Integration Modeling for Enterprise Resource Planning

EAI Conference
Feb 01, 2001
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System Innovations
SALES VIEW

CUSTOMER

Field Office

SALES
ORDERS

Collateral
Services
Special Offers

Request/Respond

Sales Representative

Pricing Info

Performance & Problems

Computer Systems

Data
MARKETING VIEW

Reports

Data

Internal Systems

Extract Data

Tape Lists

External Sources

Compile & calculate results

Analyze & Present

Data

Internal Systems

External Sources
Integration Issues

**Common:** Gap between business and technology

**ERP-specific** - revealed by viewpoint modeling:

1. Redundant data and multiple non-matching data sources
2. Significant data-sharing shortfall
3. Poor integration of external data sources
4. Lack of connectivity
5. Lack of internal cost allocation mechanisms
6. Limited management reporting
7. Limited client reporting
INTEGRATION MODELS: Context-Oriented Models across Application Portfolios

Business Projects

Business View

Technical Projects

Technical View

<table>
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<th>What</th>
<th>How</th>
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<th>When</th>
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Integration Models

• clarify the context

• capture multiple perspectives

• may function on more than one level at a time

• cross the lines between application portfolios

• provide the hooks (or context) for tying together seemingly unrelated project layers:
  
  • technology
  • business process
  • infrastructure
  • organization, etc.
What Integration Models are not:

- a new notation
- a type of CASE, UML or OO model
- a type of Business model
- formal, rigorously defined for automation
- one more level of detail or abstraction

except, of course,

- an individual model may be almost any of the above -
on the whole, it’s not what they’re about
The seed is a generator/transformer structure depicting a situation where a core component produces, collects or contains an array of results.
CIO VIEW - Solution
(redundant data is consolidated into a shared data repository)
FLOW

The flow template is utilized by process and flow analysis to trace the course of information, goods, services, communications, etc.
Financial View: From Pricing to Payment – Process (data sharing requirements)

1. Identify Client's Needs
2. Identify Product
3. Price the Product
4. Priced Product
5. Negotiate the Agreement
6. Terms of Agreement
7. Delivered Service
8. Time & Expense
9. Collect the Payment
10. Invoice
11. Bill the Client
12. Billing Data
13. Financial Controls & Guidelines
14. Apply AR

Product Definitions
Pricing Categories
Invoice Categories
Terms of Agreement
Invoice
Controls & Guidelines
Negotiated Agreement
Collect the Payment
Negotiate the Agreement
Deliver Service
Apply AR Financial Controls & Guidelines
Cell models support modeling of encapsulation, inheritance & messaging.
Analysis of distribution systems, geographic division – behaviors at the local versus global levels.
Business Strategies
Positioning

Understanding Competition
Understanding Economics
Knowing Client
Understanding Market Conditions
Understanding Evolving Technology
Awareness of Legislation/Regulatory Changes
Awareness of Social/Demographic Changes
Business Strategies
Positioning
(integrating external data sources)

Understanding Competition
Who are our competitors?
What are their products/services?
What are competitors' advantages/disadvantages?
How do we compete now?
How have we been competing historically?
What are industry trends/developments?

Sources
Brokerage Firm Analysts
Industry Research Network
Baird Industry Reports
Business Wire Clipping Svc
Edgar
Access Disclosure
Staffing Industry Report
Morningstar
Bureau of Labor Statistics
USE CASE TREE
Understanding Competition

[Diagram showing the following steps:
- Understand Competition
  - Research competitors
    - Research competitor products/services
    - Know competitors advantages/disadvantages
  - Research Current Position
  - Research Historical Position
  - Study Industry Trends]
The ring template is useful in depicting chaining of events, people, devices or network addresses. Models peer-to-peer relationships.
Network View - Office Connectivity Map
(remedies lack of connectivity)
The Tree is a structure utilized to model systems whose characteristics include complex branching, diversification and the implementation of distribution alternatives.
Cost Allocation View - Absorption of Overhead Cost (defines internal cost allocation mechanism)
Management Reporting View - Solution

Data Warehouse: Financial & Customer Information

Marketing
Finance
Line Managers
Branches
Customer Service
Client Reporting View - Solution

- Temporary Staffing
- On Site Managed Staff
- Outsourcing
- Full Time Staffing
- Payrolling

Data Warehouse: Service Statistics
CIO VIEW - Improved Model
(combines issue solutions)
IM templates:

- clarify the dynamics of any model: UML, CASE, OO, etc.
- would make a good set of “snap to grid” formats for tools to adopt
- make models tend to match each other
- cover a broad spectrum of structures
- tell us how the current problem set might work, where it will likely go next, what it’s characteristics are
- suggest technological options (some templates translate directly into OO design patterns (see book by Gamma et al))
Acknowledgements:

Clients:
who have participated with open minds in the successful application of integration models for specific projects

Colleagues:
Elena Oliker, of MATIS, Inc. for her many contributions to the development and practice of integration modeling and Eric Ericson, of Logical Solutions, who introduced me to the use case tree structure in UML modeling

This case study is excerpted from Laura’s book Integration Models: Templates for Business Transformation, - Sept. 2000, SAMS Publishing

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