

Building strong organizations

Tools for Enterprise Architecture

San Diego

The Open Group Conference

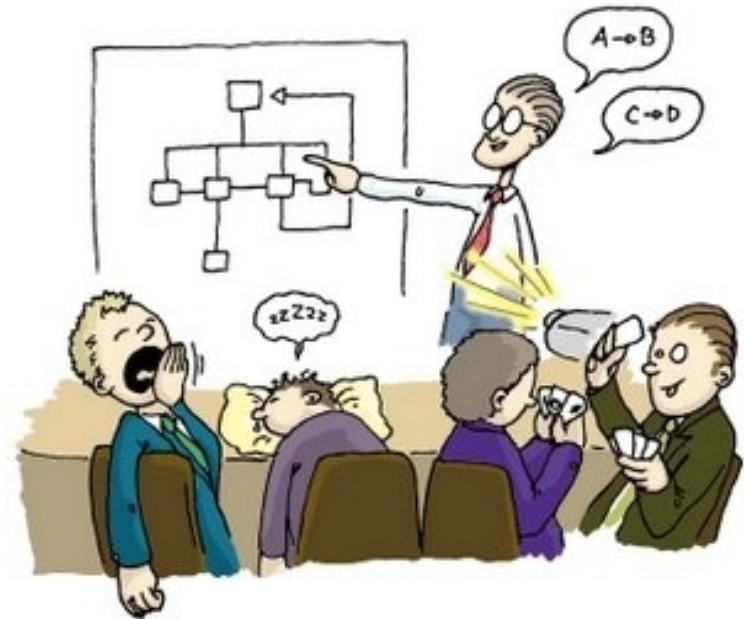
ArchiMate Stream


BiZZdesign

www.bizzdesign.com

▶ Proposed schedule

- ▶ *Introduction EA*
- ▶ *Current experiences with tools*
- ▶ *Office tools and EA tools*
- ▶ *Requirements for an EA tool*
- ▶ *Overview tools*
- ▶ *Tool selection*
- ▶ *Some best practices on starting with EA*



A panoramic view of the Chicago skyline at night, with numerous skyscrapers illuminated against a dark blue sky. The Willis Tower is prominent on the left side.

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Introduction Enterprise Architecture

Some basic concepts to level our minds...

▶ Why Enterprise Architecture?

- ▶ *Managing change and complexity:*
 - ▶ Aligning business and IT
 - ▶ Outsourcing
 - ▶ Impact analysis
 - ▶ Project support (project start architectures)
 - ▶ Portfolio management
 - ▶ Communication with stakeholders
 - ▶ ...
- ▶ *Obtaining insight in current situation (as-is)*
- ▶ *So enterprise architecture as a tool*
 - ▶ for communication
 - ▶ for governance
 - ▶ for innovation



