ArchiMate®: Adding value to TOGAF™

Introduction in ArchiMate

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What are we talking about...?
Mission BiZZdesign

- To help organizations govern and change (themselves) effectively and rapidly using enterprise architecture, business requirements management, business process improvement & management, supported by
  - Methods
  - Tools all certified by The Open Group
  - Consultancy
  - Training

“BiZZdesign has strategically chosen to support open standards and become an active member within The Open Group.”
What is Enterprise Architecture?

- A **discipline**, with the objective of steering changes
- A **product**
  - A design that shows the coherence between products, processes, organisation, information supply and infrastructure, based on a vision and certain explicit starting points, principles and preferences
- A **process**
  - Way of working
  - Aimed at the development and use of enterprise architectures within an enterprise
  - With people and resources
Ingredients of an EA Approach

TOGAF

Process

Viewpoints

Language

ArchiMate

Enterprise Continuum, Repository, Reference Models

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A real language

- Boxes become concepts
- Lines become relations

A modelling language contains concepts, relations, semantics, rules and notation

ENTREPRISE ARCHITECTURE MADE EASY

WHAT ARE THE GREEN, BLUE AND YELLOW THINGIES? SERVERS? APPLICATIONS? COMPONENTS?

PART 1: DON'T MESS WITH THE GORY DETAILS
Archimate

- A language for describing architectures
- Covers business, application and technology layers
  - With relations between these layers
- Graphical language with formal semantics, enabling analysis and tool support
- Techniques for visualization and analysis, aimed at various stakeholders
- Open standard maintained by The Open Group
- See [www.opengroup.org/archimate](http://www.opengroup.org/archimate) or [www.archimate.org](http://www.archimate.org)
The ArchiMate Language

- High-level modelling within a domain
- Modelling relations between domains
- Basis for visualisations
- Basis for analyses
- Relate to standards
Layers, Aspects, and Domains

Environment

Business

- Information domain
- Process domain
- Organization domain

Application

- Data domain
- Application domain

Technology

- Technical infrastructure domain

Passive
“object”

Behaviour
“verb”

Active
“subject”
Language summary

**Business**
- Business object
- Business process
- Business role
- Business actor

**Application**
- Data object
- Application function
- Application service
- Application interface
- Application component
- Infrastructure service
- Infrastructure interface

**Technology**
- Artifact
- System software
- Node
- Network

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Products and services

Contract

Product

Value

Role

Insurance Policy

Damage insurance

Being insured

Customer

Policy mutation Service

Payment Service

Policy Service

Premium Service

Declaration Service

Business services

Aggregation

Association
Processes and roles

Event
- Damage notification
  - Administrative employee

Process
- Accept and Register claim
  - Taxateur
- Assess claim
  - Specialist Car damage
- Pay claim
  - Employee Finance

Event
- :) customer

Role
- Triggering Assignment
Business functions

- System development
- Marketing
- Product development
- Customer relations

- Financial handling
  - Facturation
  - Collecting

- Claims handling
  - Assessment
  - Acceptance

- Asset management
  - Risk management
  - Treasury

- Contracting
  - Contract changes
  - Customer changes

Composition (by nesting)
Business objects

- Insurance request
- Life insurance
- Travel insurance
- Pension insurance
- Damage insurance
- Damage data
- Damage form

Aggregation
Specialization
Realization
Applications and application services

Register
Assess claim
Accept and Register claim
Acceptation service
Assessment service
Acceptation system
Customer administration system
Assessment system
Registration system
Payment system
Acceptation system
Acceptation Interface
Application component
Application service
Business process

Used-by Realization Composition
ArchiMate and support

- Low entrée level
  - Free format in Visio/OmniGraffle stencils
- ArchiMate is commercially supported
  - By certified tool vendors
    - BiZZdesign: Architect
    - Casewise: Corporate Modeler
    - IDS Scheer: Aris ArchiMate Modeler
    - Telelogic: System Architect
    - Troux: Metis
  - By a large number of service providers like Atos Origin, BiZZdesign, Capgemini, Getronics, Logica, Sogeti, Ordina,…
- Certification for individual architects and training is in progress
Why not dive straight into UML?

- Business people just don’t understand it!
- Not designed for enterprise architecture
- Lack of integration of business, application and technical infrastructure aspects
- Too many details
- No explicit service paradigm
- Many diagrams = many models
  - ArchiMate works with views on one model
Refer detailed models to your ArchiMate models.

