Avancier Methods (AM)

Solution level Business Architecture

Scenario driven analysis and design

CONTEXT

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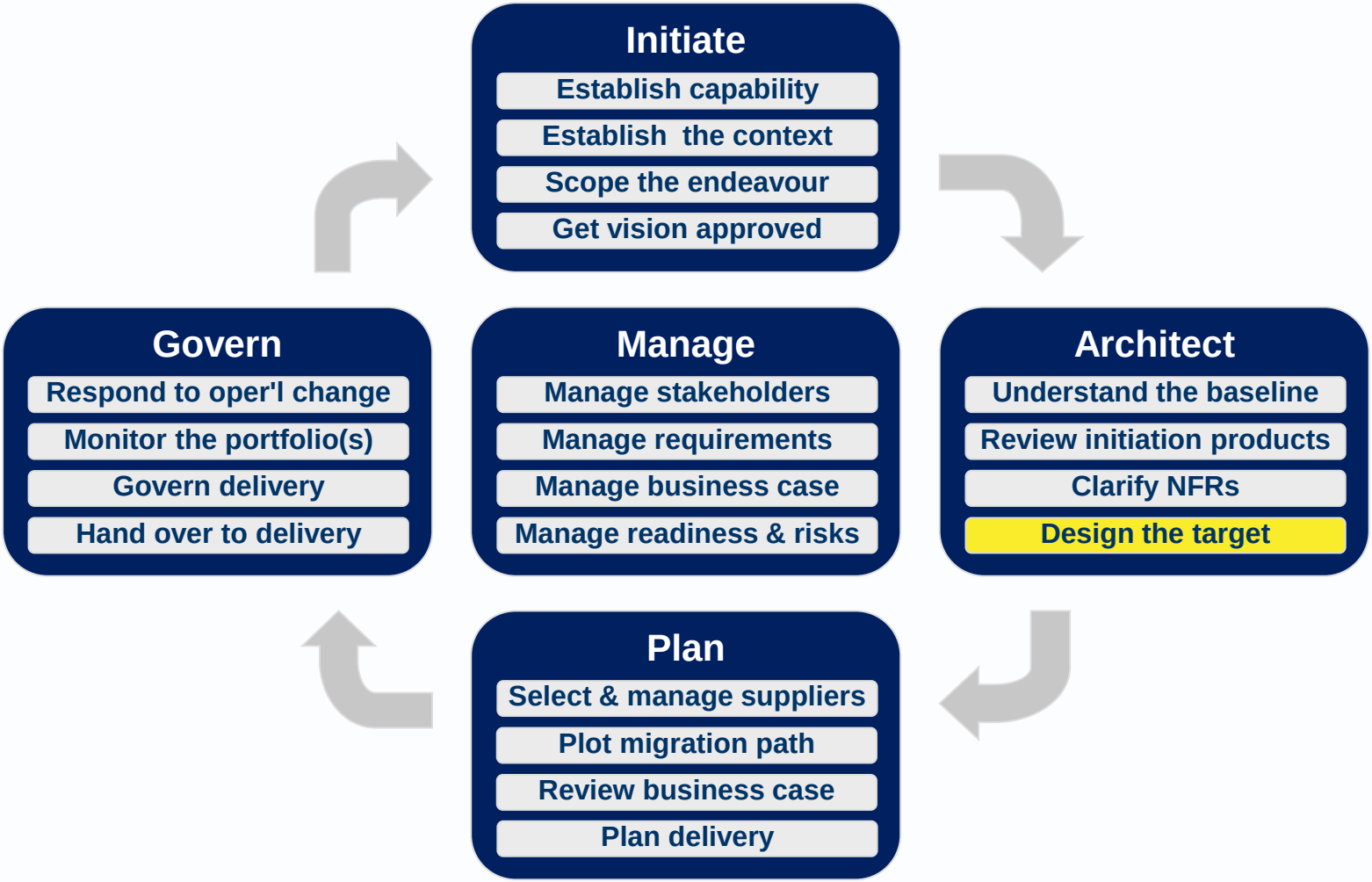
The architects' working space				
Domain / Level	Business	Data	Apps	Technology
Enterprise Architecture				
Solution Architecture				
Detailed Design				

