The Future of Data Modeling and Metadata Management with PowerDesigner

Tuesday December 11th, 2007
1:00 p.m. Eastern / 10:00 a.m. Pacific
60 minutes
Why Modeling?

Would you build a house without a blueprint?

The Architect validates the concept with the client. From these drawings, a technical diagram will be derived.

The Contractors will take this blueprint and optimize it based on technical considerations – linked to the Architectural View.
Industry analysts report that over 60% of projects in IT still lead to failure

- Today’s IT Managers are tasked to be more responsible for business alignment
- We cannot just manage technology anymore

A solution is needed…
PowerDesigner Vision

PowerDesigner is an integrated modeling and design solution that aligns business and IT

- Uniquely combines traditional E/R modeling, unified modeling language (UML) based application modeling together with non-technical business process modeling and requirements management.
  - Unique link and synch technology automates dependency tracking between requirements, business models and technical implementation
  - Powerful impact analysis and change management facilities streamline business and IT communication, collaboration and decision consensus

#1 in data modeling – leader in enterprise modeling

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Challenge Aligning Business & IT

BUSINESS-CENTRIC
COORDINATES ROLES & DISCIPLINES TO MAXIMIZE BUSINESS VALUE, TIMELINESS AND AGILITY

APPLICATION/CODE-CENTRIC

DATA-CENTRIC
What is Enterprise Architecture?

Enterprise Architecture is:
- Systems Architecture
- Information Architecture
- Data Architecture
- Application Architecture
- Network Architecture

But, it is also:
- Business Architecture
- Business Goals
- Business Processes and Requirements
Enterprise Architecture aligns business and IT

Why align?
- SOA
- SOX

S-O what?
- Services orchestrate along business processes
- Sarbanes Oxley requires IT to defend Business Practices
- Many more pressures like this…
Metadata Management = Understanding

Greater understanding creates:

- Greater agility in IT allowing you to manage change with speed and accuracy
- Greater standards and regulatory compliance

**IT effectiveness improves with automated alignment to business**
Goals of Metadata Management

Impact Analysis
- Report On Dependencies And Downstream Dependencies
- Spans Multiple Modeling Paradigms

Requirements Management
- Ensure Business Goals, Rules, Requirements are met
- Link change to Business with aligned IT elements

Reporting
- Sharing information with those that take action

Customizing
- Ensure Metadata is 100% aligned with corporate management goals
Model Driven Metadata Management

Models provides the “face” of metadata
- Easy creation, visualization and maintenance
- User interface – used for communication to all audiences
- Graphical tools assist in define and describe

The Repository provides the “warehouse” of metadata
- Repository tools extend the model
- Analytics of Metadata
- Reuse of Metadata
- Control and evaluation of Metadata
Enterprise Repository

PowerDesigner Model: An XML file represented graphically

Repository: A normalized database

Model

Extraction Consolidation

PC Client

ODBC Connection

Database Server

Metamodel
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1. User Requirements

1.1 Order Entry

1.1.1 Orders

1.1.1.1 Entering an Order

\[\text{We must be able to create an order for any given customer.}\]

1.1.2 Customers

- Individuals placing an order for their own use
- Companies placing orders for corporate use

\[\text{A customer can place as many orders as needed, but each order can only be assigned to one customer.}\]

1.1.2.1 Contacting Customer

2. Functional Requirements

2.1 Order Management

2.1.1 Individual Orders

2.1.1.1 Processing and Individual Order

\[\text{Individual Orders are processed directly by Telesales. Orders are shipped in the order in which they are received and when items are in stock.}\]

2.1.1.1 Timing

\[\text{Individual orders are not offered overnight delivery therefore the timing is not relevant.}\]

2.1.1.2 Shipping rates

\[
\begin{array}{|c|c|c|}
\hline
\text{Qty} & \text{Item Type} & \text{Shipping Rate} \\
\hline
1-2 & \text{Standard} & 3\% \\
3.5 & \text{Standard} & 2.5\% \\
6.10 & \text{Standard} & 2\% \\
11+ & \text{Standard} & 1\% \\
1-25 & \text{Large} & 1.5\% \\
26+ & \text{Large} & 1.2\% \\
\hline
\end{array}
\]

3. Detailed Specifications

3.1 Order Specifications

3.1.1 Placing an Order
1. User Requirements
   1.1 Order Entry
      1.1.1 Orders
         1.1.1.1 Entering an Order

2. Requirement Properties: Customers (REQ_0007)

   General
   Detail
   Traceability Links
   User Allocations
   Related Glossary Terms
   Release
   Notes

   Parent: Requirement ‘1.1 Order Entry’
   Title ID: 1.1.2
   Title: Customers
   Code: REQ_0007
   Description:

   Customers are defined as:
   - Individuals placing an order for their own use
   - Companies placing orders for corporate use

   A customer can place as many orders as needed, but each order can only be assigned to one customer.

