TOGAF artifacts for Business Capabilities
TOGAF artifacts for Value Streams
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This document updates and extends research done by Avancier Ltd for the British Computer Society into harmonisation of different enterprise architecture standards and sources.

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Aims

1. Compare Function and Capability
2. Suggest how Capability-Based Planning may be documented using existing TOGAF artifacts
3. Compare Business Scenario and Value Stream
4. Suggest how Value Streams may be documented using existing TOGAF artifacts
BA in TOGAF as it is: Functions and Scenarios

- Given an enterprise-wide **function hierarchy** along with a Request for Architecture Work.
- In phase A, you target selected **functions** and **business scenarios**.

<table>
<thead>
<tr>
<th>ADM Deliverable</th>
<th>Enterprise Continuum Enterprise Repository</th>
<th>Services &amp; Building Blocks</th>
<th>Business domain entities</th>
<th>Applications domain entities</th>
<th>Data domain entities</th>
<th>Technology domain entities</th>
</tr>
</thead>
<tbody>
<tr>
<td>EA/Strategic Architecture</td>
<td></td>
<td></td>
<td>Function and Organization Hierarchies</td>
<td>Application portfolio catalog</td>
<td>Business data entity catalog</td>
<td></td>
</tr>
<tr>
<td>Architecture Req'ments Specification</td>
<td></td>
<td></td>
<td>Business Services Business Scenarios</td>
<td>App/IS Services</td>
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<tr>
<td>Architecture Definition Document</td>
<td></td>
<td></td>
<td>Roles</td>
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<tr>
<td>Architecture Road Map</td>
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<tr>
<td>Architecture Change Requests</td>
<td>Deployed Solutions</td>
<td></td>
<td>Identity Management</td>
<td>IT Configuration Management (CMDB)</td>
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<tr>
<td></td>
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<td></td>
<td>Business &amp; IT Operations</td>
<td></td>
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</tr>
</tbody>
</table>
TOGAF adapted to BA terms: Capabilities and Value Streams

- Given an enterprise-wide **capability map along with a Request for Architecture Work.**
- In phase A, you target selected **capabilities and value streams.**

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<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>Architecture Definition Document</td>
<td>Solutions Continuum &amp; Repository</td>
<td>Solution Building Blocks</td>
<td>Roles</td>
<td></td>
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</tr>
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<td>Architecture Road Map</td>
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</tr>
</tbody>
</table>
Some artefacts relevant to BA

<table>
<thead>
<tr>
<th>Preliminary</th>
<th>Matrices</th>
<th>Architecture Vision</th>
<th>Core Diagrams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalogs</td>
<td>Stakeholder Map Matrix</td>
<td>Value Chain Diagram</td>
<td>Solution Concept Diagram</td>
</tr>
<tr>
<td>Principles Catalog</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Business Architecture
- **Catalogs**
  - Organization/Actor Catalog
  - Driver/Goal/Objective Catalog
  - Role Catalog
  - Business Service/Function Category
- **Location Catalog**
- **Process/Event/Control/Product Catalog**
- **Contract/Measure Catalog**

### Data Architecture
- **Catalogs**
  - Data Entity/Data Component Catalog
- **Matrices**
  - Data Entity/Business Function Matrix
- **Core Diagrams**
  - Conceptual Data Diagram
  - Logical Data Diagram
  - Data Dissemination Diagram

### Application Architecture
- **Catalogs**
  - Application Portfolio Catalog
- **Matrices**
  - Application/Function Matrix
- **Core Diagrams**
  - Application Communication Diagram
  - Application and User Location Diagram
  - Application Use-Case Diagram