▶ Enterprise Architecture



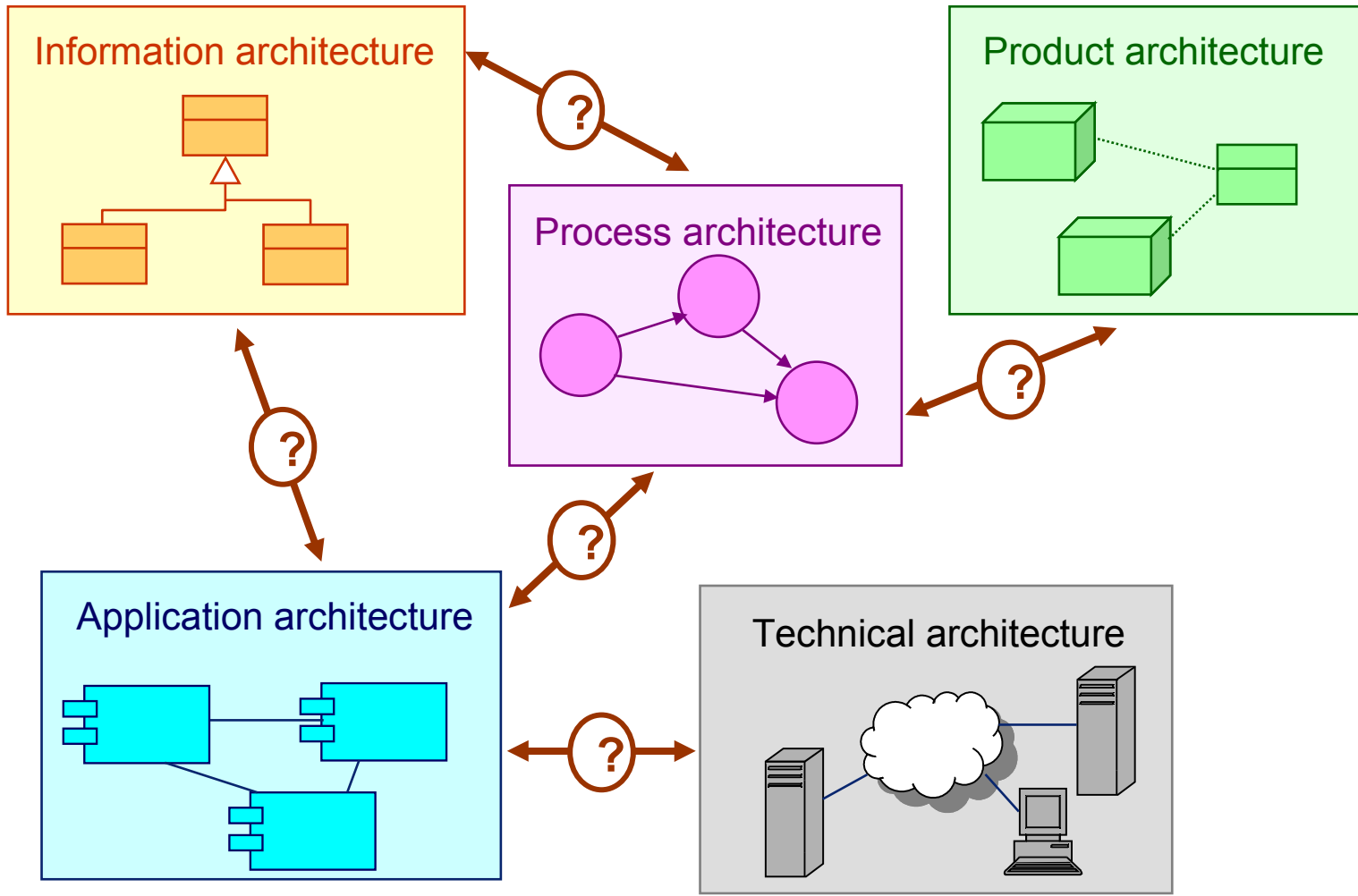
IEEE Std 1471:

*Architecture = structure (s) of a system
in terms of*

- ▶ *components,*
- ▶ *their externally visible properties,*
- ▶ *their relations,*
- ▶ *and the underlying principles*

“Structure with a vision”

EA: Describing Coherence



▶ What is Enterprise Architecture?

- ▶ *A process*
 - ▶ For developing and using enterprise architecture in an organization
- ▶ *A product*
 - ▶ the complete and consistent set of methods, rules and models, which will guide the (re)design, migration and implementation of business processes, organizational structures, information systems and the technical infrastructure within an organization
- ▶ *For managing change and complexity*

▶ Important notions (IEEE 1471)

- ▶ *A stakeholder is a person or organisation with a certain interest in (part of) an architecture*
- ▶ *A view is a representation of a system from the perspective of a set of concerns of one or more stakeholders. A view is what you see.*
- ▶ *A viewpoint is where you are looking from. It defines how to build a view, e.g. by means of a template.*
- ▶ *Different stakeholders*
 - ▶ Have different interests and use different concepts
 - ▶ Have different views
 - ▶ Have different viewpoints
 - ▶ On the basis of one consistent architectural model

