ArchiMate: a Service-Oriented Enterprise Architecture Modeling Language

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SOA WG
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Marc Lankhorst
Telematica Instituut
The Netherlands
Overview

- Introduction
- The ArchiMate modeling language
  - History
  - Language structure
  - Example
  - Practical results
- Relation with UML and MDA
Telematica Instituut

- Non-profit Dutch research institute funded by companies and the Dutch government
- To bridge the gap between industry and academia by translating fundamental results into practical applications
- Approx. 180 man-years research capacity, in close cooperation with universities and research institutes
Partners Telematica Instituut

Business

Research
The ArchiMate Project

- 2½ years, July 2002 - December 2004
- approx. 35 man-years, 4 million euro
- Consortium of companies and knowledge institutes, directed by the Telematica Instituut
- ABN AMRO, Dutch Tax Administration, ABP Pension Fund, Ordina
- University of Nijmegen, University of Leiden, Center for Mathematics & Computer Science
Enterprise Architecture: Describing *Coherence*
Conceptual Hierarchy

- More generic
- More specific

Generic concepts

Enterprise architecture concepts

Domain-specific concepts

Object

Relation

Application

Process

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## Layers, Aspects and Domains

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<th>Business</th>
<th>Application</th>
<th>Technology</th>
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<td>Structure</td>
<td>Behaviour</td>
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*Telematica*
Services as Binding Concept

Customer

External bus. service

Internal bus. service

External app. service

Internal app. service

External tech. service

Internal tech. service

Business layer

Application layer

Technology layer
Product and Process

Travel Insurance

- Claim registration service
- Customer information service
- Claim payment service

Claim handling

- Registration → Acceptance → Valuation → Payment

Policy

Notification

Letter

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Actors, Roles, Processes

- Customer
- Insurant
- Insurer
- ArchiSurance

Processes:
- Registration
- Acceptance
- Valuation
- Payment
- Claim registration service
- Customer information service
- Claim payment service

Notification
Application Usage
Layered Architecture

Business layer

Application layer

Technology layer
Results in Practice

- **Applications** at numerous organizations
  - Used by > 25 organizations, esp. in finance, government, and social security
  - Fast becoming a de facto standard in the Netherlands
- Implementation by *tool vendors*
  - BiZZdesign, Troux Metis (certified)
  - IDS Scheer (ARIS), Adaptive, Telelogic (implementing)
  - MEGA, Casewise, ASG (considering implementation)
- Support by major *consulting firms*
  - Atos Origin, Sogeti, Ordina, Getronics PinkRoccade
  - Interest from IBM, LogicaCMG, Capgemini
- **Education**
  - Used by several Dutch universities and
Members ArchiMate Forum
ArchiMate, MDA, and UML
Archimate and MDA

Computation Independent Model (CIM)

Platform Independent Model (PIM)

Platform Specific Model (PSM)

Archimate covers aspects of CIM, PIM, and PSM, but at a high level of abstraction.
ArchiMate and UML

- ArchiMate connects architectural domains
  - It acknowledges the need for specialised languages for different architectural domains, such as UML, BPMN, and others
  - Mappings to more detailed, specialised models
- Many ArchiMate concepts derived from or related to UML (esp. for application and infrastructure) and BPMN (at the business level)
- A UML profile for ArchiMate is available
Our Suggestion

- Increasing need for documentation on the enterprise architecture level
- A standard is needed for describing integration of architectural domains
  - For communication: speaking the same language
  - For tool interoperability
- OMG should foster standardization in this area, e.g. via a UML profile for SOA or enterprise architecture
  - We can contribute
More Information?

Most ArchiMate results are open to the public and available through the website: www.archimate.com

Marc Lankhorst
Telematica Instituut
P.O. Box 589
7500 AN Enschede
The Netherlands
Marc.Lankhorst@telin.nl
053-4850485