Enterprise Architecture
Process, Structure and Organization

t-eam* - a framework derived from project experience

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*toolbox for enterprise architecture management
Content

- The EAM dilemma: the gap between strategy and implementation
- The answer: filling the gap
- The benefits: lessons learned
From strategy to implementation

Architecture management aligns IT to business and so must do the splits between strategy and implementation.

- The alignment is based on navigation from business artifacts (e.g. business units or processes) to IT artifacts (e.g. applications or infrastructure)
- Architecture management processes ensure continuous controlling and optimization.

Enterprise Architecture Management

![Diagram with Enterprise Architecture Management and related artifacts]

- Enterprise strategy
  - goals
  - constraints
  - business processes
  - results

- Implementation
  - application systems
  - workflow
  - interfaces
  - IT infrastructure
Bridging the gap

The EAM House

Structure
- (EA entities, relationships between strategic and operational topics, stakeholder specific views)

Process
- (strategic processes (e.g. application portfolio planning), operational processes (e.g. software architecture design), linking between processes)

Organization
- (principles, roles, functions, committees, workload balancing)

Enterprise Strategy
- goals
- constraints
- business processes
- results

Implementation
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Distribution of efforts in recent projects

- The columns of the EAM house (structure, processes and organization) are of equal value for being successful in enterprise architecture management.
- As we learned from a survey* many recent projects focus on structure:
  - collecting and analyzing data for application portfolio planning
  - defining reference architectures
  - structuring and refurbishing the system architecture
- Processes and organization get lower attention.

*German Society for Computer Science, working group on EAM, 30.1.2003
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The environment of architecture management

- Architecture management is embedded into the other IT processes and cooperates directly with strategic IT planning and IT projects – therefore it has to provide the link between strategy and implementation.

- Quality enhancement is done through
  - iterations: manage risks and take care of moving targets
  - feedback: generate reusable assets and best practices
The act! – reference model for enterprise architecture management t-eam* is assembled from separately usable components:

- process templates p-arc, p-fach, p-anw, p-sys und p-soft,
- reference architecture („blueprint“) ref-arc,
- meta model and enterprise architecture repository m-arc,
- organizational patterns for implementation and operation of EAM.
The EA processes within t-eam are directly linked to the meta model,

- activity inputs and outputs are specified in the meta model
- Methodology is based on the meta model (e.g. data analysis for application landscaping)
- Semantics is specified through the meta model

enterprise architecture planning

- design business architecture
- design application landscape
- design software architecture
- reference architecture
- design systems architecture

Reference architecture

Software architecture

System architecture

Business architecture

Requirements specification

Application landscape
Enterprise Architecture Planning

- Integrate and consolidate enterprise architecture
- Analyze enterprise and IT strategy
  - derive implications on enterprise architecture
- Analyze application and project portfolio
  - evaluate strategic impact
  - derive value production
  - evaluate (costs ↔ risks ↔ quality ↔ functionality)
- Market research
  - IT-technology
  - methods und tools
  - standards

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Design Business Architecture

- develop and maintain enterprise wide business architecture as enterprise architecture module
- develop component portfolio (business components, business objects)
- develop process portfolio (business cases, deliverables, business processes, actors)
- goals and constraints
- specify requirements
- develop glossary
- supply business architecture for enterprise wide use
Design Application Landscape

- Analyze existing application portfolio and develop application landscaping plan
- Specify application systems
  - Define responsibilities
  - Reference business, software and systems architecture
- Develop and evaluate future application portfolio scenarios
- Derive application portfolio development plan
- Control development process
- Supply recent application portfolio and development plan for enterprise-wide use
Design Software Architecture

- Develop and maintain enterprise wide software architecture (reference architecture) as module of enterprise architecture
- Ascertain requirements
  - non-functional / functional requirements
    - fundamentals
    - constraints
- Develop and evaluate architecture scenarios
- Test scenarios and derive reference architectures
- Specify and control development plan
Reference Architecture

- Specification of valid reference architectures according to subject areas, e.g.
  - back office
  - mobile sales support
  - intranet
  - internet
  - data warehouse
- Definition of coverage to functional and non-functional requirements
- Specification of conformity with fundamentals and constraints
- Documentation of heuristics and patterns
Design Systems Architecture

- Develop and maintain enterprise wide technology model as module of enterprise architecture
- Conduct technology projects (development, optimization, procurement)
- Create technology model („tool basket“)
- Supply technology model for enterprise wide use
  - „tool basket“
  - standards (e.g. guidelines for deployment and operations)
  - capacity specifications
Architecture management processes

Strategic architecture management
- design enterprise architecture
- design application landscape
- design business architecture

Operational architecture management
- design software architecture
- design systems architecture
- implement reference architecture

enterprise strategy
- goals
- constraints
- metrics
- ...

implementation
- processes
- application systems
- organisation
- infrastructure
- ...

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EAM Organization

The EAM House

Organization

EA roles
- Enterprise Architect
- Software Architect
- ReUse Manager
- ...

Organizational principles & patterns
- Accountability
- Punctuality
- ...

committees
- Architecture board
- Sounding board
- ...

Marketing patterns
- EA motivation
- EA goal setting
- EA information
- ...

Critical success factors
- Bridging the gap -
- diversify / distribute EA functions
- ...

Best practices
- Find a mentor
- Decentralize architecture development
- Concentrate on low hanging fruits
- ...

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Benefits of enterprise architecture management

... result from contribution to IT’s efficiency and effectiveness:

⇒ effectiveness (Do the right things.): architecture management plans and develops business architecture and application portfolio aligned to enterprise strategy

⇒ efficiency (Do things right.): architecture management cares for cost efficient and appropriate applications and infrastructure.

An enterprise architecture management programm needs a clear perspective:

- The business approach. The red way needs an anchor in business, operationalized strategy. The initialization needs fairly stable targets.

- The technical approach. The blue way needs a clear methodology, a database, able to deal with scale and different aspects (business, applications, infrastructure).