Detailled models in UML, BPMN, also pay attention to the relation to less formal modelling in Powerpoint and Visio.
ArchiMate – Benefits

1. Makes EA visible to stakeholders
2. Specifically designed for EA
3. Services as central concepts
4. Widely accepted open standard
5. Communication with various stakeholders
6. Flexible
7. Easy to get started (2 day training to get started)
8. Unambiguous, integrated, coherent and consistent modelling
9. Analyses (Impact-of-change, GAP, etc)
10. Supported in tools and by service providers
Views on a shared model

Repository

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Participate in educational activity
More detailed
Examples views
Stakeholder specific visualisation
The TOGAF Components

ADM

Architecture Content Framework

Reference Models

ADM Guidelines & Techniques

Enterprise Continuum

Architecture Capability Framework

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Deliverables and artifacts

Catalog → Matrix → Diagram

Handle Claim

Register → Accept → Validate → Pay

Scanning service
Customer administration service
Claims administration service
Printing service
Payment service

Document management system
CRM System
Home & Away Financial Application
Home & Away Policy Administration

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ArchiMate 1.0 and purposed extensions
TOGAF ACF and ArchiMate

- ArchiMate provides a well-defined language, including graphical notation, covering the core of the ACF.
- With ArchiMate, relations between different architectural domains can also be modelled.
- ArchiMate models form a basis for views, visualizations, and analysis.
- Some concepts from the ACF are addressed as extensions of the language in whitepapers.
Archimate and TOGAF’s guidelines and techniques

- Iteration
- Service paradigm
- Stakeholders
- Patterns
- Building Blocks
- Business Scenario’s
- GAP analyses

Gap analysis
Architecture patterns

Applying iteration to the ADM

TOGAF, Archimate and SOAs

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The ADM and ArchiMate
Case study: Models throughout the ADM
Case study introduction: ArchiSurance
ArchiSurance: a 3-company merger

ArchiSurance Home & Travel insurances

PRO-FIT Car insurances

LegallyYours Legal Aid insurances

The “new” ArchiSurance
Structure of the new company

Front-office

Home & Away back-office

Car back-office

Legal Aid back-office
Main IT systems of ArchiSurance

- **Business Functions**
  - Maintaining Customer & Intermediary Relations
  - Contracting
  - Claim Handling
  - Financial Handling
  - Document Processing

- **Products**
  - Home Insurance
  - Travel Insurance
  - Liability Insurance
  - Car Insurance
  - Legal Aid Insurance

- **Systems**
  - Web portal
  - Call center application
  - Customer relationship management system
  - Home & Away Policy administration
  - Car insurance application
  - Legal Aid back office system
  - Home & Away Financial application
  - Financial application
  - Document management system

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Proposed change

- Develop a single back-office system (for policy administration and financial handling) to be used by the three back-offices.
- This system will eventually replace:
  - The Policy administration system and Financial application of the Home & Away back-office
  - The Car insurance application of the Car back-office
  - The Legal aid back-office system
- The separate CRM system of Legal Aid will also disappear
Architecture principles

Business principles
- Primacy of principles
- Maximize benefit to the enterprise
- Information management is everybody's business
- Business continuity
- Common use of applications
- Compliance with law
- IT responsibility
- Protection of intellectual property

Data principles
- Data is an asset
- Data is shared
- Data is accessible
- Data trustee
- Common vocabulary and data definition
- Data security

Technology principles
- Requirements-based change
- Responsive change management
- Control technical diversity
- Interoperability

Application principles
- Technology independence
- Ease of use

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Stakeholders, concerns and business goals

- CFO
  - Cost-effectiveness
    - Reusable IT services
- Service department
  - Flexibility
- User
  - Ease of use
    - Uniform user interface

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Baseline & target Business Architecture: Business Roles & Functions

Intermediary

- Maintaining Intermediary Relations
  - Contracting
    - Asset Management
  - Claims Handling
    - Financial Handling

Customer

- Maintaining Customer Relations

Customer's Bank

Information flow:
- Customer info
- Contract info
- Asset info
- Claim info
- Insurance info
- Money

Information exchanges:
- Cust. info
- Product info

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Baseline & target Business Architecture: Business Processes

Request for Insurance

- Formalise Request
- Create Contract
- Check and Sign Contract

Close Contract

Insurance policy

Damage Occurred

- Register
- Accept
- Valuate
- Pay

Handle Claim
Baseline application architecture

Call center application

Web portal

Customer Relations Management system

Legal Aid CRM system

Home & Away policy administration
- Claim data mgt.
- Risk assessment
- Policy data mgt.