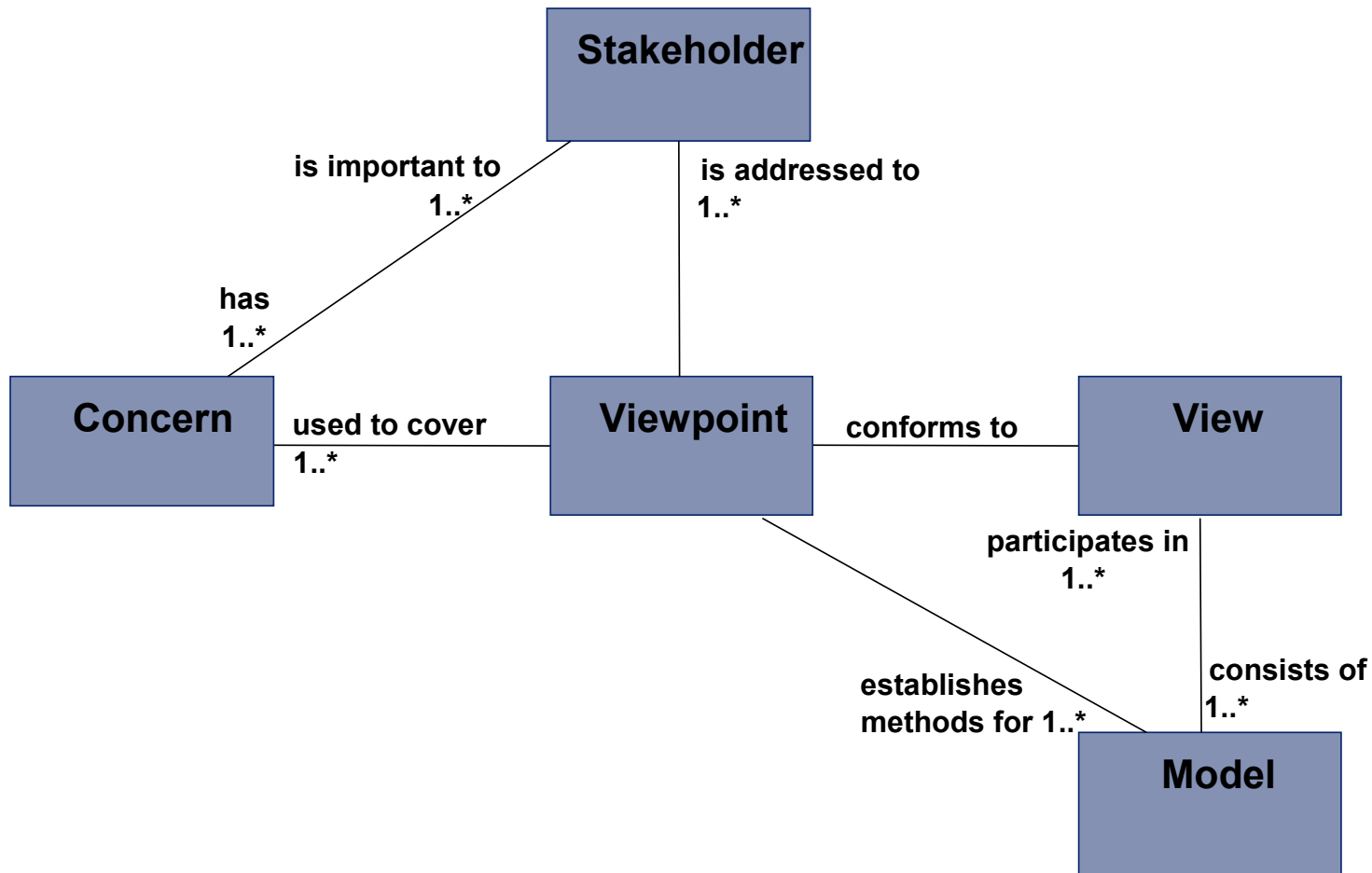
▶ Example viewpoint en view


- ▶ *Air photo*
 - ▶ Development plan

- ▶ *Ground photo*
 - ▶ Building permit



▶ IEEE 1471 (summary)



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Current experiences with tools for EA

BiZZdesign

www.bizzdesign.com

▶ Your votes please!

*Who is using office tools
(powerpoint, visio, word, excel)
to model and visualize
the (enterprise) architecture?*

▶ Your votes please!

*Who is using an EA-tool
to model and visualize
the (enterprise) architecture?*

▶ Discuss the following questions

- ▶ *What do you like about the tool(s) you use (d)?*
 - ▶ *What didn't you like about the tool(s) you use (d)?*
 - ▶ *What are your main requirements for tool support?*
-
- ▶ *Discuss it with your neighbors*
 - ▶ *Write down the top-3 for the last question*

▶ Gartner on Office tools (2006)

While most architecture endeavors can begin successfully with office automation tools (for example, Microsoft Office), diagramming tools (for example, Microsoft Visio) and knowledge management tools (for example, Lotus Notes), at a certain point, more comprehensive architecture modeling tools become a necessity.


