Business Architecture

with ArchiMate symbols and TOGAF Artefacts

This is a supplement to the broader framework

TOGAF's generic conceptual framework with ArchiMate symbols

http://grahamberrisford.com/00EAframeworks/03TOGAF/TOGAF%20Conceptual%20Framework%20-%20with%20ArchiMate%20symbols.pdf

Business architecture premises

- EA is about the design, improvement and optimisation of information-intensive business systems.

- TOGAF and ArchiMate presume a business is required to perform discrete behaviors that:
  - produce results of value (if only to keep records up to date)
  - are often called services, scenarios or value streams
  - are triggered by discrete events, and run over time
  - are performed by actors or components (structures that occupy space and must be addressable)
  - create and use business data objects (data entities and events that contain a data structure or item that is meaningful or valuable to its creators and users).

- None of these points imply or require the existence of computers; they are just about how business systems are modelled.
- But obviously, the creation and use of information is an important facet of business architecture.

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A business architect role: example

Responsibilities

- Engage and build relationships with customer stakeholders to define, extract, and capture clear understanding of business needs and priorities
- Facilitate and resolve competing stakeholder priorities by preparing and conducting meetings defining the opportunities and threats to overlapping requirements.
- Demonstrate extensive knowledge of business process modeling, enterprise business architecture, and visualization of business needs and the multiple faces of software architecture
- Develop an understanding of client needs and routinely interact with internal and external customers
- Analyze, visualize, and capture business processes, scenarios, use cases, and acceptance criteria and other artifacts for business and technical requirements
- Convert functional requirements into testable requirements and process flows
- Work with stakeholders to achieve a common business flow and resulting capability.
- Prepare presentations that accurately detail the requirements, assumptions and potential risks of implementing new or enhanced functionality
- Get to know the team, customer, and applications
- Leading elaboration on business products and features.
- Contribute to Scrum teams as a lead business proxy. You will also understand the intricacies of the product to be able to facilitate discussions with customers on business value and priority.
- Become go-to-lead for business architecture discussions across the program and drive initiatives to define the product roadmap and vision.

Qualifications

- Exceptional communication and facilitation skills and the ability to communicate appropriately at all levels of the organization.
- Ability to manage tasks to deadlines
- Strong situational analysis and decision making.
- Proven experience working with stakeholders that have inconsistent, diverse requirements and goals and bring the group to a rational decision
- The ability to act as liaison conveying information needs of the business to IT and data constraints to the business; applies equal conveyance regarding business strategy and IT strategy, business processes and work flow automation, business initiatives and IT initiatives, benefit realization and service delivery
- A broad, enterprise-wide view of the business, strategy, processes and capabilities, enabling technologies, and governance .
- The ability to recognize structural issues within the organization, functional interdependencies and cross-silo redundancies
- The ability to apply architectural principles to business solutions
- The ability to assimilate and correlate disconnected documentation and drawings, and articulate their collective relevance to the organization and to high-priority business issues
- The ability to visualize and create high-level models that can be used in future analysis to extend and mature the business architecture
- Experience using model-based representations that can be adjusted as required to collect, aggregate or disaggregate complex and conflicting information about the business
- Experience with decomposing business functionality and defining user stories .
- A willingness to learn, explore new techniques, adopt best practices, and innovate to address customer needs

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Business architecture practices

- The general idea has always been treat a business organization as a system
  1. Identify business customers and suppliers
  2. Identify business inputs, outputs, services (material and/or information flows)
  3. Decompose a business into subsystems, each with its own inputs and outputs
  4. Draw the network of subsystems (goods and services flow diagrams)
  5. Define the end-to-end processes needed to transform inputs into outputs
  6. Define the resources (roles, equipment, buildings, money etc.) needed to perform processes
  7. Draw a process flow chart for each core business scenario (with swim-lanes for subsystems, roles, functions or organisation units)
  8. Measure the time, cost and value of process steps, and inter-step gaps
  9. Look for inefficiencies in business processes and optimise them.

- Trouble is – people keep changing the words!