Home & Away financial application
- Premium collection
- Claim payment

Car insurance application
- Claim data mgt.
- Premium collection
- Policy data mgt.
- Claim payment

Legal aid back-office system
- Claim data mgt.
- Premium collection
- Policy data mgt.
- Claim payment

Document management system
Target application architecture

Call center application

Archisurance
Customer Relations Management system

Archisurance back-office system

Policy data mgt.
Claim data mgt.
Risk assessment
Premium collection
Claim payment

Document management system

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(Fragment, for the target architecture)
Baseline technology architecture

- Web portal
- DMS application
- CRM application
- Call center application

- Generic application server

- ArchiSurance LAN

- Home & Away policy admin.
- Home & Away financial app.
- Car insurance application
- Legal aid backoffice application
- Legal aid CRM application

- Home & Away application server
- Car application server
- Legal aid application server
Gap analysis technology architecture

- Web portal
- DMS application
- CRM application
- Call center application
- Generic application server

- ArchiSurance LAN
- ArchiSurance backoffice back-up server
- ArchiSurance backoffice application
- Legal aid CRM application

- Home & Away policy admin.
- Home & Away financial app.
- Car insurance application
- Car application server
- Home & Away application server

Legend:
- Blue: both in Baseline and Target application architecture
- Orange: only in Baseline application architecture
- Green: only in Target application architecture

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Application-technology alignment

(For the target architecture)
Transition architectures
Projects

Baseline Architecture → Project A: Integration of CRM systems → Transition Architecture A → Project B: Integration of back-office systems → Target Architecture
Analysis capabilities

- Change management (in tools)
- Impact-of-change
- Where-used
- Visualizing objects and relations by generating views
- Visualizing properties using views (colour/label/tooltip/etc.)
- Giving overviews of properties using tables
- Navigation through objects and relations
Requirements modelling

On-line portfolio management

Enable claim handling

Enable buying insurances

Enable premium payments

Provide on-line information

Buy insurance

Apply for insurance

Receive contract

Create contract

Handle application

Ext.

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Requirements traceability
TOGAF and ArchiMate

- Supported by ArchiMate:
  - Business architecture
  - Application architecture
  - Data architecture
  - Technology architecture
  - Transition architectures

- With proposed extensions:
  - Architecture principles
  - Stakeholders, concerns and business goals
  - Projects and deliverables
  - Requirements
- Integrated, consistent and coherent modelling in various phases
- Not just the circles, but also the relations between those
- Supports the service paradigm explicit
- Concrete, visible results for various stakeholders can be generated from the repository
- Analyses (e.g. impact-of-change and gap) made easy
- Re-use models, maintain in one place

TOGAF 9 + ArchiMate 1 = Value 10
(some of the) Organizations that benefit from ArchiMate

- Financial services, government, transport, construction, energy, utility, media, healthcare, social security, services and education
- Various case studies available
Benefits experienced

- “ArchiMate closes the gap between “free-format” strategy models and detailed solutions architecture models”
- Consistent and integrated modelling…
  - Is a kind of knowledge management
  - Helps to integrate various (types of) models
  - Enables stakeholder specific view generation
  - Enables analyses
- Insight in the various domains and the relations between these
- Open standard no vendor lock-in
- “ArchiMate makes it easier to communicate with architects over organization boundaries, domain boundaries and from architect to designer”
- Ease of use, low complexity, step-by-step growth in advanced use
Some lessons learned

- Pilot ArchiMate to create real-life experience and work on a success story
- Create your own sub-set of the metamodel (31 x 10 is heavy)
  - Select and learn, extend if needed
- Train people to optimize benefit
- Integrate modelling effort with…
  - the EA process (TOGAF ADM or any other)
  - EA governance (Validate the models)
  - other modelling efforts (Process modelling, Software modelling)
- Be aware that standardizing the language for EA can be an major chance for individual architects
  - Less/More formal
  - Less/More detailed
  - Focus changes from modelling one-time views to information gathering, model in a shared environment and generate views
The future of ArchiMate

Extensions
- Requirements, principles, projects
- Further integration with TOGAF
- Formalizing relations with other languages
- More user groups
- Cases and user experiences
- Certification
Archimate adding value to TOGAF

- Share the same definition of (Enterprise) Architecture
- Viewpoints as a central concept
- Both managed by The Open Group
- Good tool support is available
- Use of both is growing rapidly
- Gaps between Archimate and TOGAF will be closed
- Complement each other

Process: TOGAF  
Viewpoints  
Language: Archimate

Enterprise Continuum, Repository, Reference Models

Common foundation

THE Open GROUP
Making standards work®
More information…

- The Open Group
  www.opengroup.org

- ArchiMate
  www.opengroup.org/archimate
  www.archimate.org

- TOGAF 9
  http://www.opengroup.org/architecture/togaf9-doc/arch/

- ArchiMate 1.0
  http://www.opengroup.org/archimate/doc/ts_archimate/
Thank you!

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