Many City |

### Classification of Client by Credit Rating

| Classification of Client by Credit Rating | Classification of Client by Credit Rating | Credit Rating | 0..1 | Optional | Client | Client | 0..* | Optionally Many Client |

### Classification of Day by Day Of Month

| Classification of Day by Day Of Month | Classification of Day by Day Of Month | Day Of Month | 1..1 | Mandatory | Time | Day | 0..* | Optionally Many Time |

### Classification of Day by Day Of Week

| Classification of Day by Day Of Week | Classification of Day by Day Of Week | Day Of Week | 1..1 | Mandatory | Time | Day | 0..* | Optionally Many Time |

### Classification of Day by Month

| Classification of Day by Month | Classification of Day by Month | Day Of Month | 1..1 | Mandatory | Time | Day | 0..* | Optionally Many Time |

### Classification of Day by Week Of Year

| Classification of Day by Week Of Year | Classification of Day by Week Of Year | Day Of Week | 1..1 | Mandatory | Time | Day | 0..* | Optionally Many Time |

### Classification of Journal Entry by Account

| Classification of Journal Entry by Account | Classification of Journal Entry by Account | Account | 0..1 | Optional | Finance | Journal Entry | 0..* | Optionally Many Finance |

### Classification of Journal Entry by Asset Class

| Classification of Journal Entry by Asset Class | Classification of Journal Entry by Asset Class | Asset Class | 0..1 | Optional | Finance | Journal Entry | 0..* | Optionally Many Finance |

### Parenting of Territory by Nelson State

| Parenting of Territory by Nelson State | Parenting of Territory by Nelson State | Parent | 0..1 | Optional | Internal Organization | Child | 0..* | Optionally Many Internal Organization |

### Ownership of Account Agreement by Client

| Ownership of Account Agreement by Client | Ownership of Account Agreement by Client | Owner | 0..1 | Optional | Client | Account | 0..* | Optionally Many Client |

### Control of Employee by Department

| Control of Employee by Department | Control of Employee by Department | Department | 0..1 | Optional | Internal Organization | Employee | 0..* | Optionally Many Internal Organization |
Wizard to deploy BI metadata

---

**Universal Information Director**

1. **Select Connector**
   - **Business Objects XI**
   - **Name for this Connector:** Business Objects XI
   - **Model version:**
   - **Comment:**
   - **Target System:** Business Objects Designer 5.x to 11.x (File)

2. **Setup Connector**
   - 

3. **Select Facts**
   - 

4. **Select Dimensions**
   - **Naming Convention**
     - Use name
     - Use heading

5. **Determine Reporting Rollups**
   - Export Table Preference
     - Logical & Physical
     - Physical Only

6. **Review Qualified Objects**

7. **Set Output Options**

8. **Results**

---

**Please configure the selected bridge:**

<table>
<thead>
<tr>
<th>Option</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Version</strong></td>
<td>11.5</td>
<td>Select here the version of Business Object you want to connect to.</td>
</tr>
<tr>
<td><strong>File</strong></td>
<td>C:\Documents and Settings...</td>
<td>Specify here the path to the universe file.</td>
</tr>
<tr>
<td><strong>Data model connection to RDBMS</strong></td>
<td>corpdemo</td>
<td>Specify the Connection name as it was defined in Business Objects Designer.</td>
</tr>
<tr>
<td><strong>Repository name</strong></td>
<td></td>
<td>Enter here the name of the Business Objects repository to login to.</td>
</tr>
<tr>
<td><strong>Repository authentication mode</strong></td>
<td>Enterprise</td>
<td>Select the login authentication mode to be performed.</td>
</tr>
<tr>
<td><strong>Repository user name</strong></td>
<td></td>
<td>A repository installation of Business Objects (BO) requires the user to...</td>
</tr>
<tr>
<td><strong>Repository user password</strong></td>
<td></td>
<td>A repository installation of Business Objects (BO) requires the user to...</td>
</tr>
<tr>
<td><strong>Data model (Table/Join) algorithm</strong></td>
<td>Create all and Refresh from data</td>
<td>Specify whether Tables and Joins should be exported to the universe.</td>
</tr>
<tr>
<td><strong>Data model Outer Joins</strong></td>
<td></td>
<td>Most modeling and ETL tools only define the metadata of foreign keys and...</td>
</tr>
<tr>
<td><strong>Data model layout scale (in %) for X coordinates</strong></td>
<td>100</td>
<td>When graphical information is imported from another tool, it may be useful...</td>
</tr>
<tr>
<td><strong>Data model layout scale (in %) for Y coordinates</strong></td>
<td>100</td>
<td>When graphical information is imported from another tool, it may be useful...</td>
</tr>
<tr>
<td><strong>Dimensional modeling detection</strong></td>
<td>As defined by source model</td>
<td>When using this bridge to convert a data model created in a data modeling...</td>
</tr>
<tr>
<td><strong>Dimensional modeling</strong></td>
<td></td>
<td>When using this bridge to convert a data model created in a data modeling...</td>
</tr>
</tbody>
</table>
Why British American Tobacco put Kalido behind their BI