### Technology Architecture
- **Catalogs**
  - Technology Standards Catalog
  - Technology Portfolio Catalog

### Other Diagrams
- **Process Flow Diagram**
- **Event Diagram**
- **Goal/Objective/Service Diagram**
- **Business Use-Case Diagram**
- **Organization Decomposition Diagram**
- **Business Service/Information Diagram**
- **Functional Decomposition Diagram**
- **Product Lifecycle Diagram**
- **Extension Diagrams**
  - Data Security Diagram
  - Data Migration Diagram
  - Data Lifecycle Diagram
- **Enterprise Manageability Diagram**
- **Software Engineering Diagram**
- **Application Migration Diagram**
- **Software Distribution Diagram**
- **Process App Realization diagram**
- **Networked Computing/Hardware Diagram**
- **Communications Engineering Diagram**
- **Requirements Management**
  - Requirements Catalog
- **Opportunities and Solutions**
  - Project Context Diagram
  - Benefits Diagram
1 A comparison of Function and Capability
# Function and Capability Hierarchies

<table>
<thead>
<tr>
<th>Functional Decomposition Diagram (as in TOGAF 9.1)</th>
<th>Capability Map</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shows on a single page the organization capabilities relevant to the architecture to be defined and governed.</td>
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</tr>
<tr>
<td>Helps to quickly model the organization’s capabilities without being dragged into debate on how the organization does it.</td>
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<td>For example, the capabilities to be implemented in different phases of a change program.</td>
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</tr>
</tbody>
</table>
A strict (non-redundant) hierarchy.

Strategic management functions
- Strategy
- Fiscal and accounting
- Risk and Compliance
- Performance

Operational functions
- Products
  - Product definition
  - Product engineering
- Marketing
  - Market development
  - Campaigning
- Sales
  - Distribution channels
  - Sakes execution
- Customer care
  - Customer service
  - Customer relations
  - Service channel
  - Customer data

Assets
- Investment performance
- Asset inventory

Money
- Banking
- Cash flow
- Accounts
- Money market

Support functions
- Organization
- HR
- Process
- Office
- Facility
- ITSM

Claims
- Contract life cycle
- Claim settlement
- Contract admin.
- Claim admin.
ArchiMate Capability Map

- Capability map

A strict (non-redundant) hierarchy.

---

- **Business management**
  - Strategic management
  - Fiscal & accounting
  - Risk & compliance
  - Performance management

- **Marketing**
  - Product definition
  - Market development
  - Campaign management

- **Sales and Distribution**
  - Sales execution
  - Distribution channel

- **Customer care**
  - Customer service
  - Service channel
  - Customer data

- **Asset management**
  - Investment strategy
  - Asset inventory
  - Investment portfolio

- **Money management**
  - Banking management
  - Accounts management
  - Money market

- **Claim management**
  - Contract lifecycle
  - Claim settlement
  - Contract administration

- **Support**
  - HR Management
  - Process management
  - Office management
  - Facility management
  - IT management

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Function and Capability

- A function is a grouping of *activities*
  - to meet some aims.

- A capability is a grouping of *abilities*
  - to perform the activities needed meet some aims.

- There is a natural 1-1 alignment of the concepts
  - the techniques and their purposes are much the same
  - the relationships from the concept to other concepts are much the same
  - the artifacts are much the same
In implementation, a business capability can be seen as an aggregate of all that is required to deliver some business service(s) and meet some business aim(s).

To begin with, it can be named and defined as corresponding (1 to 1) to a high-level function in TOGAF.

The capability is not the function alone, it is the function along with all human and computer resources necessary to fulfil the aims of that function.
2 Suggestions for how Business Capabilities may be documented using existing TOGAF artifacts
1st the EA Strategic Planning level

- TOGAF features **catalogs and matrices** that enable portfolio level
  - Gap analysis
  - Cluster analysis
  - Impact analysis
  - Traceability analysis
**TOGAF artifact: Driver/Goal/Objective Catalog**

- **Driver/Goal/Objective catalog**
  - provides a cross-organizational view of how an organization responds to drivers through the setting of goals, objectives, and any measure associated with them.
  - Helps to identify synergies (e.g. organizations with similar or related objectives) allowing stakeholders to be identified and change initiatives to be aligned or consolidated.