▶ Office tools for EA

Many organization still use MSOffice tools (PowerPoint, Excel, Visio,...) for EA. Drawbacks using Office tools:

- ▶ *Often limited to description of isolated enterprise architecture domains, so*
 - ▶ no relations between different parts and domains of the enterprise architecture
 - ▶ no insight in the relationships within the enterprise architecture
 - ▶ no impact of change analysis possible
- ▶ *Schemas visualizing the architecture are difficult to construct / maintain*
 - ▶ only a limited number of views are developed
- ▶ *Overall consistency of the architecture is very hard to maintain*
 - ▶ propagating changes done by hand and is time-consuming

▶ Advantages EA tools

- ▶ *Descriptions of architectural domains are not stored as separated independent models*
 - ▶ relations between different parts of the architecture are actually part of the model
 - ▶ enabling impact of change analysis
- ▶ *Increasing consistency of the architecture*
 - ▶ consistency and model checking mechanisms
- ▶ *Automatic generation of views and visualizations*
 - ▶ tailored for a particular stakeholder
- ▶ *Description of enterprise architecture principles*



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Requirements EA Tools

The most common requirements for EA Tools

▶ Minimal requirements (Gartner)

The minimum requirements of an EA tool are:

- A repository.
- A metamodel that supports the business, information and technology viewpoints, as well as solution architectures. The repository should also support relationships among and between objects in these viewpoints or architectures.
- Ability to create or import models and artifacts.
- The ability to present repository information to support stakeholder needs, including in graphical, text and executable forms.

▶ Framework and concepts

- ▶ *The EA tool should support the relevant concepts and framework(s)*
 - ▶ Relevant for the goal of your enterprise architecture
 - ▶ *More is less!*
 - ▶ Support of more concepts and frameworks is not necessarily better...
 - ▶ Minimally, there should be support for the
 - ▶ Principles and guidelines
 - ▶ Business concepts
 - ▶ Application and information concepts
 - ▶ Infrastructural / technology concepts
 - ▶ Projects and time aspects
 - ▶ And the relations between these concepts
 - ▶ ArchiMate is a good example of a relevant framework

▶ Modelling

- ▶ *support for the creation and modification of models*
 - ▶ easy to use model editing functionality
 - ▶ user-friendly interface
 - ▶ good graphical interface
 - ▶ the ability to assign properties to model elements
 - ▶ importing and exporting information using open standards
 - ▶ multi-user support

▶ Visualization

- ▶ *visualize and publish (parts of) the enterprise architecture*
 - ▶ easy (automatic) generation of views
 - ▶ defining new viewpoints
 - ▶ content and form
 - ▶ publish in Word and HTML, including feedback possibility
 - ▶ copy to PowerPoint
 - ▶ export to Excel

▶ Analysis of enterprise architecture

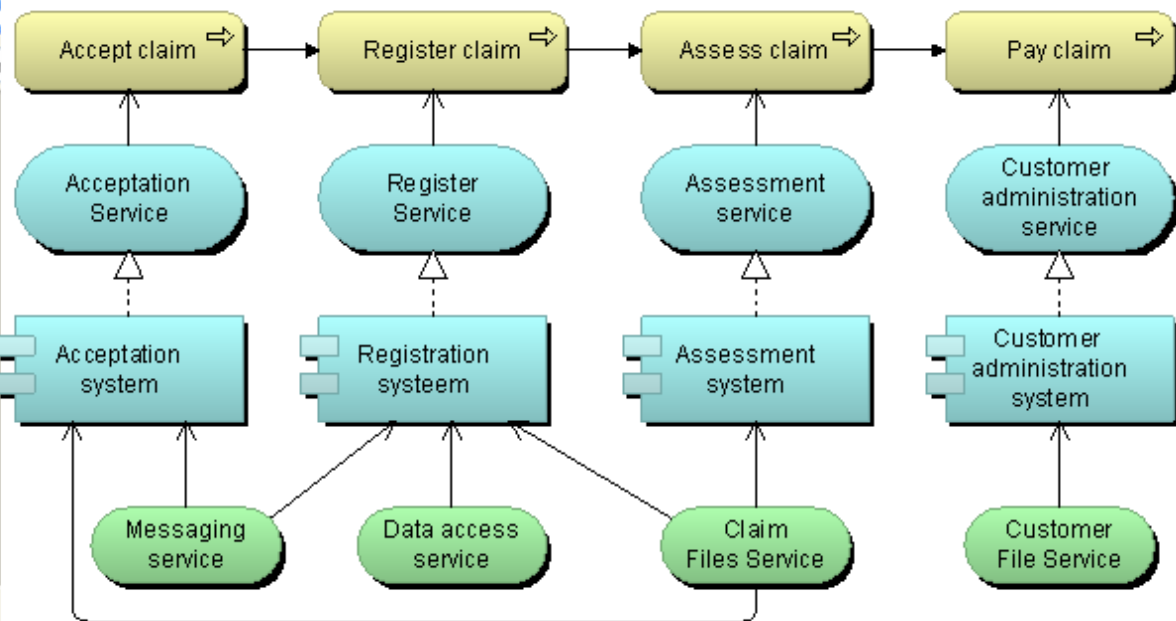
- ▶ *Impact-of-change analysis*
 - ▶ graphical, table, cross-domain
- ▶ *Comparing views*
 - ▶ reporting differences and similarities
- ▶ *Comparing architectures (as-is, to-be)*
 - ▶ reporting differences and similarities
- ▶ *Queries*
 - ▶ e.g., list all business critical processes, supported by applications that use technology services with an availability less than 99%
- ▶ *Quantitative analysis*
- ▶ ...