AM level process 2



EA and BA in Skills Framework for the Information Age

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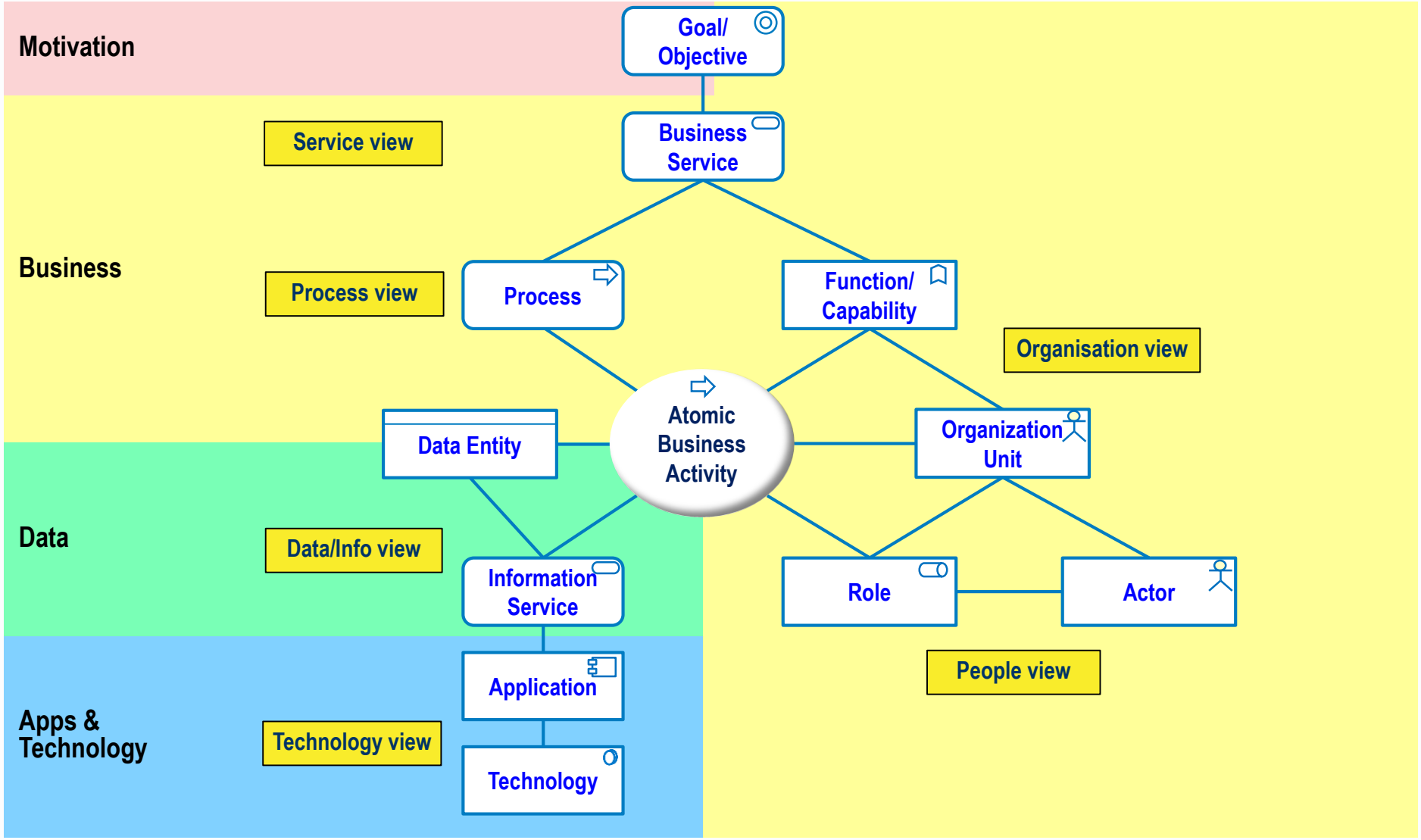
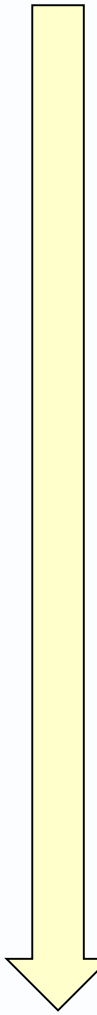
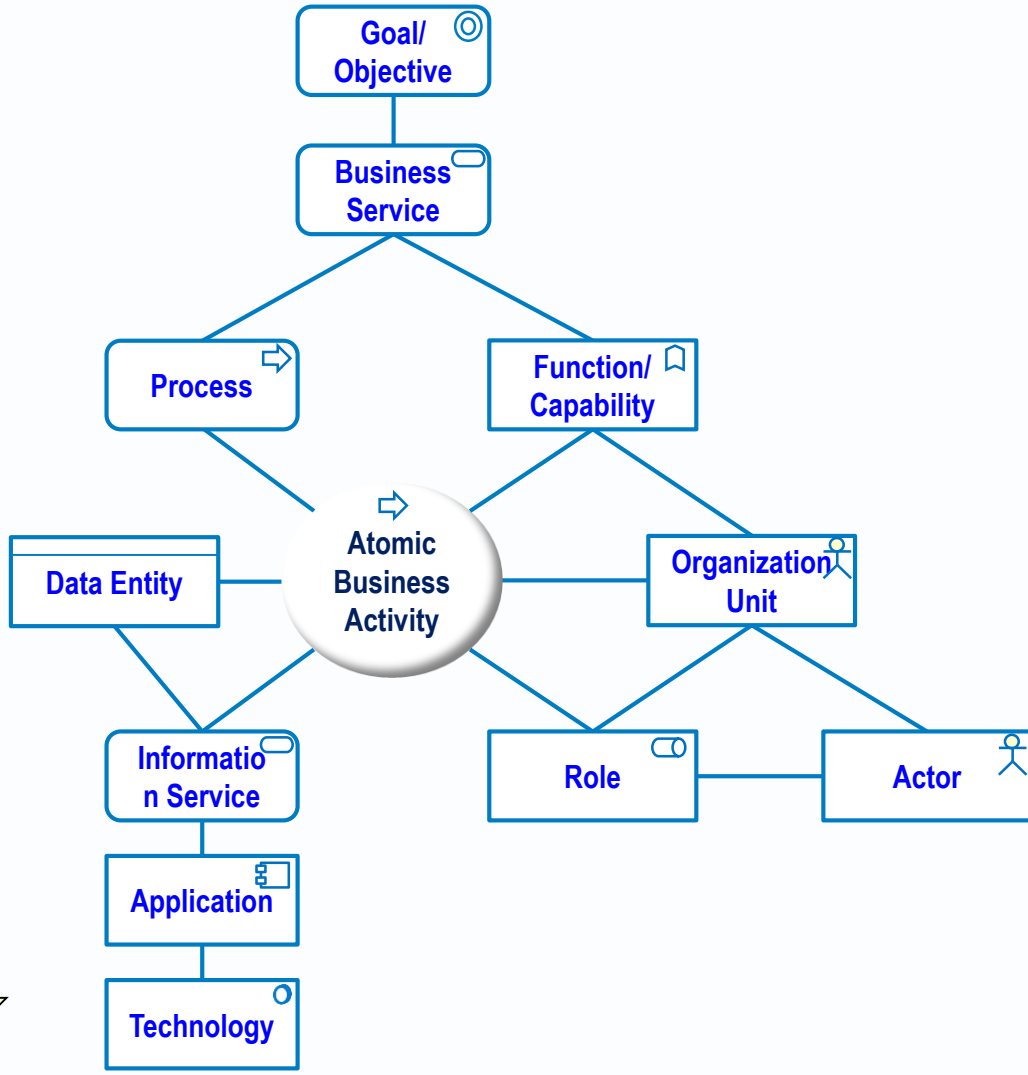


AM level 3/4 process

1. Define services to meet objectives
2. Design business scenarios
   - Define end to end process
   - Define roles in process
3. Design data/information view
4. Design applications view
   - Define application use cases
   - Identify applications
5. Design to meet NFRs
6. Design platform technology view
7. Report the target architecture
8. Review the target architecture