<table>
<thead>
<tr>
<th>Organization Unit</th>
<th>Driver</th>
<th>Goal</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>
TOGAF artifact: **Organization Decomposition Diagram**

- **Organization Decomposition diagram**
  - The base artifact for physical / strategic-level business architecture
  - provides the foundation for some other artifacts
  - relates actors and/or roles to organization units in an organization tree.
  - may indicate locations
  - indicates owners, decision-makers and a chain of command
  - helps to identify which stakeholders are concerned with which business drivers, goals and objectives.

The real-world, physical organization
Reasonable match in ArchiMate

- An organization view
TOGAF artifact: Node Connectivity Diagram

• The Organization Network
  – A node: an organization unit
  – A needline: shows the need of one organization for information from another.
  – An arrow: shows information flow direction
  – A flow can be named and annotated to describe the data carried
    • content
    • transport mechanism/media
    • security or other classification level,
    • timeliness
    • interoperability requirements.
Organization Network: SCOR technique

- Identify your customers
- Identify your suppliers
Organization Network: SCOR technique

1. Identify your customers
2. Identify your suppliers
3. Identify the key nodes (entities in the supply chain)
4. Link nodes by flows.

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Reasonable match in ArchiMate

- An Organization View - Nodes are physical Actors

Surely communication path rather than interface?
Reverse engineering principles (1)

- Reverse engineer from
  - physical structure to logical structure
TOGAF artifact: Functional Decomposition Diagram

- Capability Map
  - The base artifact for logical / strategic-level business architecture
  - provides the foundation for other artifacts
  - shows on a single page the organization capabilities relevant to the architecture to be defined and governed.
  - helps to quickly model the organization’s capabilities without being dragged into debate on how the organization does it.
  - given a basic diagram, it is possible to layer heat-maps on top of it to show scope and decisions. For example, the capabilities to be implemented in different phases of a change program.

  can be composed or decomposed - from wide/top to narrow/bottom.
  “the level and rigor of decomposition varies” (TOGAF)
Match in ArchiMate

- Capability map

A strict (non-redundant) hierarchy.
The Capability Network

- A node: a Capability
- A needline: shows the need of one Capability for information from another.
- An arrow: shows information flow direction
- A flow can be named and annotated to describe the data carried
  - content
  - transport mechanism/medium
  - security or other classification level,
  - timeliness
  - interoperability requirements.
Capability Network drawn using ArchiMate notation

- Shows services offered by nodes to external entities and to each other
Capability Realization

- Identify the key business Capabilities within the scope of the architecture, and map those Capabilities onto the organizational units within the business.

- Might reveal a 1-1 “Capability organization”

- Or else an N-N realization
In ArchiMate

- A Capability realization (by Organization units) view
Reverse engineering principles (2)

- Reverse engineer from
  - physical structure to logical structure
  - structure to behavior
**TOGAF artifact: Business Service/Function Catalog**

- **Business Capability/Service catalog**
  - provides a capability decomposition in a form that can be filtered, reported on, and queried. It can be used to
    - identify capabilities of an organization
    - understand the level that governance is applied to the capabilities of an organization.
    - identify new capabilities required to support business change
    - determine the scope of change initiatives, apps, or technology components.

<table>
<thead>
<tr>
<th>Capability level 1</th>
<th>Capability level 2</th>
<th>Business Service</th>
<th>Organization Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>
Partial match in ArchiMate

- Hand made view?
TOGAF artifact: **Role Catalog**

- **Role catalog**
  - The base artefact for people-oriented views
  - Provides a foundation for mapping roles to value streams, applications and data
  - Lists roles by authorization level and/or zone.
  - Helps to prevent difficulties when different local security standards are combined, ensuring both a more seamless user experience and more secure applications.
  - Supports change impact analysis for role definition and user training
TOGAF artifact: Application Portfolio Catalog

- App Portfolio catalog
  - The base artefact in strategic applications architecture
  - provides the foundation for other artifacts.
  - lists all (logical and/or physical) applications in the enterprise that are to be defined and governed
  - helps to scope change initiatives that impact applications.
  - may be extended to name IS Services provided
TOGAF artifact: **Application/Function Matrix**

- **App/Capability matrix**
  - Enables gap, cluster and impact analysis of a portfolio.
  - Asking which business Capabilities use an app reveals where the same app supports different Capabilities, which apps are essential and those little used.
  - Asking which apps are used by a business Capability may reveal requirements for interoperability and support.