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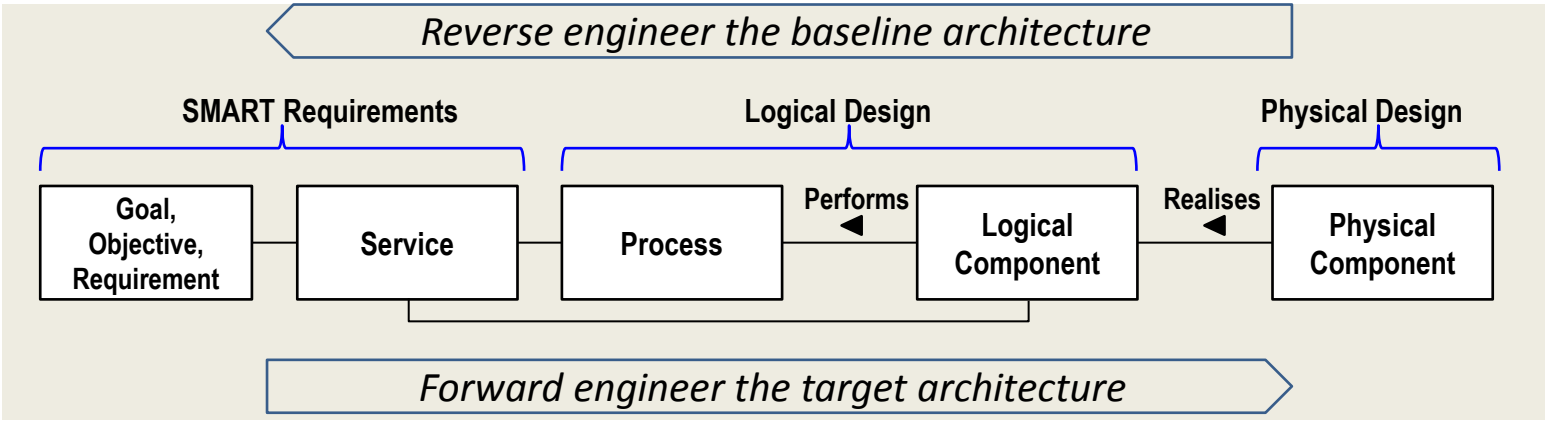
TOGAF's generic conceptual model



Baseline-to-target gap analysis informs the development of a business change road map