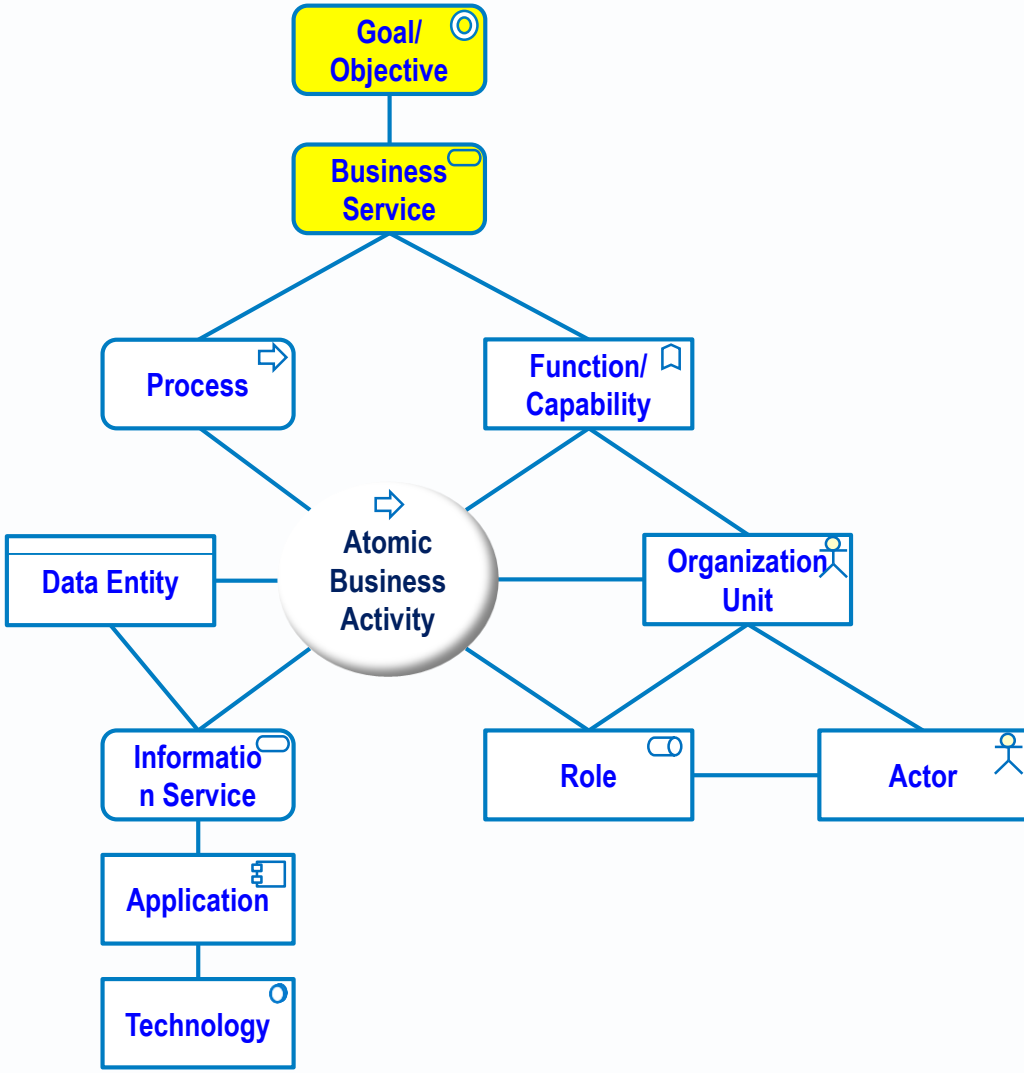




1. Design services to meet objectives

- "Define your operating model"
  - Identify processes that distinguish you competitively
  - Envision your customer's experience as it ought to be
  - Decide how you your company will grow
  - Define services to be provided by the process or system to be designed

- E.g. a required business service is
  - **The capture of an order by a salesman at a customer's premises**



Define service entry and exit conditions

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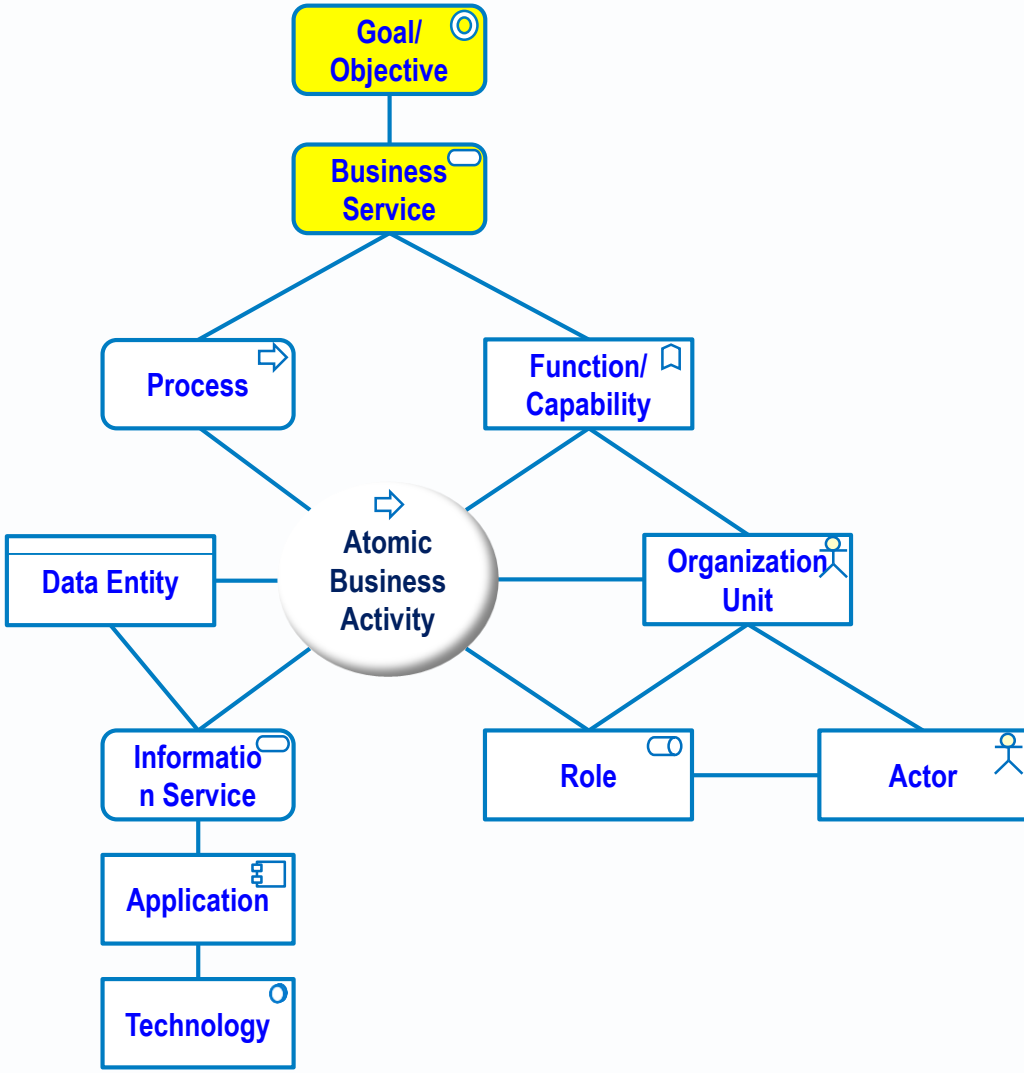
Service name: Sales visit
Entry conditions
- Input: Sale visit details
- Precondition: Visit agreed and scheduled