<table>
<thead>
<tr>
<th>Capability</th>
<th>App</th>
<th>CRM</th>
<th>ERP</th>
<th>Billing</th>
<th>Data warehouse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td></td>
<td>Place order</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Register customer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Invoicing</td>
<td></td>
<td></td>
<td></td>
<td>Post invoice</td>
<td></td>
</tr>
</tbody>
</table>
App/Capability matrix as a diagram

Strategic management functions aka capabilities

Vision and Strategy

Operational functions aka capabilities

Sales & Marketing
  - Sales and Marketing
  - Product Configurator
  - Order Entry
  - Pricing
  - Billing
  - Commissions

Supply
  - Supply Chain Planning
  - Purchasing
  - Supplier Scheduling
  - Inspection of goods
  - Inventory

Manufacture
  - Manufacturing Projects
  - Manufacturing Process
  - Manufacturing Flow
  - Bills of Material
  - Cost Management
  - Quality Control

Delivery
  - Scheduling
  - Activity Management
  - Workflow Management
  - Time and Expenses
  - Capacity

Customer Service
  - Customer Contact
  - Call Center support
  - Service

Support functions aka capabilities

Human Resources
  - Human Resources
  - Benefits
  - Payroll
  - Rostering
  - Time and Attendance

Accounts
  - Accounts Receivable
  - Accounts Payable
  - General Ledger
  - Fixed Assets
  - Cash Management

Facilities

Knowledge and Change
  - Training
  - Project Management
  - Doc Management

Legal

ITSM
  - Identity management
  - IT Service Management
  - Server Management
  - Network Management
  - EAI Middleware

Finance

Product Design
  - Costing
  - Engineering

Operations
  - Business Intelligence
  - Data Warehouse
TOGAF artifact: Data Entity/Business Function Matrix

- Data Entity/Business Capability matrix
  - Shows which business Capabilities create and use which data
  - Enables gap, cluster and impact analysis of a portfolio.
  - Asking which Capabilities create and use a data entity reveals data entities that are essential or appear unused, and indicates where Capabilities do or might exchange/share data.
  - Asking which entities a business Capability creates and uses reveals Capabilities that used little data and might be better supported.
  - Supports data governance by data steward against data standards.
3 A comparison of Business Scenario and Value Stream
## Process and Value Stream diagrams

<table>
<thead>
<tr>
<th>Process Flow Diagram (as in TOGAF 9.1)</th>
<th>Value Stream Diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td>Given a product or service of value to be delivered, this presents the necessary activities/steps in sequence.</td>
<td>Given a product or service of value to be delivered, this presents the necessary activities/stages in sequence.</td>
</tr>
<tr>
<td>It may show for the process and each step:</td>
<td>It may show for the stream and each stage:</td>
</tr>
<tr>
<td>• Trigger events</td>
<td>• Objectives and Roles involved</td>
</tr>
<tr>
<td>• Outputs, and</td>
<td>• Entry criteria: including trigger events</td>
</tr>
<tr>
<td>• Controls/rules (pre and post conditions).</td>
<td>• Exit criteria: including products that are generated.</td>
</tr>
<tr>
<td>It may use swim lanes to represent owners, roles or resources associated with process steps.</td>
<td>It may associate owners, roles and capabilities with each value stage.</td>
</tr>
<tr>
<td>It can help subject specialists to describe “how the job is done” for a particular function.</td>
<td>It can help subject specialists to describe “how the job is done” for a particular capability.</td>
</tr>
</tbody>
</table>
### Example business scenario/value stream