“Kalido was the clear choice. We initially evaluated products from two really well known vendors, but they fell by the wayside when compared with what we were able to do with Kalido. Finally, our information management infrastructure can keep pace with the rapid change the market demands.”

Koen Dehaen, IT Project Manager, British American Tobacco

**Company:** Second-largest listed tobacco company in the world with brands in 180+ markets

**Challenges:** Accommodate merger by integrating a new information architecture and adapt to continuously changing business requirements of newly merged model; expand contract management system with 1,500 retailers to build market share

**Solution:** SAP, pre-existing Oracle data warehouses, Kalido information management engine, Business Objects for reporting and analysis

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**Putting Kalido Behind BAT’s BI:**

- Ability to track sales performance and market share on a daily basis
- 50% reduction in maintenance costs
- Time for incorporating new sales data field reduced from 5 months to 5 minutes
- Accurate consolidated reports on current and acquired products delivered 10 months faster
- Ability to recreate historical views of business performance and view data in relation to actual or potential business change (incentives, promotions, price change)
- Ability to change the structure and terms of retail contracts by linking them with actual market share and performance
Kalido’s business value increases over time

<table>
<thead>
<tr>
<th>Kalido Approach</th>
<th>Traditional Approach*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warehouse design &amp; development</td>
<td>2.5 days</td>
</tr>
<tr>
<td>Changing geographic hierarchy</td>
<td>90 minutes</td>
</tr>
<tr>
<td>Merging data of different granularity</td>
<td>3 hours</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>3 days</strong></td>
</tr>
<tr>
<td></td>
<td><strong>65 days</strong></td>
</tr>
</tbody>
</table>

* Data from an Owens Corning case study

![Graph showing Kalido Solutions Cost decreasing over time and Traditional Solutions Cost increasing over project iterations.](image-url)
60+ Kalido Customers in more than 100 countries

- Consumer Goods
  - Labatt
  - Unilever
  - British American Tobacco
  - Imperial Tobacco
  - P&G

- Pharma
  - Wyeth
  - Abbott
  - Eisai
  - Pfizer
  - Johnson & Johnson

- Manufacturing
  - Emerson
  - ERICO
  - Philips
  - AGRIGEL
  - Intelsat

- Heavy Assets
  - KBR
  - Shell
  - bp
  - ScottishPower
  - Intelsat

- Insurance
  - Nationwide
  - Allied World
  - Steamship Mutual
  - The Hartford

- Banking
  - FHLBank
  - HBOS plc
  - Fannie Mae
  - Bank Atlantic

*Partial List*
How To Get Started?

Kalido Business Intelligence Audit

- Kalido BI Audit gathers information on your BI environment (number of tools and data sources, MDM deployment status, complexity of environment) in an easy-to-complete questionnaire.

- Kalido will respond with an audit document showing what’s really behind your BI, pinpoint the areas for improvement within your BI infrastructure, and help you identify where to start.

- By taking the Kalido BI challenge, you can discover what’s really behind your BI.

“We were skeptical of Kalido’s claims. The concept was unheard of, and frankly, the benefits Kalido purported to deliver seemed unrealistic and exaggerated. But by the end of the proof of value analysis, we were convinced.”

Koen Dehaen, IT Project Manager, British American Tobacco
How Business Architecture Drives BI

Robert J. Abate, Global Managing Principal – RCG IT
John Evans, Director Product Marketing – KALIDO

Questions & Answers ...

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