3. Detailed Specifications
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1.1.2.2 Requirement 2

2. Functional Requirements

2.1 Order Management

Different types of orders are processed:
- Corporate Orders
- Individual Orders

2.1.1 Individual Orders

2.1.1.1 Processing and Individual Order

Individual Orders are processed directly by Telesales. Orders are shipped in the order in which they are received and when items are in stock.

3. Detailed Specifications

3.1 Order Specifications

3.1.1 Placing an Order

A placed order will need to be specified following a given guideline and will be managed according to the business rules defined.

3.1.2 Managing an Order

3.1.3 Defining an Order
## 1. User Requirements

### 1.1 Order Entry

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##### 1.1.1.1 Entering an Order

We must be able to create an order for any given customer.

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- **1.1.2.1 Contacting Customer**
- **1.1.2.2 Capture Email**

## 2. Functional Requirements

### 2.1 Order Management

Different types of orders are processed:
- Corporate Orders
- Individual Orders

#### 2.1.1 Individual Orders

##### 2.1.1.1 Processing and Individual Order

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## 3. Detailed Specifications

### 3.1 Order Specifications

#### 3.1.1 Placing an Order

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#### 3.1.2 Managing an Order

#### 3.1.3 Defining an Order
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1.1.1 **Orders**

1.1.1.1 **Entering an Order**

- We must be able to create an order for any given customer.

1.1.2 **Customers**

- Customers are defined as...

**Requirement Export Wizard**

Welcome to the Requirement Export Wizard. This wizard allows you to create some specific design objects from existing requirements. Traceability links are created between requirements and new design objects.

Choose the design model to which you want to export the requirements:

- Order Entry System Business Process
- Order Entry System Conceptual Model
- Order Entry System Physical Model - ASE
- Order Entry System C# Object Model
- Order Entry System Physical Model - SQLServer

3. **Detailed Specifications**

3.1 **Order Specifications**

3.1.1 **Placing an Order**

- A placed order will need to be specified following a given guideline and will be managed according to the business rules defined.

3.1.2 **Managing an Order**

3.1.3 **Defining an Order**
User Requirements

Order Entry

Orders

Entering an Order

Customers

We must be able to create an order for any given customer.

Customers are defined as

Required Specifications

Order Specifications

Placing an Order

A placed order will need to be specified following a given guideline and will be managed according to the business rules defined.

Managing an Order

Defining an Order
### User Requirements

#### Order Entry

1. **Orders**
   - Entering an Order

2. **Customers**
   - Customers are defined as

---

### Detailed Specifications

#### Order Specifications

1. **Placing an Order**
   - A placed order will need to be specified following a given guideline and will be managed according to the business rules defined.

2. **Managing an Order**

3. **Defining an Order**
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3.1.2 Managing an Order

3.1.3 Defining an Order
<table>
<thead>
<tr>
<th>Title ID</th>
<th>Full Description</th>
<th>Code</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1.2.1</td>
<td>Contacting Customer</td>
<td>REG_0019</td>
<td>Draft</td>
</tr>
<tr>
<td>1.1.2.2</td>
<td>Capture Email</td>
<td>REG_0020</td>
<td>Draft</td>
</tr>
<tr>
<td>2.1.1.1</td>
<td>Processing and Individual Order</td>
<td>REG_0011</td>
<td>Draft</td>
</tr>
<tr>
<td>3.1.1.1</td>
<td>Placing an Order</td>
<td>REG_0017</td>
<td>Draft</td>
</tr>
<tr>
<td>3.1.2</td>
<td>Managing an Order</td>
<td>REG_0018</td>
<td>Draft</td>
</tr>
</tbody>
</table>

#### 1. User Requirements

**1.1 Order Entry**

**1.1.1 Entering an Order**
We must be able to create an order for any given customer.

**1.1.2 Customers**
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**1.1.2.1 Contacting Customer**

**1.1.2.2 Capture Email**

#### 2. Functional Requirements

**2.1 Order Management**

**2.1.1 Individual Orders**

**2.1.1.1 Processing and Individual Order**
Individual Orders are processed directly by Telesales. Orders are shipped in the order in which they are received and when items are in stock.