<table>
<thead>
<tr>
<th>Name</th>
<th>Capture order</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal, purpose, value added</td>
<td>As implied by the name above and exit facts below</td>
</tr>
<tr>
<td>Roles</td>
<td></td>
</tr>
<tr>
<td>Customer</td>
<td></td>
</tr>
<tr>
<td>Sales person</td>
<td></td>
</tr>
<tr>
<td>Entry criteria</td>
<td></td>
</tr>
<tr>
<td>Trigger: Visit customer at scheduled time</td>
<td></td>
</tr>
<tr>
<td>Input: Customer details</td>
<td></td>
</tr>
<tr>
<td>Preconditions: Sales visit agreed and scheduled</td>
<td></td>
</tr>
<tr>
<td>Exit criteria</td>
<td></td>
</tr>
<tr>
<td>Outputs or products: Signed order</td>
<td></td>
</tr>
<tr>
<td>Post conditions: Order captured and recorded</td>
<td></td>
</tr>
<tr>
<td>Activities</td>
<td></td>
</tr>
<tr>
<td>Human activities</td>
<td></td>
</tr>
<tr>
<td>1 Initiate sales process with the customer</td>
<td></td>
</tr>
<tr>
<td>2 Discuss customer requirements</td>
<td></td>
</tr>
<tr>
<td>3 Work with customer to create a product configuration</td>
<td></td>
</tr>
<tr>
<td>4 Verify that the desired configuration can be delivered</td>
<td></td>
</tr>
<tr>
<td>5 Determine price of requested configuration</td>
<td></td>
</tr>
<tr>
<td>6 Confirm customer desire to purchase</td>
<td></td>
</tr>
<tr>
<td>7 Place an order</td>
<td></td>
</tr>
<tr>
<td>8 Capture customer signature</td>
<td></td>
</tr>
<tr>
<td>Non-functional qualities</td>
<td></td>
</tr>
<tr>
<td>Duration: 1 hour</td>
<td></td>
</tr>
<tr>
<td>Throughput: 2 per day per salesman</td>
<td></td>
</tr>
<tr>
<td>Availability: Working hours</td>
<td></td>
</tr>
</tbody>
</table>

#### App/Capability matrix as a diagram

<table>
<thead>
<tr>
<th>Applications</th>
<th>Capabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales &amp; Marketing</td>
<td>Sales and Marketing</td>
</tr>
<tr>
<td>Product Configurator</td>
<td>Sales &amp; Marketing</td>
</tr>
<tr>
<td>Order Entry</td>
<td>Supply Chain Planning</td>
</tr>
<tr>
<td>Pricing</td>
<td>Purchasing</td>
</tr>
<tr>
<td>Billing</td>
<td>Supplier Scheduling</td>
</tr>
<tr>
<td>Inventory</td>
<td>Inspection of goods</td>
</tr>
<tr>
<td>Delivery</td>
<td>Capacity</td>
</tr>
<tr>
<td>Scheduling</td>
<td>Sales &amp; Marketing</td>
</tr>
<tr>
<td>Activity Management</td>
<td>Sales &amp; Marketing</td>
</tr>
<tr>
<td>Workflow Management</td>
<td>Sales &amp; Marketing</td>
</tr>
<tr>
<td>Time and Expenses</td>
<td>Sales &amp; Marketing</td>
</tr>
<tr>
<td>Supply</td>
<td>Sales &amp; Marketing</td>
</tr>
<tr>
<td>Delivery</td>
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</tr>
<tr>
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<td>Supply</td>
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</tr>
<tr>
<td>Delivery</td>
<td>Sales &amp; Marketing</td>
</tr>
</tbody>
</table>
A value stream delivers an output/product/service result of value.
To begin with, it can be named and defined as corresponding (1 to 1) to a high-level business service in TOGAF.
The value stream is not the business service alone, it is the process steps (value stages) needed to deliver the service and the capabilities (or rather, the parts of those capabilities) that each value stage requires.
4 Suggestions for how Value Streams may be documented using existing TOGAF artifacts
The Solution Architecture / Capability change level

- TOGAF defines more diagram artifacts at this level
Identify priorities for change

• Identify
  – Problems
  – Opportunities

• Envisage
  – New/changed business services

• Apply heat mapping techniques to the
  – Capability map
  – Capability network
  – Application Portfolio Catalog

• Produce one or more “Requests for architecture Work”
Forward engineering principles

• Forward engineer from
  – aims to behaviors
  – behaviors to structures
  – logical structures to physical structures
How do aims, structures and behaviors relate?