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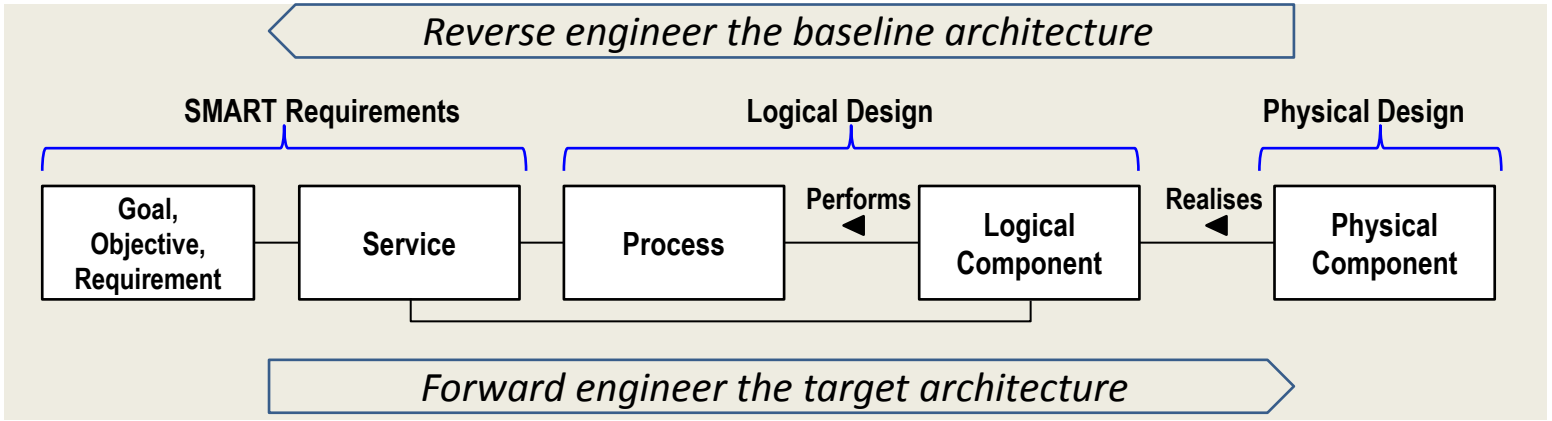
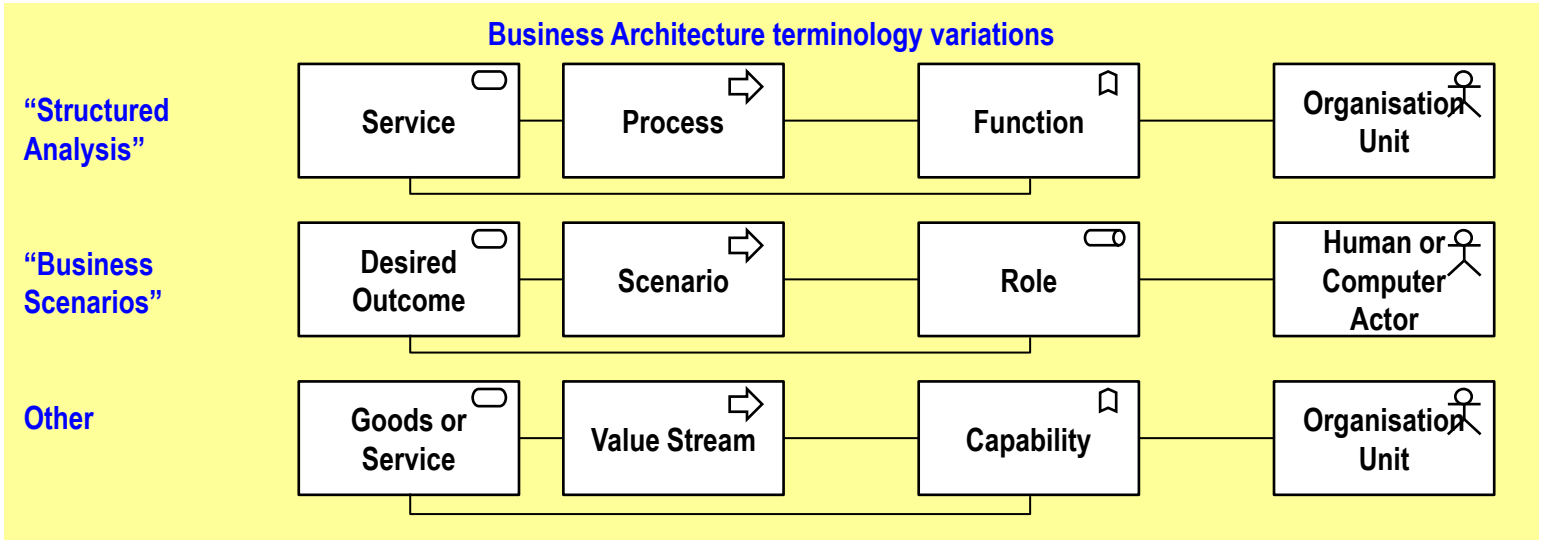
Business architecture terminology variations





Some use different terms to differentiate levels of system decomposition. But the N[th] level of decomposition differs in systems of different kinds and sizes. So there is no widely-agreed or objective mapping of term to level to concept.