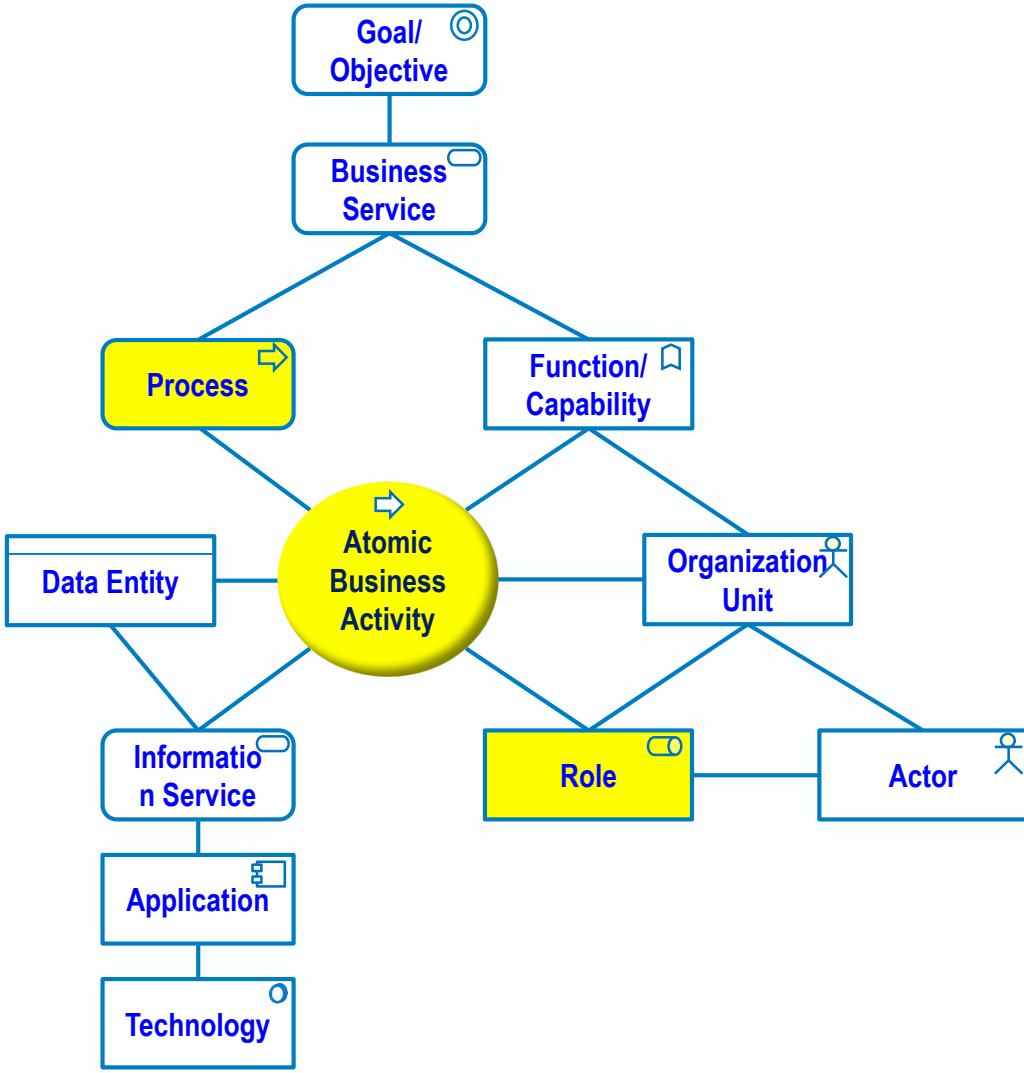
Exit conditions
- Output: Order
- Value: Contribution to revenue

Quality of Service measures
- Time: 3 hours
- Volume: 2 per salesman day
- etc.

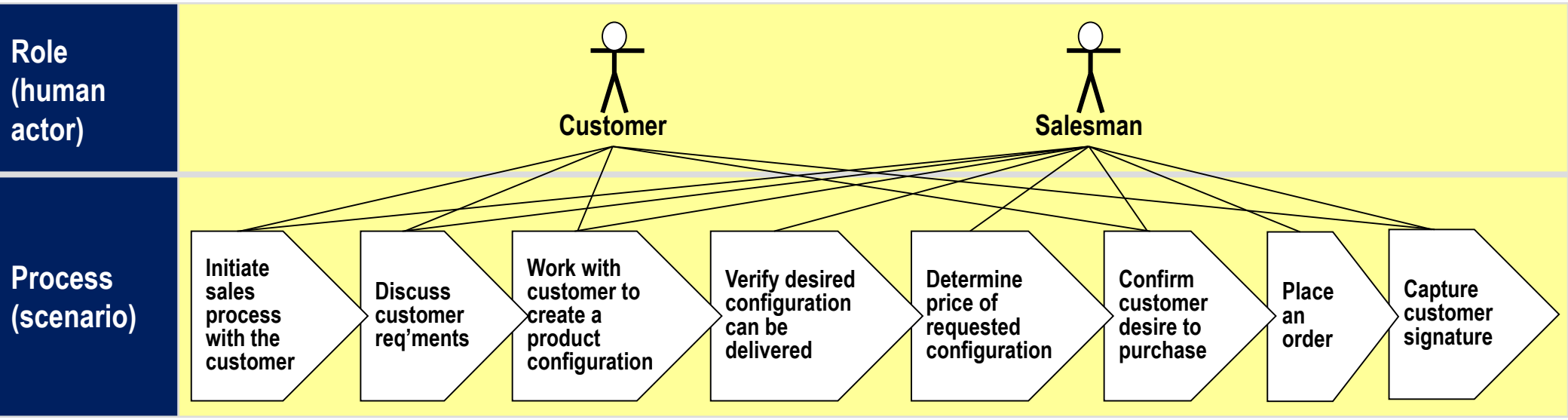


2 Design business scenario

- Design business scenario
  - Define end to end process
  - Define roles in process