▶ Example impact analysis

Infrastructure service used by Application component real

	Accept claim	Assess claim	Pay claim	Register claim
Claim Files Service	✓	✓		✓
Customer File Service			✓	
Data access service				✓
Messaging service	✓			✓

Show why it

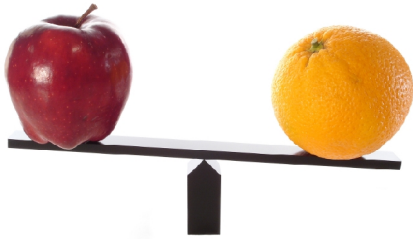


▶ Repository support

- ▶ *Objects and relations should be stored in a repository*
 - ▶ User management and user rights management
 - ▶ Content organization
 - ▶ Artifact sharing
 - ▶ Version management
 - ▶ Locking / check-in / check-out
 - ▶ Scalable

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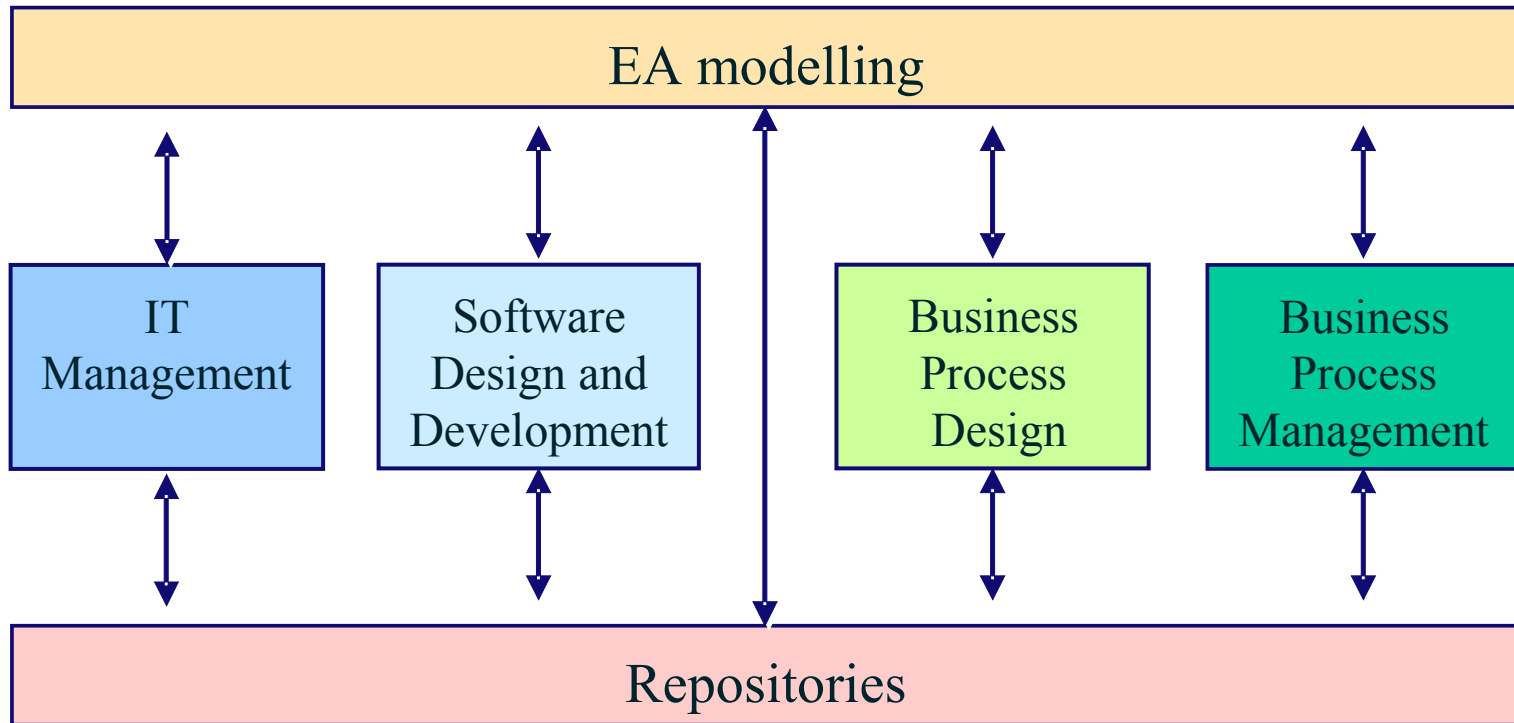
Overview tools for EA