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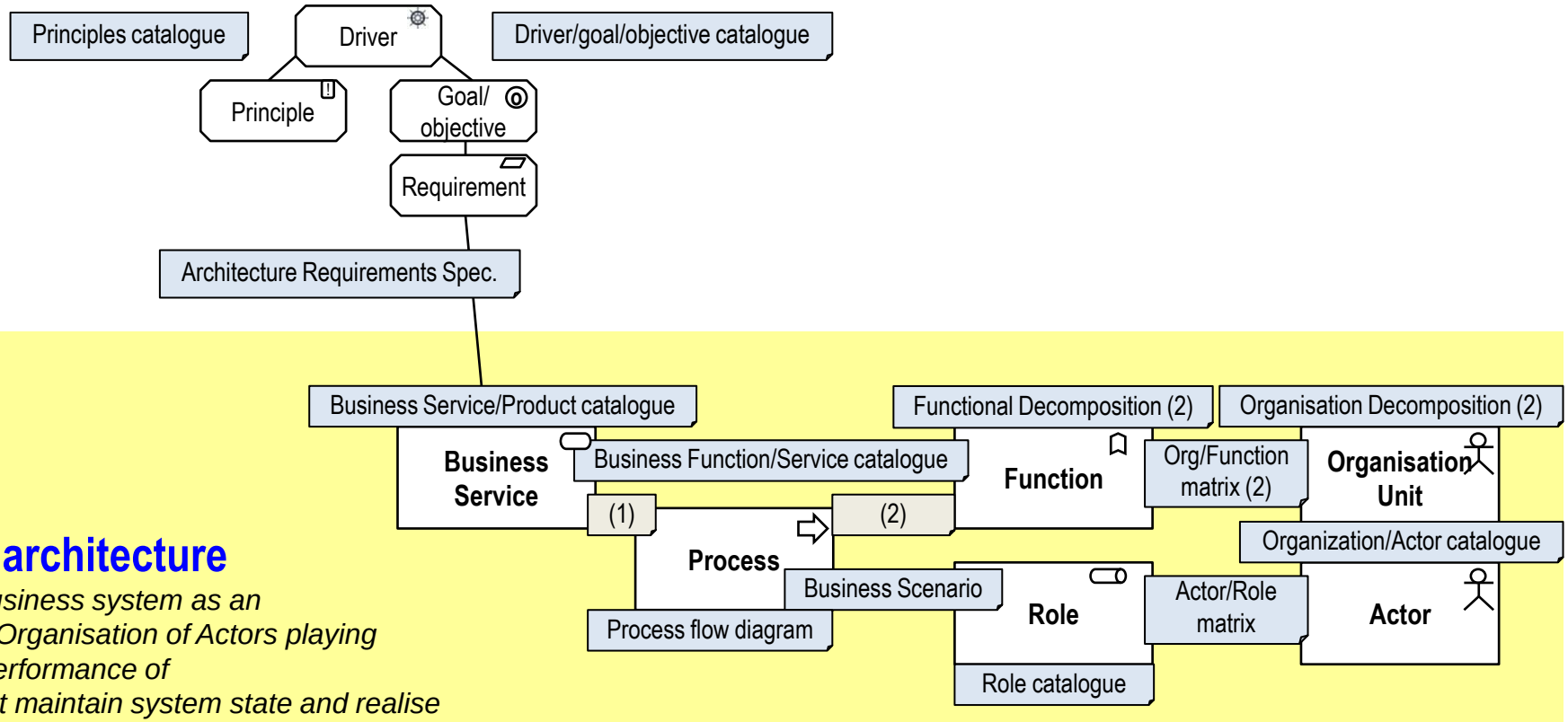
TOGAF Business Architecture products & techniques



Business architecture

describes a business system as an encapsulated Organisation of Actors playing Roles in the performance of Processes that maintain system state and realise Services that produce required outputs from inputs.

(1) Services are delivered by the performance of Processes inside the system.
Services can be long or short, depending on the scope of the system of interest, and the requirements..

(2) "Structured Analysis" defines Functions that group cohesive Process steps,
defines longer Processes that coordinate steps in different Functions, and maps Functions to Organisation Units.