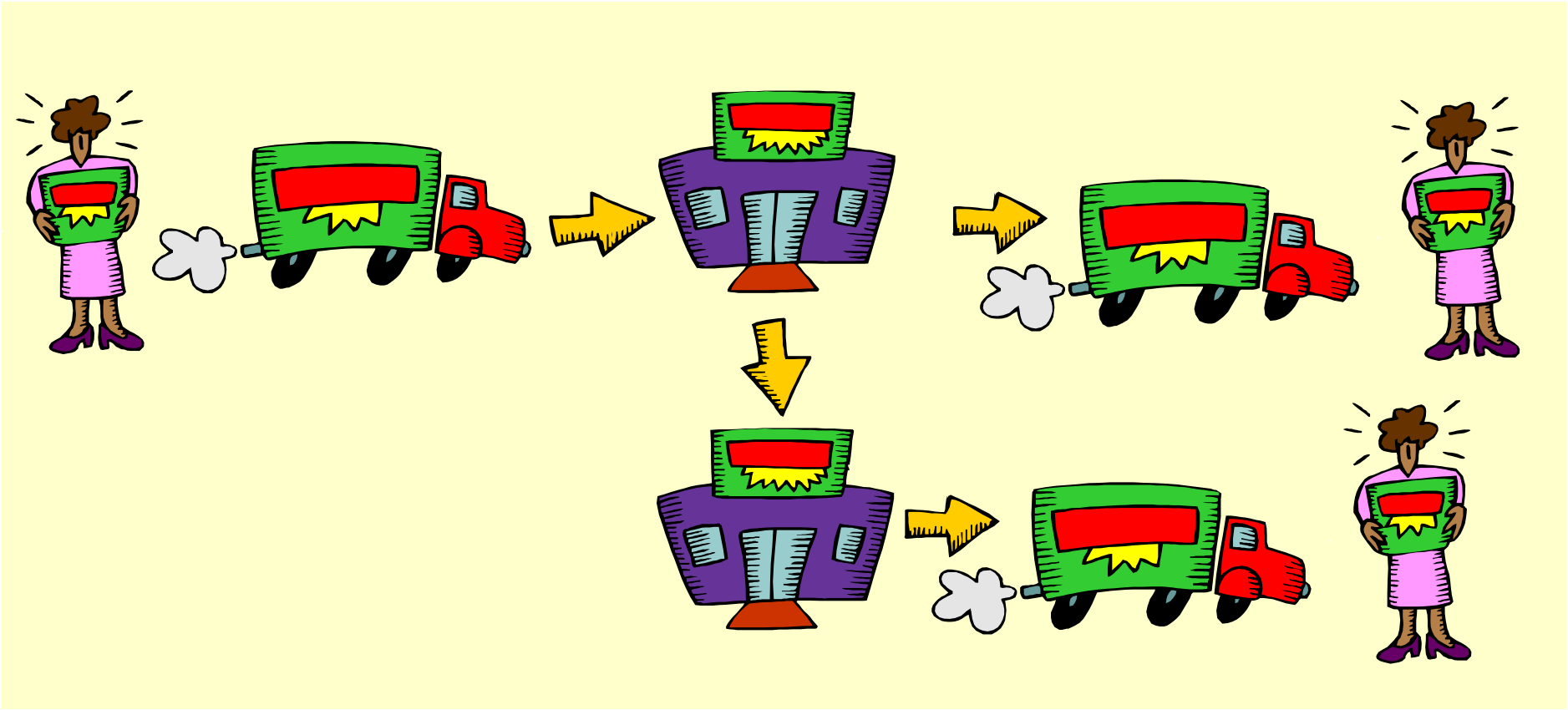


Business scenario (process w human actors) as in TOGAF 8



Rich picture style

- You don’t have to use a modelling language
- People like pictures



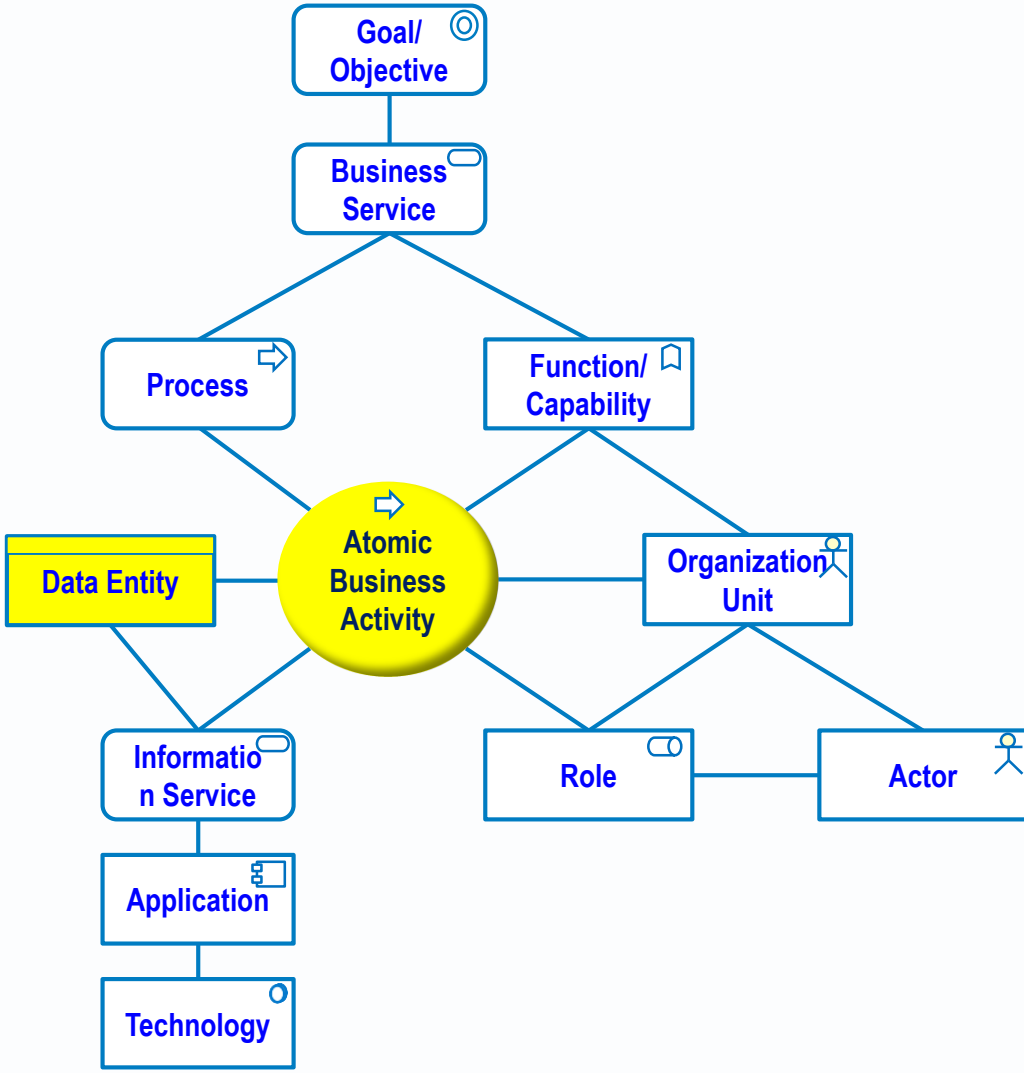
When to stop process decomposition?