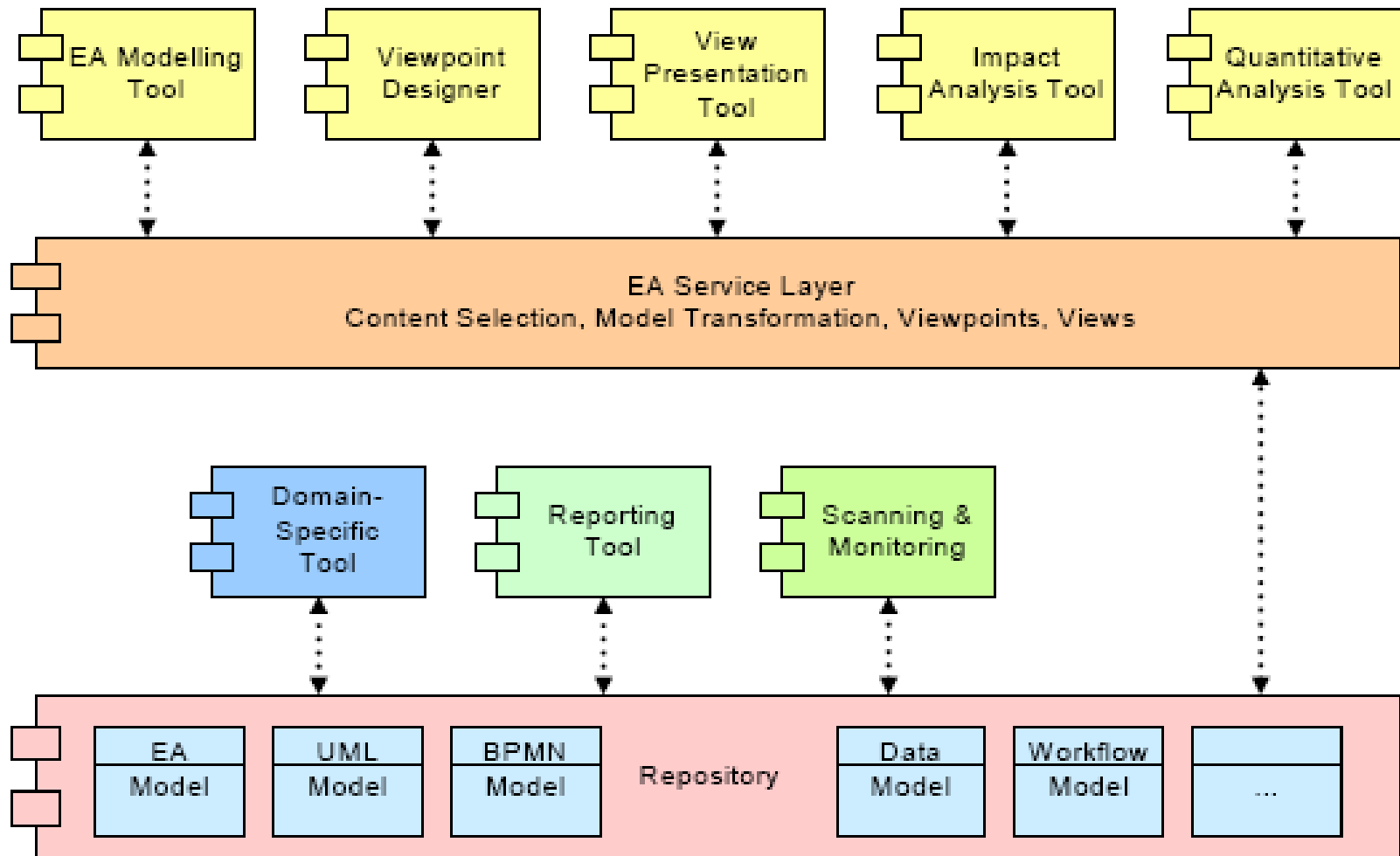
Comparing apples and oranges...