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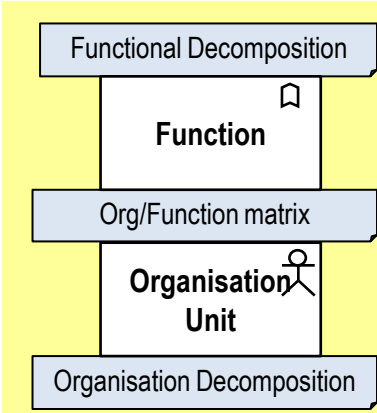
Structured Analysis principles (pre dating TOGAF)



General principles of hierarchical organisation.

- We manage atomic system elements (actors, actions and items) by organising them in hierarchical structures.
- Top-down, a system can be successively decomposed through several levels to atomic system elements.
- Bottom -up composition clusters atomic elements using cohesion criteria (e.g. data created, skills needed).
- A strict hierarchy has no duplicate elements; a redundant hierarchy has duplicated elements.
- A strict hierarchy is best refined by iterative top-down decomposition and bottom-up composition.

TOGAF 9.1 Business Architecture artefacts are based on "structured analysis" in which there is/are:

- A physical business hierarchy - an **Organisation Decomposition** - units with managers and human Actors.
- A logical business hierarchy - a **Functional Decomposition** – independent of the management structure.
- Several end-to-end business behaviors - **Processes** – which coordinate atomic Functions.

Principle 1: you can cluster cohesive business activities and abilities into logical groups called Functions.

- You can form a strict hierarchy called a Functional Decomposition (cf. Capability Map).
- It is possible to build more than one Function hierarchy (a “Function forest").
- It is advisable to avoid using the word "management" in the names of Functions.

Principle 2: you can place every atomic activity in a Process under one node in a strict Function hierarchy.

- If you cannot do this, then the Function hierarchy must be redundant or incomplete.
- (Or, I should add, the process has been decomposed to the level of generic platform activities.)

In practice, people usually stop decomposing the Function hierarchy at higher (3rd or 4th) level.
And commonly model atomic Process steps at lower (5th or 6th) level.

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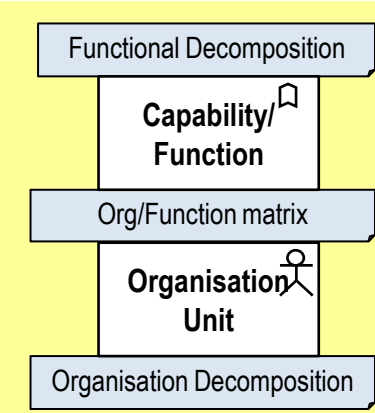
Capabilities as Functions



- A principle of "structured analysis" is that changes to an Organisation's management structure can be made without requiring changes a more logical Functional Decomposition structure.
  - A **Functional Decomposition** groups a business's activities and abilities under logical business components called Functions (which might be listed rather than arranged in a hierarchy).
  - An **Organisation Decomposition** groups a business's activities and abilities under a structure of Organisation Units, each with a manager, goals and resources. It might be a "Functional Organisation" structure (that is, similar to the Functional Decomposition) but it can be restructured without changing the more abstract Functional Decomposition.
- Architects are advised to relate other system elements (e.g. **Data Entities** and **Applications**) to Functions rather than Organisation Units.

- Capability-based planning is based on the same independence-of-management-structure principle.
- So, Capabilities can be named as and identified with Functions, and occupy the same place in a model. You might think of it this way.
  - Capability = Function + target qualities + required resources.
  - Capability = an aggregate entity (or view) with a named Function as the root entity.

- Capability/Functions are not *generally* identifiable with Organisation Units, but can be seen as *logical* or *candidate* Organisation Units, and if you give each a manager, goals and resources, then you create a "Functional Organisation" structure.
- So, a Capability/Functional Decomposition may be aligned with an Organization Decomposition, at least for a while. Still, the former remains an abstraction, separate from the Organisation Units that realise it.