- Decompose until data and application needs are identified
- “The level and rigor of decomposition needed varies” TOGAF

3. Define data/information view

A common mistake

Process modellers omit to define data created and used



Define data/information view

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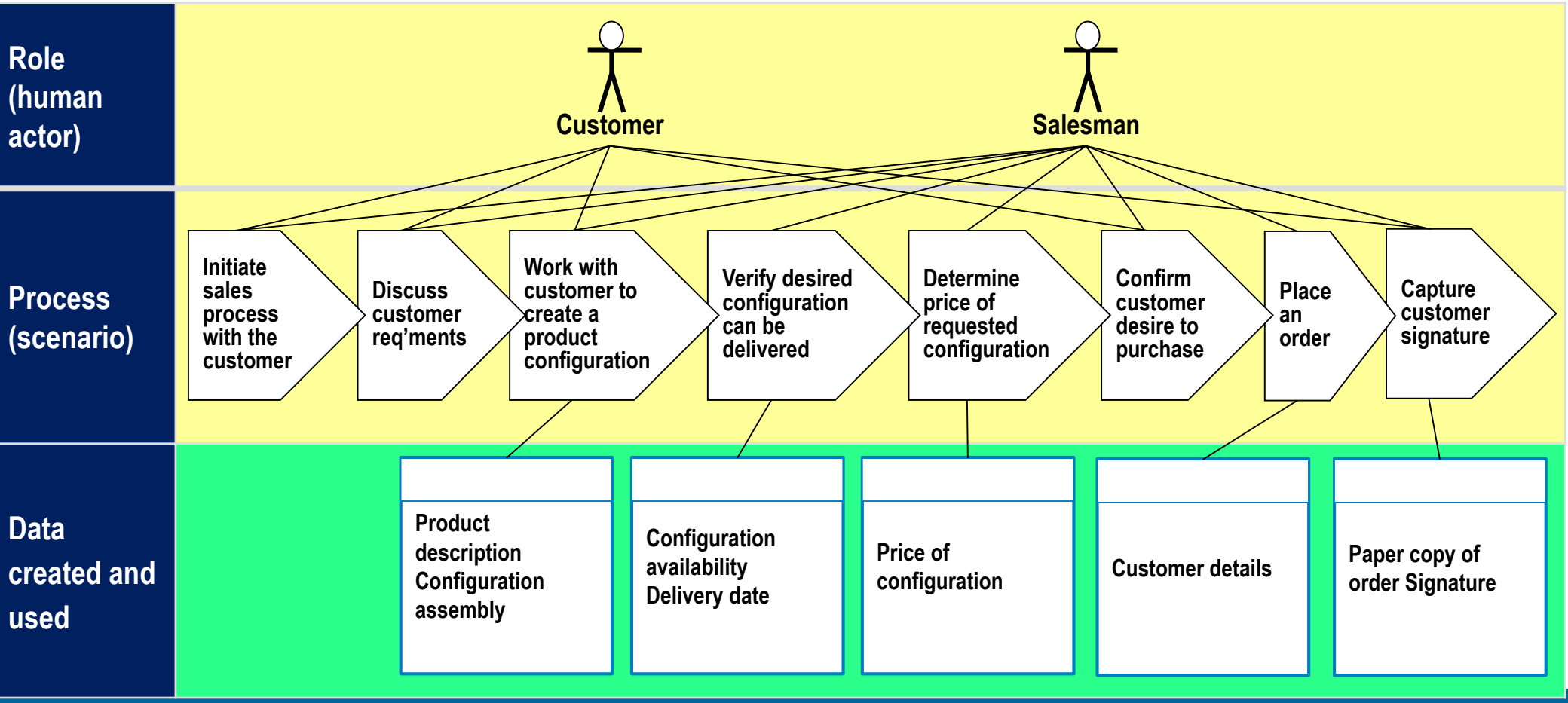
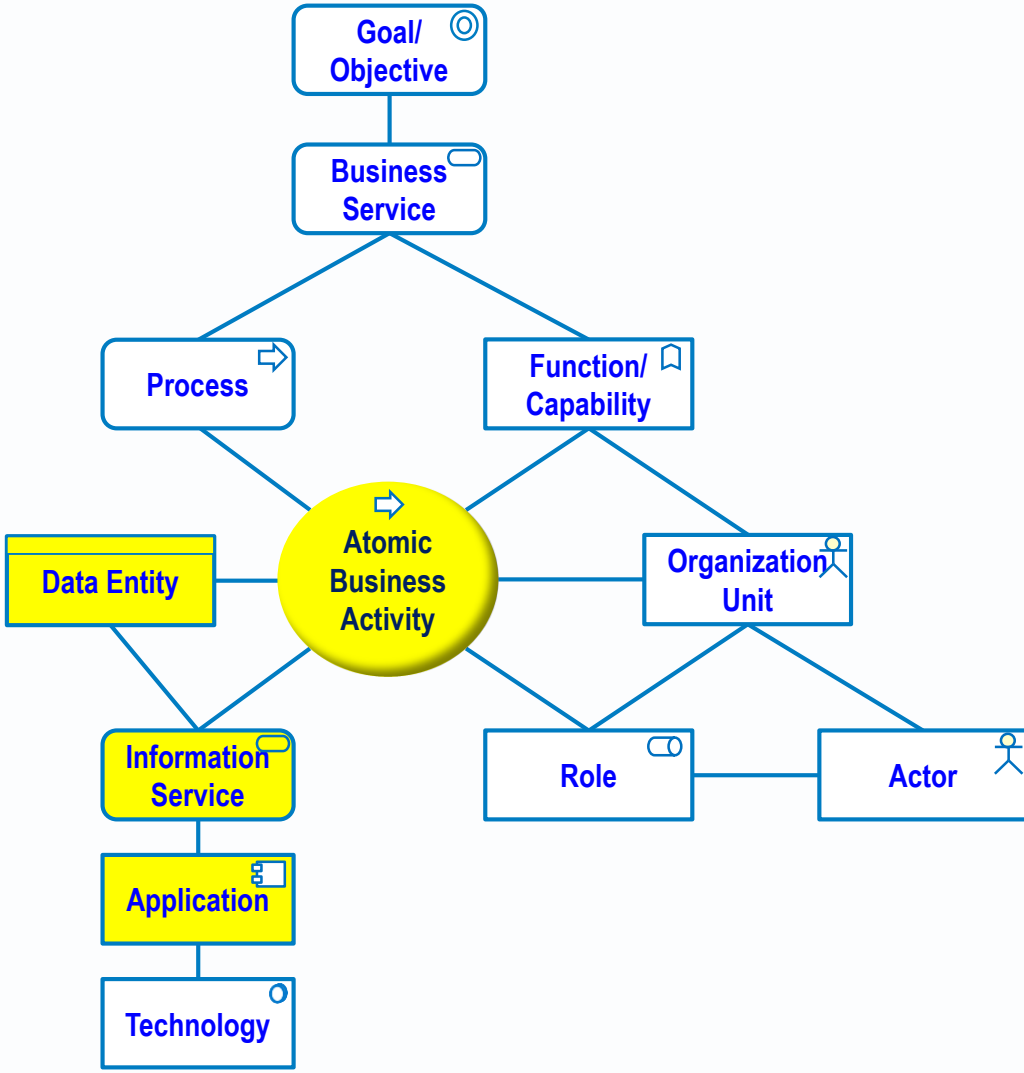
Name data groups or items that each process step a) needs to perform this activity b) creates or updated for future activities