• In particular methods and cases, you might say (e.g.)
  – 1 Capability meets 1 Goal/Objective
  – 1 Capability provides 1 Service
  – 1 Value Stream meets 1 Goal/Objective
  – 1 Value Stream provides 1 Service

• In general, and so in TOGAF
  – All architectural entities may be recursively composed and decomposed,
  – All relationships are many to many. E.g.
    • 1 Capability may provide several Services, and be one of several Capabilities that cooperate to provide 1 coarse-grained Service
    • 1 Value Stream may coordinate activities in several fine-grained Capabilities, and be one of several Value Streams that enable 1 coarse-grained Capability.
1 Value Stream may coordinate several fine-grained Capabilities

Swim lanes show logical structures
- Actor
- Role or
- Capability

Arrows show behaviors
- Event
- Trigger
- Activity

Structural view
Activities grouped by logical cohesion

Behavioral view
Activities in sequence

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TOGAF artifact: **Goal/Objective/Service Diagram**

- **Goal/Objective/Service diagram**
  - Given a vision of new/changed business services
  - this diagram shows which drivers, goals and objectives they support
  - It may group services supporting similar or related aims.
  - It indicates, at least qualitatively, what constitutes success for a service.

<table>
<thead>
<tr>
<th>Driver</th>
<th>Goal</th>
<th>Objective</th>
<th>Service</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Reasonable match in ArchiMate

- Hand made by Pieter Van Ostaeyen
Partial match in ArchiMate

- A lower-level requirements realization view
TOGAF artifact: **Business Service/Information Diagram**

- **Business Service/Information diagram**
  - shows the information needed by one or more business services.
  - shows what data is consumed or produced by a business service and may also show the source of information.
  - shows an initial representation of information created and used, which can be elaborated and refined in Phase C: Data Architecture

<table>
<thead>
<tr>
<th>Information needed</th>
<th>Customer account</th>
<th>Sender address</th>
<th>Receiver address</th>
<th>Depot address</th>
<th>Package description</th>
<th>Package status</th>
<th>Journey route</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Business services</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Order delivery</td>
<td>Use</td>
<td>Create</td>
<td>Create</td>
<td>Use</td>
<td>Create</td>
<td>Initialise</td>
<td></td>
</tr>
<tr>
<td>Collect from sender</td>
<td>Use</td>
<td>Use</td>
<td>Use</td>
<td>Use</td>
<td>Use</td>
<td>Update</td>
<td>Use</td>
</tr>
<tr>
<td>Deliver to depot</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Update</td>
<td>Use</td>
</tr>
<tr>
<td>Sort in depot</td>
<td>Use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Update</td>
<td></td>
</tr>
<tr>
<td>Collect from depot</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Update</td>
<td>Use</td>
</tr>
<tr>
<td>Deliver to receiver</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Update</td>
<td></td>
</tr>
</tbody>
</table>
Partial match in ArchiMate

A Business Process View
Here, maps data to process, rather than the service

This access arrow shows direction of flow (not access)

Transition arrow

Note: process rather than the Capability symbol often used in the App layer
TOGAF artifact: **Process Flow Diagram**

- **Value Stream diagram**
  - Given a product or service of value to be delivered, this presents the necessary activities/stages in sequence.
  - It may show for the stream and each stage:
    - Objectives and Roles involved
    - Entry criteria: including trigger events
    - Exit criteria: including products that are generated.
  - It may associate owners, roles and capabilities with each value stage.
  - It can help subject specialists to describe “how the job is done” for a particular Capability.