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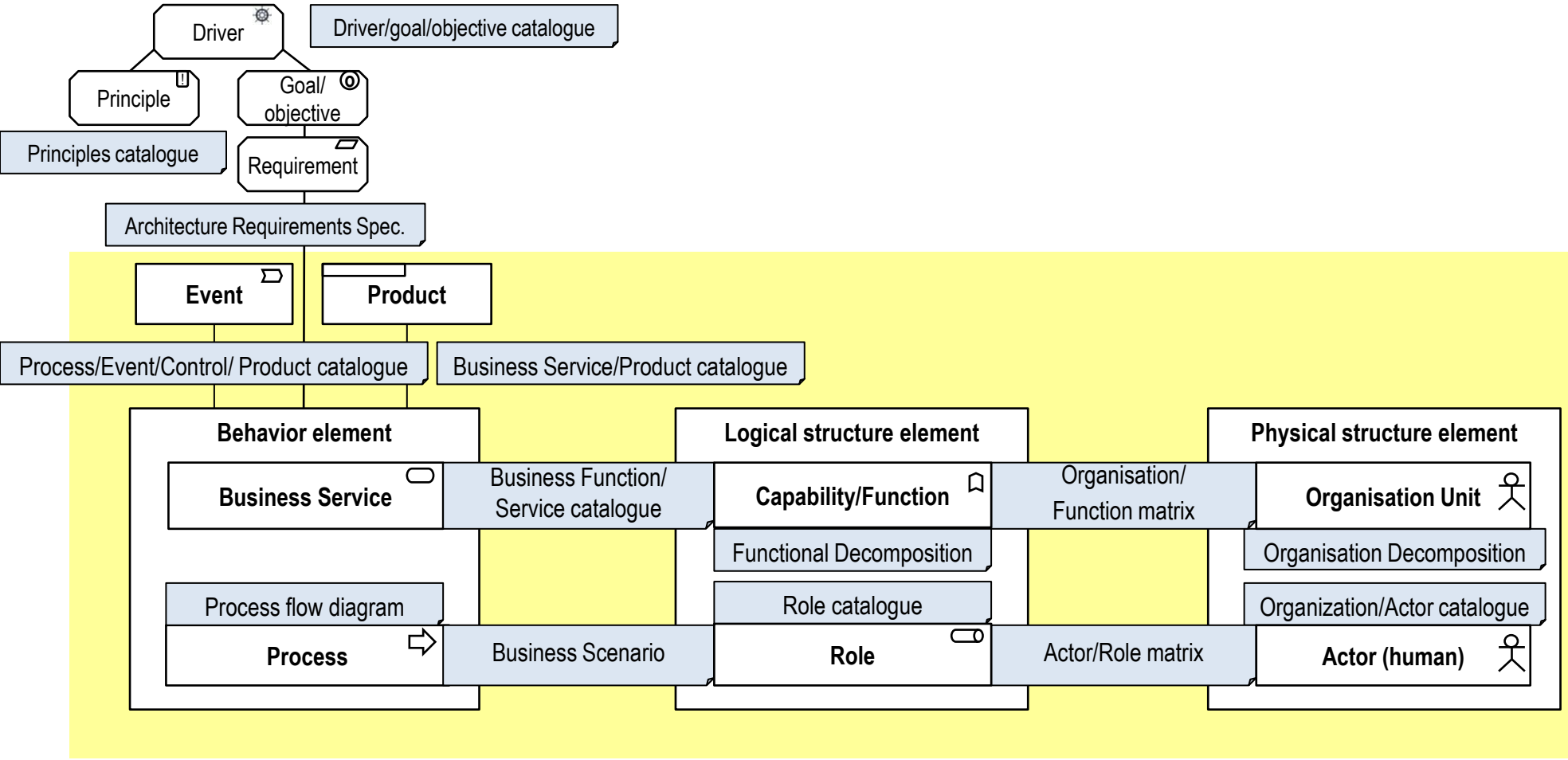
Business Architecture with TOGAF artefacts