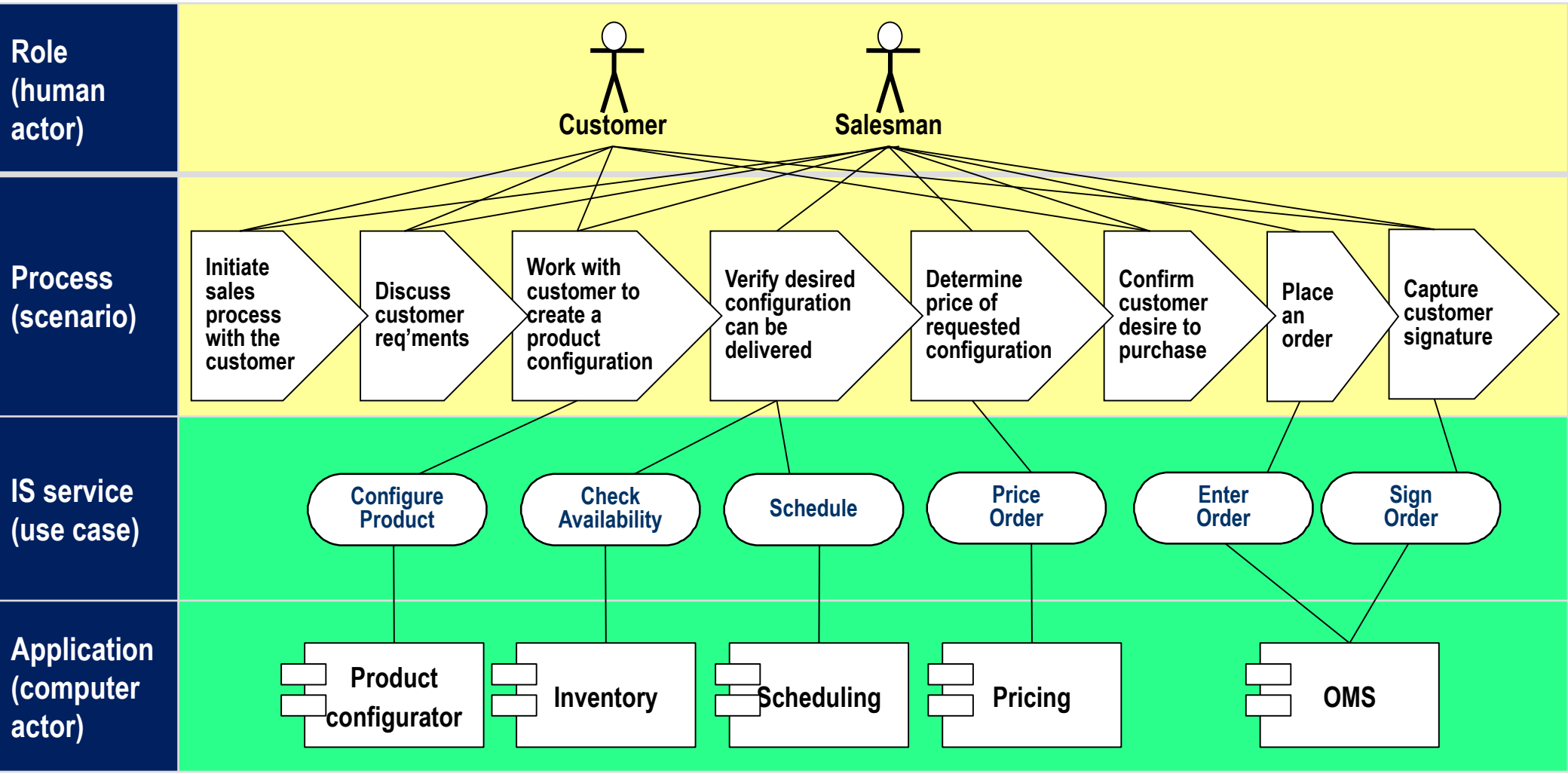
4. Define Application view

- Identify steps at which actors use applications to help them to complete the activity and create/use the data.

- Name the services/use cases needed from applications
- Identify the applications



Business scenario (w human and computer actors) as in TOGAF 8



Alternative documentation format

- Tabular format follows

Define end to end process

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Precondition: Sales visit agreed and scheduled
Scenario (or Value stream)
1 Initiate sales process with the customer
2 Discuss customer requirements
3 Work with customer to create a product configuration
4 Verify desired configuration can be delivered
5 Determine price of requested configuration
6 Confirm customer desire to purchase
7 Place an order
8 Capture customer signature
Post condition: Order captured

- Define the straight-thru or happy path to the desired result
- Typically decomposed to the level where an OPOPOT process at the human computer interface (HCI) is definable in an application use case.
- “The level and rigor of decomposition needed varies” TOGAF

Define human actors (roles) in process

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Precondition: Sales visit agreed and scheduled	**Human actors (roles)**	
Scenario (or Value stream)	**Customer**	**Sales person**
1 Initiate sales process with the customer	Open door	Greet customer
2 Discuss customer requirements	Accept sales visit	Ask about requirements
3 Work with customer to create a product configuration	Explain requirements and discuss options	Get product descriptions and assemble configurations
4 Verify desired configuration can be delivered	Select option based on capabilities	Check configuration availability
	Confirm interest	Get delivery date
5 Determine price of requested configuration	Accept date	Price the configuration
6 Confirm customer desire to purchase	Accept price	Recap and ask for confirmation
7 Place an order	Confirm purchase	Enter order details, get email reply Print out email, request signature
8 Capture customer signature	Sign	Confirm signature
Post condition: Order captured		