► Tools, tools, tools...

- *Different types of tools exist*




Components EA tools (ideal situation)



▶ ArchiMate certified tools

- ▶ *BiZZdesign: Architect*
- ▶ *Casewise: Corporate Modeler*
- ▶ *IDS Scheer: Aris ArchiMate Modeler*
- ▶ *Telelogic: System Architect*
- ▶ *Troux: Metis*

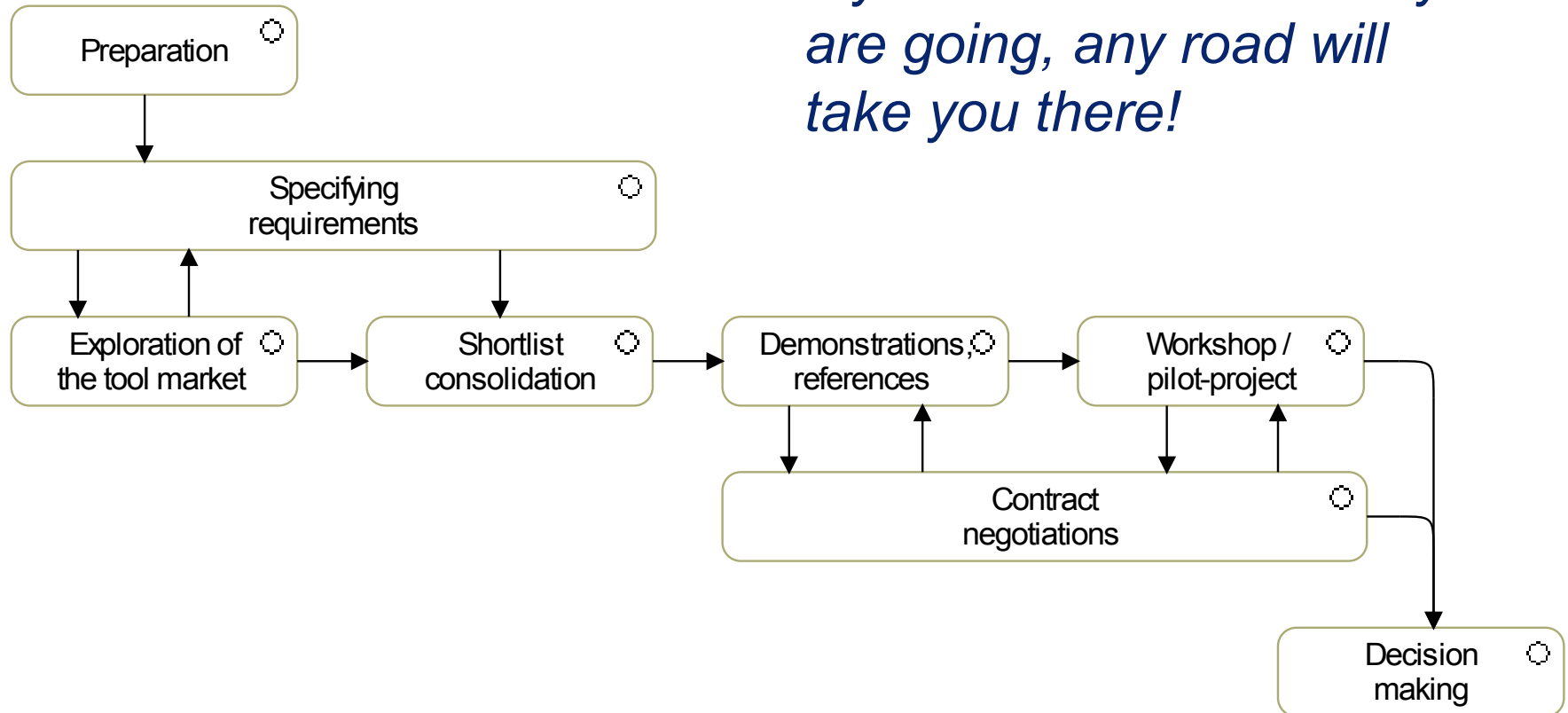


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Selection of an EA Tool

How to select and implement an EA Tool

► Procedure tool selection



If you don't know where you are going, any road will take you there!