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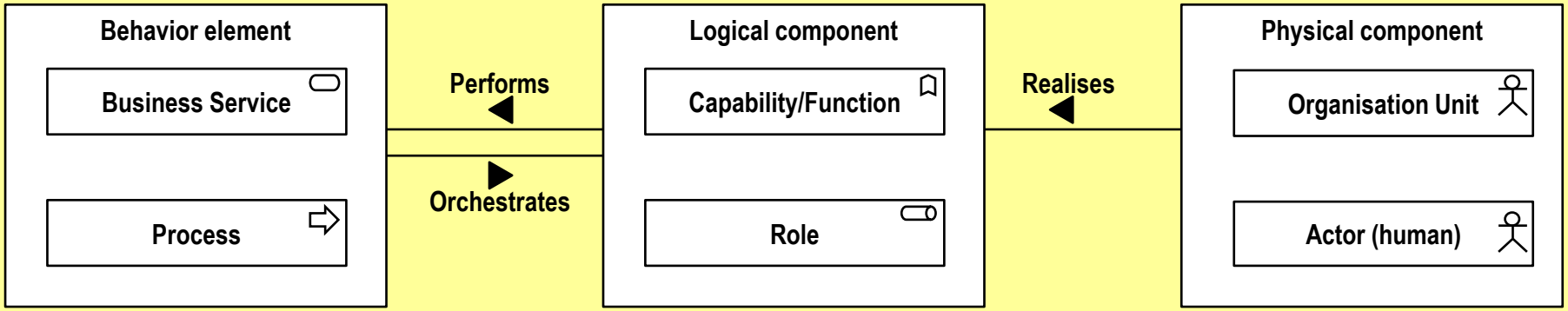
Business Architecture: a generic meta model

TOGAF's generic terminology

TOGAF assigns a Service portfolio to a Logical Component (cf. a Function, or Interface, in ArchiMate).

Business architecture: a generic meta model

TOGAF assigns a Service portfolio to a Function (or Capability).



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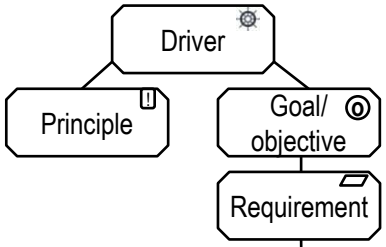
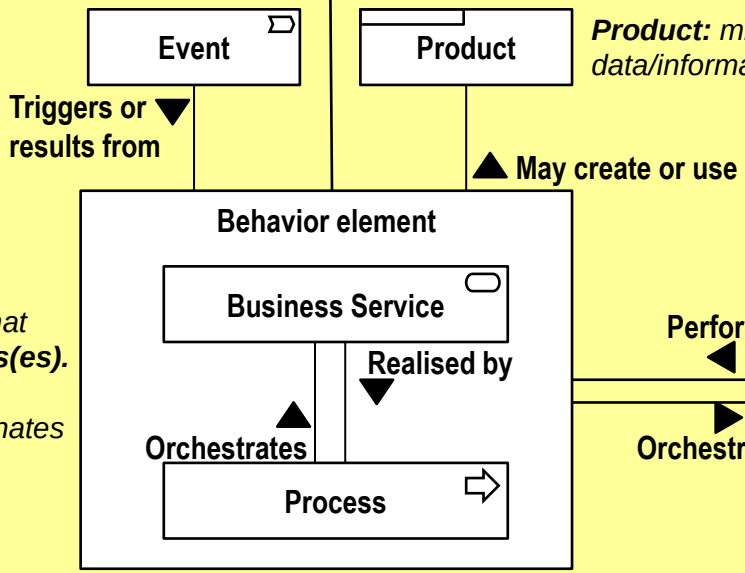
Business Architecture summary