“the level and rigor of decomposition varies” (TOGAF)
ArchiMate-style value stream diagram

- Value stages can be defined in terms of
  - Objectives
  - Roles involved
  - Entry criteria: including events that trigger the state
  - Exit criteria: including products that are generated.
TOGAF promotes definition of business scenarios

- **Business Scenario**
  - documents the **roles** of
  - **human and computer actors** in a
  - **process** that leads to a measurable
  - **business goal** - a product or service of value to be delivered
## Example business scenario/value stream

<table>
<thead>
<tr>
<th>Name</th>
<th>Capture order</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goal, purpose, value added</strong></td>
<td>As implied by the name above and exit facts below</td>
</tr>
<tr>
<td><strong>Roles</strong></td>
<td></td>
</tr>
<tr>
<td>Customer</td>
<td></td>
</tr>
<tr>
<td>Sales person</td>
<td></td>
</tr>
<tr>
<td><strong>Entry criteria</strong></td>
<td></td>
</tr>
<tr>
<td>Trigger: Visit customer at scheduled time</td>
<td></td>
</tr>
<tr>
<td>Input: Customer details</td>
<td></td>
</tr>
<tr>
<td>Preconditions: Sales visit agreed and scheduled</td>
<td></td>
</tr>
<tr>
<td><strong>Exit criteria</strong></td>
<td></td>
</tr>
<tr>
<td>Outputs or products: Signed order</td>
<td></td>
</tr>
<tr>
<td>Post conditions: Order captured and recorded</td>
<td></td>
</tr>
<tr>
<td><strong>Activities</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Human activities</strong></td>
<td><strong>Applications</strong></td>
</tr>
<tr>
<td>1. Initiate sales process with the customer</td>
<td></td>
</tr>
<tr>
<td>2. Discuss customer requirements</td>
<td></td>
</tr>
<tr>
<td>3. Work with customer to create a product configuration</td>
<td>Product Configurator</td>
</tr>
<tr>
<td>4. Verify that the desired configuration can be delivered</td>
<td>Inventory Scheduling</td>
</tr>
<tr>
<td>5. Determine price of requested configuration</td>
<td>Pricing</td>
</tr>
<tr>
<td>6. Confirm customer desire to purchase</td>
<td>Order entry</td>
</tr>
<tr>
<td>7. Place an order</td>
<td>Order entry</td>
</tr>
<tr>
<td>8. Capture customer signature</td>
<td></td>
</tr>
<tr>
<td><strong>Non-functional qualities</strong></td>
<td></td>
</tr>
<tr>
<td>Duration: 1 hour</td>
<td></td>
</tr>
<tr>
<td>Throughput: 2 per day per salesman</td>
<td></td>
</tr>
<tr>
<td>Availability: Working hours</td>
<td></td>
</tr>
</tbody>
</table>
Partial match in ArchiMate

Imagine combining this value stream

With this app usage view
TOGAF artifact: **Actor/Role Matrix**

- **Actor/Role matrix**
  - shows which actors perform which roles
  - supports the definition of security and skills requirements.
  - supports the definition of training needs, user security settings
  - helps in business change management.

<table>
<thead>
<tr>
<th>Actor</th>
<th>Role</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td></td>
<td>Performs</td>
<td>Performs</td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td></td>
<td>Performs</td>
<td></td>
<td>Performs</td>
</tr>
</tbody>
</table>
Reasonable match in ArchiMate

Surely communication path rather than interface?
TOGAF artifact: Organization/Actor Catalog

- **Organization/Actor catalog**
  - Lists participants in business systems
  - Includes users and owners of IT systems.
  - Can be useful in testing requirements for completeness. For example, to identify which customer types need to be supported and any requirements for or restrictions on user types.

<table>
<thead>
<tr>
<th>Org level 1</th>
<th>Org level 2</th>
<th>Org level 3</th>
<th>Location</th>
<th>Actor *</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>
Aims

1. Compare Function and Capability
2. Suggest how Capability-Based Planning may be documented using existing TOGAF artifacts
3. Compare Business Scenario and Value Stream
4. Suggest how Value Streams may be documented using existing TOGAF artifacts