▶ 1. Preparation

Start with an analysis of current situation; identify

- ▶ *the groups involved in enterprise architecture process*
- ▶ *the enterprise architecture areas these groups are targeting*
- ▶ *the maturity of the EA practice within organization*
 - ▶ *Measuring instruments (Gartner, DYA, BiZZdesign, etc.)*
- ▶ *means /tools that are used*
- ▶ *conventions and standards that are available*
- ▶ *requirements concerning possible migration of current data and models*

Result: clear picture of maturity of EA practice and stakeholders

▶ 2. Specify requirements

▶ *Identify the requirements*

- ▶ Functionality of the software package;
- ▶ Methodology support (e.g. ArchiMate®, Togaf®)
- ▶ Training support (tool and methodology)
- ▶ Administration and configuration aspects
- ▶ Technical aspects
- ▶ Contractual aspects (i.e., licenses, support, new releases, etc.)
- ▶ Security aspects and Performance aspects

▶ *Prioritize the requirements!!*

▶ *Take into account the maturity of the organization*

- ▶ Choose and use tool that fits the maturity level of the organisation, that does not impose severe complexity, and that can grow with the organisation tot the next maturity levels

▶ Example requirements

- ▶ *Many lists of requirements are available*
 - ▶ Internet, Gartner, Forrester,
http://www.enterprise-architecture.info/EA_Tools.htm,
etc.
 - ▶ See e.g.
[Enterprise Architecture Tool Selection Guide v4.2.pdf](#)
 - ▶ Including scoring sheets, see e.g.
[142242_ea_reqs_tool_matrix_v2.xls](#)
- ▶ *Important: choose only those things important for your organization!*

▶ 3. Exploration tool market

- ▶ *Create long list of tool vendors*
- ▶ *Create RFI and let vendors answer the RFI*
- ▶ *Ask for screendumps etc. to validate answers...*
 - ▶ For example, see e.g. **voorbeeld 1** or **voorbeeld 2**

▶ 4. Create short list tools

- ▶ *Evaluate RFI*
- ▶ *Create a short list of 3 – 5 tools*
- ▶ *Ask additional information (if necessary)*

▶ 5. Demonstrate and evaluate

- ▶ *Organize demonstrations for the selected tools*
 - ▶ focus on functionality important for organisation
 - ▶ use a case
 - ▶ let participants fill in evaluation form, based on the requirements
- ▶ *Visit reference sites*
- ▶ *Rank vendors on short list*

▶ 6. Contract negotiations

- ▶ *Procurement should start negotiations with the most likely candidate(s)*
 - ▶ This step can also be postponed just before deciding
- ▶ *Procurement should check:*
 - ▶ the financial aspects such as the size of the investment, the yearly maintenance costs, estimation of the amount of necessary customization work, education costs, etc.
 - ▶ information regarding the vendor (previous experiences, continuity expectation, etc.)
 - ▶ the contractual clauses


▶ 7. Pilot /workshop

- ▶ *Organize a pilot or workshop with the preferred vendor(s)*
 - ▶ Use a case
 - ▶ Let “ordinary users” play with the tool
 - ▶ Create an interactive workshop of one or two days, or
 - ▶ Train some users and organize a longer pilot
 - ▶ Acquire information on configuration, conventions, implementation, etc. during the pilot

▶ 8. Decide

- ▶ *Create a document for management to decide on EA tool*

And start implementing the tool...

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Some best practices on starting with EA and tools

▶ Steps to take introducing EA and tools

- ▶ *Start pilot enterprise architecture*
 - ▶ case should realize a quick win; small investment creates added value; buy in support from management
- ▶ *Match concepts and describe current architecture*
 - ▶ Use framework/language in organization; describe current architecture(s)
- ▶ *Create coherence within the architecture*
 - ▶ Create relations within the architecture; create *enterprise architecture*
- ▶ *Organise the architecture effort within your organization*
- ▶ *Use architecture for future situations*

▶ Think big, start small...

- ▶ *Select concepts and relations from meta model*
 - ▶ Not everything at the same time: just in time, just in place
 - ▶ On which parts is information available?
 - ▶ What do you need to answer the questions from your organization?
 - ▶ Divide the use of concepts and relations in time
- ▶ *Define criteria for the selection and use of concepts*
 - ▶ Learn from others (best practices)
 - ▶ Go visit other companies