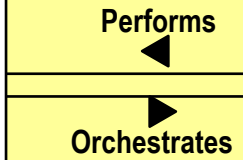


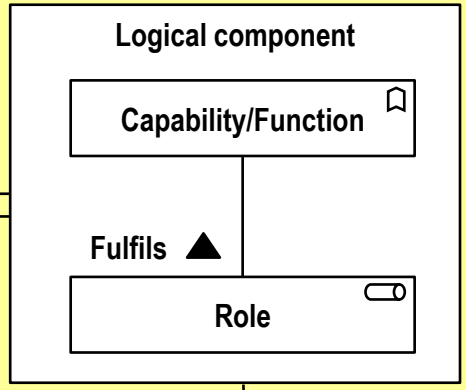


Product: *might be tangible goods or data/information or a combination thereof.*

Service*: a stimulus-response exchange that encapsulates* ***Process(es).***

Orchestrates: *coordinates in a logical sequence.*





Capability/Function*: an ability to perform* ***Processes*** *and provide specified* ***Services.***

A Capability/Function hierarchy groups activities and abilities (using cohesion criteria) under nodes in a logical structure.

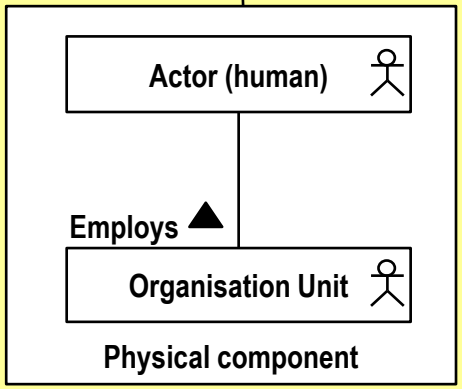
Behaviors have duration and throughput attributes.

Behaviors can be composed and decomposed.

Processes *are typically decomposed to the level of short steps that create or use* ***Data Entities*** *using an* ***IS (App) Service****.*

These short ***Processes*** *may be clustered under* ***Capabilities/Functions*** *or* ***Roles*** *that perform them.*

Conversely, longer-running ***Processes*** *coordinate* ***Capability/Functions*** *and/or* ***Roles****.*



A ***Role*** *groups activities using the criterion that* ***Actors*** *can be found with the abilities needed to play that Role****.***

Actors *and* ***Organisation Units*** *are individuals in a management structure that can be replaced by others playing the same* ***Roles*** *and fulfilling the same* ***Functions.***

Any element (bar a human actor) may be decomposed into finer-grained elements of the same type, and related to elements of other types.

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ON AVANCIER TRAINING

- “Your course is brilliant I would recommend it to anyone.” Solution Architect
- “I really enjoyed your course and [have since] found the material you presented very useful.” Solutions Architect
- "explains what others (TOGAF, CMU…) leave obscure."
- “Really good and provided me with new views on EA and SA – one of the best trainings I attended.” Enterprise Architect
- “Your exam preparation really useful (a key objective for me).” Consultant
- “One of the few people I know who can articulate this area and subject in an understandable format.” Consultant
- “It is amazing how my conversations have changed! On Monday I had three conversations that [made me] realise the positive effect the course has had… many things I now understand that I had only the smallest glimmer of before.” Infrastructure architect.
- “An intensive course, covering the end-to-end of enterprise and solution architecture, from a tutor with a clear in depth knowledge and experience of his subject matter. A ‘must’ for all technologists, not just architects, it provides the structure of what all of us do on a day to day basis, business, data, systems and technology.” Solution architect
- “thank you for an interesting and stimulating course. It covered a lot of what I was expecting and more, and opened my eyes to architecture questions and concerns I need to be more familiar with.... Your anecdotes and examples helped make what is often a dry subject more interesting... [it] really helped me to grab the fundamentals of what it takes to be an Enterprise Architect.” Business intelligence architect

ON AVANCIER METHODS

- “Incredibly good. I and a good chunk of the team use it a hell of a lot.” EA.
- “I stand in awe. A wealth of information and knowledge” Technical architect.
- "I have spent the last hour and a half on your website and wow!!!! It is a repository explaining so very many things MANY people ought to know and understand like clearer definitions of roles and general expectations of people who have (or claim) to be certain things."
- “Lots of good stuff here – thanks” Senior Managing Consultant
- "everything else I read on EA is mostly confused and confusing. Can’t anyone else… address the issues you raise and recognise the importance of what you’re saying?”

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