Business Process Modeling

Introduction to ARIS Methodology
Agenda

- What’s in modeling?
- Situation today
- Objectives of Process Management
- ARIS Framework and methods
- ARIS suite of products
- Live demo
Example of models

\[
k = \frac{1}{2} \rho C_d A
\]

\[
q = \sqrt{\frac{T-mg}{k}}
\]

\[
x = \frac{2kq^2}{m} = 2\sqrt{\frac{T-mg}{k}} \cdot k
\]

\[
t = \frac{1}{T}
\]

\[
v = q \frac{1-e^{-xt}}{1+e^{-xt}}
\]

\[
y_1 = \frac{-m}{2k} \ln \left( \frac{T-mg-kv^2}{T-mg} \right)
\]
Why do we need models?

- **Visualization**
  - Visualize final situation
  - Show relationships between “objects”

- **Complexity management**
  - Focus on one aspect at a time
  - Reuse patterns/objects

- **Communication**
  - Standard symbols
  - Go in details
What’s in business process modeling?

- Business models are excellent communication devices
- Business professionals can model alternatives before committing
- Business models are key element for designing physical IT architectures
- Closing the communication gap between IT and business
## Business Process model address important issues

- How Does It All Fit Together?
- Will It Work?
- What Do We Need?
- How Do We Do It?
- Who Can Do It?
- How Important Is It?
- Where Does It Go?
- Who’s Overloaded?
- How Did We Do?

- Models Process Interrelationships
- Simulates Alternative Realities
- Provides Resource Requirements
- Externalizes Rules and Flow from IT
- Defines Roles
- Defines Priorities
- Intelligently Routes Work
- Balances Queues
- Provides Workflow Statistics
Situation today

- **Economical situation: back to the basics**
  - Globalisation
  - Cost reduction
  - Merge/Acquisition
  - Performance

- **IT situation**
  - Decentralized/centralized
  - Web services/BPML
  - Integration
  - Multiple platform
Business Process complexity is increasing
How well do we know our processes?

Questions:

What?
- Content

How?
- Technology
- Organisation

Suppliers

Enterprise

Partner

Customers

Services

Products

Money Transactions

Information / Knowledge
Objectives of Business Process Management

**Quality**
- Aligning added-value with the client's interests
- Lowering the incidence of mistakes

**Costs**
- Avoidance of nonproductive activities
- Optimize resources usage

**Time**
- Reduction of waiting times
- Reduce delivery time
- Time to market
Objectives of Business Process Management

- Description of the business processes, business data...
- Modeling of business processes beyond functional boundaries and company boundaries
- Revealing weak points in existing organisational and process structure
- Clear definition of responsibilities

Transparency of business processes
The Process Repository foundation

Strategic Management

- Measures & Standards
- Process Best Practices
- Process Management
- Activity Based Costing
- Other: Training Procedures Etc.

Process Repository

- Process Dictionary
- Process Storage

Operational Data Store(s)
Companies In Transition

Implementation of ERP, SCM and CRM Software
Implementation of E-Business Solutions
Process Performance Monitoring
Activity Based Cost Calculation
Knowledge Management
E-Business Engineering
Workflow
BPR
Effect

Change Processes with reference to Business Processes
The vision for continuous improvements

ARIS

Optimization

(e)Business Process Engineering

(e)Business Process Controlling

ARIS 6 Collaborative Suite

ARIS PPM

ARIS for mySAP.com

Measurement

Implementation

(e)Business Process Execution

ARIS 6 Collaborative Suite
A modeling tool is more than a drawing tool

- Aris is a framework for describing company structures, processes and business application systems
- Aris is process oriented and allows business process design, analysis implementation and optimization.
What is a business Processes

A few definitions:

- A business process is a collection of activities that takes one or more kinds of input and creates an output that is of value to the customer [Hammer and Champy 1993].

- Processes represent the flow of work and information throughout the business [BOMSIG 1995]
Disadvantages of non-standardized language
Business Process Components

Events trigger functions

Functions generate events

- Customer Order Received
  - Event
- Confirmation of Customer Order
  - Function
- Order Confirmation Created
  - Event
- Trace Order
  - Function
- Feedback Received
  - Event
- Production Plan
  - Function
- Production Plan Created
  - Event
Business Process Components

Data is processed in the functions
Employees are responsible for functions
Employees belong to organisational units
Business Process Components

Functions create and process services
Reduction in Complexity via View Formation
ARIS Views

- **Data View**
  What information is important? (ie.: Customer, Supplier, Product, Material Calculation)

- **Function View**
  Which functions will be performed? (ie.: Production Plan Creation, Order Processing)

- **Organization View**
  Which organizational units exist? (ie.: Purchasing, Sales, Accounts)

- **Process View**
  The relationship between data, functions and organizational units

- **Product/Service View**
  Which products/services are important? (ie.: checked order, customer invoice)
Integration Method