#### 3. Detailed Specifications

**3.1 Order Specifications**

**3.1.1 Placing an Order**
A placed order will need to be specified following a given guideline and will be managed according to the business rules defined.

**3.1.2 Managing an Order**

**3.1.3 Defining an Order**
1. User Requirements
   1.1 Order Entry
      1.1.1 Orders
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3.1.2 Managing an Order
3.1.3 Defining an Order
Process "Create Order"
Orders may be taken from any method: Fax, telephone or email. New system could make this a Web form with shopping cart functionality, but today we are still using a manual process.

Process Order

Corporate Order?

[Yes]

Corporation

[No]

Not in Stock

Flow_18
<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Constraints</th>
</tr>
</thead>
<tbody>
<tr>
<td>OrderID</td>
<td>numeric</td>
<td>&lt;pk&gt;</td>
</tr>
<tr>
<td>Employee Identifier</td>
<td>numeric</td>
<td>&lt;fk2,fk3,fk4&gt;</td>
</tr>
<tr>
<td>CustomerID</td>
<td>numeric</td>
<td>&lt;fk&gt;</td>
</tr>
<tr>
<td>Description</td>
<td>varchar(254)</td>
<td></td>
</tr>
</tbody>
</table>
CustomerID      numeric      <fk1>
Description     varchar(254)
ALTER TABLE dbo.Customer
    ADD EMAIL LONG_TEXT NULL
GO
Benefiting from Metadata Management

With metadata management:

- Do less by hand and save time, money and effort by using the most up to date modeling techniques

- Enforce consistent standards and practices throughout IT with the most customizable and secure meta-data management tool available

- Reach decision consensus faster with automated communication between all disciplines involved in project definition and development through PowerDesigner’s Unique Link and Synch technology

- Reduce the risk, time and cost associated with change with complete cross-discipline impact analysis and change management
The PowerDesigner Advantage

More Robust Data Modeling
- Manage Users, Groups and Permissions – restore grants after a modify!
- Complete Warehouse Modeling – Tables, Views, Cubes, ETL, more…
- Customization and Extension

More flexible Repository
- Multiple instances can co-exist, no server fees..

True multi-level design with up to date RDBMS support

Stronger document-based and fully hyperlinked HTML reporting facility

Real Enterprise Modeling
- UML, BPM in the same interface
- Innovative inter-model linking and reporting facilities
Integrated Architecture for Metadata Management

Impact Analysis
- Report On Dependencies And Downstream Dependencies
- Spans Multiple Models/Sets of Metadata (Cross-Functional Impact vs. Localized View)

Requirements Management
- Spans Multiple Models/Sets of Metadata (Cross-Functional Requirements Management vs. Localized View)

Reporting
- Multi-model Reporting For Single Source Documentation
- Spans entire Project or Enterprise

Enforce Standards and Practices
- Guaranteed Results from Standards and Practices Definitions

Enhanced Metadata Definitions
- Total Define & Describe Experience – Tailored to Your Practices
Additional Highlights of PowerDesigner

Naming Conventions
- Easy, bi-directional, scriptable

Extensions and the Metamodel
- Extended Attributes
- Custom Forms
- Custom Checks
- Transformations

Model Management
- Model, Package, Diagram
- Shortcuts & Replicas

Repository
- Enterprise Team Support, Versioning & Configuration
Next Steps

Download free evaluation software
- [www.sybase.com/powerdesigner](http://www.sybase.com/powerdesigner)

PowerDesigner Public Newsgroup
- [sybase.public.powerdesigner.general](http://sybase.public.powerdesigner.general)

PowerDesigner Virtual User Group at ISUG
- [www.isug.com](http://www.isug.com)

Call 1-800-8SYBASE or your local Sybase office to schedule a customized demonstration to learn how PowerDesigner can help YOUR team!
Questions & Answers
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- Provide your feedback! Please complete our survey

- View our calendar of upcoming events

- A recorded version of this seminar will be available at www.eSeminarsLive.com
Thank you…

…for attending today’s presentation sponsored by Sybase®