Inquiry is received

Inquiry

Inquiry is processed

Quotation processing

Quotation

Scheduling

Purchasing

Sales

Management

Materials administration

Customer

Sales processing

Check Credit rating

Determine delivery date

Customer inquiry

Customer quotation

Customer order
ARIS leading the way towards Business Process Management

- ARIS = Architecture of Integrated Information Systems
- Framework concept to describe companies and application software
- Developed by Prof. Dr. A.-W. Scheer
- Uses standard modeling methods
- Concentrates on the business process
- Effective in all areas: independent of the number of departments, the size of the company or the available software
ARIS Drill down possibilities

1. Organizational Chart
2. Risk Diagram
3. Overview Core processes
4. Value Chain Diagram
5. Main processes
6. Value Chain Diagram
7. Processes
8. Function Allocation Diagram
9. KPI Allocation Diagram
ARIS extends its position as „the far and away leader in the BPR tool market“ (Gartner Group)
Architecture of ARIS

MS Windows Platform
- ARIS Toolset
- ARIS Easy Design
- ARIS ABC
- ARIS for mySAP.com
- ARIS Simulation

JAVA Platform
- ARIS Web Publisher
- ARIS ABC
- ARIS Easy Design
- ARIS Toolset

ARIS Application Server
- RDBMS (e.g. Oracle)
- 3 tier Architecture
- Database system

Internet/Intranet/Extranet
- Web enabling

ARIS Web Designer
- ARIS Platform

Flux Consultancy
ARIS Web Designer - Scenario

3 tier Architecture

ARIS Application Server

LAN

Common Repository

Database system

RDBMS (e.g. Oracle)

Web enabled

ARIS Toolset

ARIS Easy Design

Internet
ARIS 6 - Collaborative Suite

ARIS Web Designer
ARIS Toolset
ARIS Easy Design

ARIS PPM
ARIS Web Publisher
ARIS BSC
ARIS for mySAP.com

ARIS ABC
ARIS Simulation
QM Scout
SAP RBE Scout
ARIS Web Publisher: Online process documents

Vehicle Sales and Distribution

Modelindex Modelliste Objektindex Objektliste

Vehicle Sales and Distribution

Shipments tracking
Transport Status
Vehicle Configuration
XML invoice document
XML Payment document
Oil & Gas: Buy & Sell Process
Vehicle Sales and Distribution

Modell

Attribute

Collect information about customer requirements and preferences
Improved market intelligence
Faster reaction to market trends

User attribute increased
ARIS Web Publisher

- Role based access for a working knowledge management
- Fast, worldwide communication of your business processes via the Internet or Intranet
- Web based user interface for quick comprehension and employee acceptance
- Overcomes constraints in terms of time and space regarding information distribution
- Paperless rollout of business process documentation
- Fast, clear implementation of new processes
ARIS Web Publisher

[Image of a software interface]

Company overview

Model

Attributes

Download

Feedback

Core business process
product assembly

Marketing

Sales

Production planning

Customer
contact
development

Customer inquiry processing

Customer offer process
Direct access on important documents

Even for Lotus Notes, SAP R/3 as well as any application.
Fast feedback to the right adress
ARIS Web Designer - Benefits

- Hundreds of users on one Repository
- Thin client
- World wide distributed business modeling
- Very easy handling
- Platform independent
- Easy installation/distribution
- Specific tools for different user groups
- Graphical modeling
- Table modeling
- Feedback / Attribute editing
Web Designer: Web Based modeling tool
ARIS Toolset: Unique process analysis tool
Graphical Analysis Functions

Graphical analysis of goal accomplishment and of all defined KPI (Management View)
### Créer une commande client: écran initial

- Créer avec référence
- Vente
- Synthèse des postes
- Acheteur

### Afficher Gestion des crédits client: Habitude paiement

**Client:** 1170  
Buy & Fly Supermarkt

**Domaine de contrôle crédits Europe:** EUR

**Domaine de contrôle crédit:** 1000

#### Habitudes de paiement

<table>
<thead>
<tr>
<th>Période</th>
<th>Exer.</th>
<th>Nom...</th>
<th>Total (avec escompte...)</th>
<th>Retard</th>
<th>Total (ss escompte b.)</th>
<th>Retard</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>1996</td>
<td>1</td>
<td>0,00</td>
<td>0</td>
<td>35,28</td>
<td>344</td>
</tr>
<tr>
<td>1</td>
<td>1996</td>
<td>2</td>
<td>4,911,19</td>
<td>2-</td>
<td>26,46</td>
<td>181</td>
</tr>
<tr>
<td>10</td>
<td>1995</td>
<td>1</td>
<td>0,00</td>
<td>0</td>
<td>924,61</td>
<td>2-</td>
</tr>
<tr>
<td>9</td>
<td>1995</td>
<td>2</td>
<td>0,00</td>
<td>0</td>
<td>113,19</td>
<td>12-</td>
</tr>
<tr>
<td>8</td>
<td>1995</td>
<td>2</td>
<td>0,00</td>
<td>0</td>
<td>778,99</td>
<td>1-</td>
</tr>
<tr>
<td>7</td>
<td>1995</td>
<td>6</td>
<td>0,00</td>
<td>0</td>
<td>2,857,40</td>
<td>3-</td>
</tr>
<tr>
<td>6</td>
<td>1995</td>
<td>6</td>
<td>3,771,91</td>
<td>11</td>
<td>139,93</td>
<td>3-</td>
</tr>
</tbody>
</table>