Name services/use cases needed from applications

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Precondition: Sales visit agreed and scheduled	**Human actors (roles)**		**Computer actors (roles)**	
Scenario (or Value stream)	**Customer**	**Sales person**	**Lap top Use cases**	**Data centre applications**
1 Initiate sales process with the customer	Open door	Greet customer		
2 Discuss customer requirements	Accept sales visit	Ask about requirements		
3 Work with customer to create a product configuration	Explain requirements and discuss options	Get product descriptions and assemble configurations	**Configure product**	
4 Verify desired configuration can be delivered	Select option based on capabilities	Check configuration availability	**Check availability**	
	Confirm interest	Get delivery date	**Schedule**	
5 Determine price of requested configuration	Accept date	Price the configuration	**Price order**	
6 Confirm customer desire to purchase	Accept price	Recap and ask for confirmation		
7 Place an order	Confirm purchase	Enter order details, get email reply Print out email, request signature	**Enter order**	
8 Capture customer signature	Sign	Confirm signature	**Sign order**	
Post condition: Order captured				

Identify applications to be hired, bought or built

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Precondition: Sales visit agreed and scheduled	**Human actors (roles)**		**Computer actors (roles)**	
Scenario (or Value stream)	**Customer**	**Sales person**	**Lap top Use cases**	**Data centre applications**
1 Initiate sales process with the customer	Open door	Greet customer		
2 Discuss customer requirements	Accept sales visit	Ask about requirements		
3 Work with customer to create a product configuration	Explain requirements and discuss options	Get product descriptions and assemble configurations	Configure product	**Product configurator**
4 Verify desired configuration can be delivered	Select option based on capabilities	Check configuration availability	Check availability	**Inventory**
	Confirm interest	Get delivery date	Schedule	**Scheduling**
5 Determine price of requested configuration	Accept date	Price the configuration	Price order	**Pricing**
6 Confirm customer desire to purchase	Accept price	Recap and ask for confirmation		
7 Place an order	Confirm purchase	Enter order details, get email reply Print out email, request signature	Enter order	**OMS**
8 Capture customer signature	Sign	Confirm signature	Sign order	**OMS**
Post condition: Order captured				

Sooner or later, exceptions must be analysed

- Given the straight-thru or happy path

- Examine every step
  - What else could happen?
  - What else could an actor do - other than what is expected?
  - What if they don't do anything at all? Is there a time out?
  - What could wrong?
  - What resources are vulnerable to being exposed, lost or corrupted?
  - What security measures need to be put in place?

- These questions may be asked at any and every level of process decomposition, but here, the focus is on the first pass design.

Design to meet NFRs

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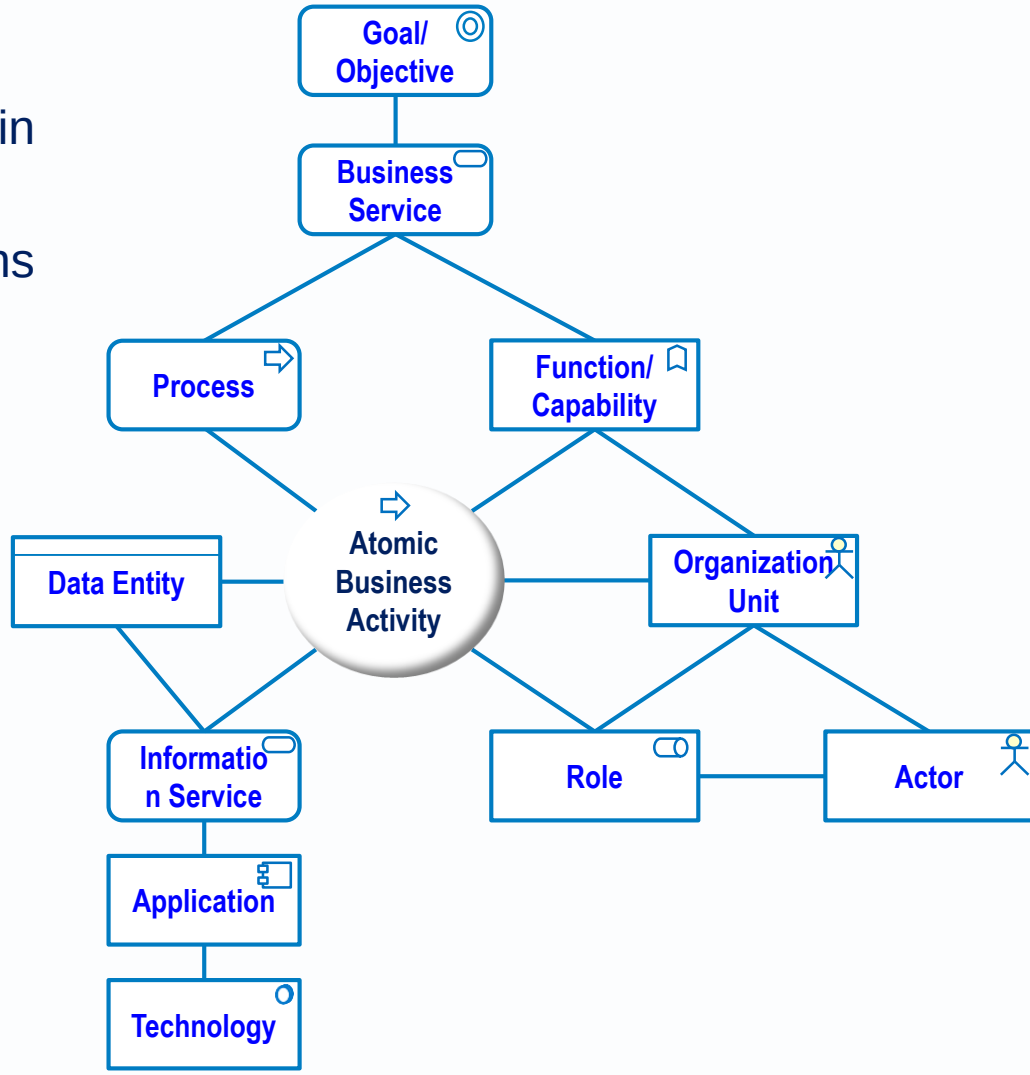
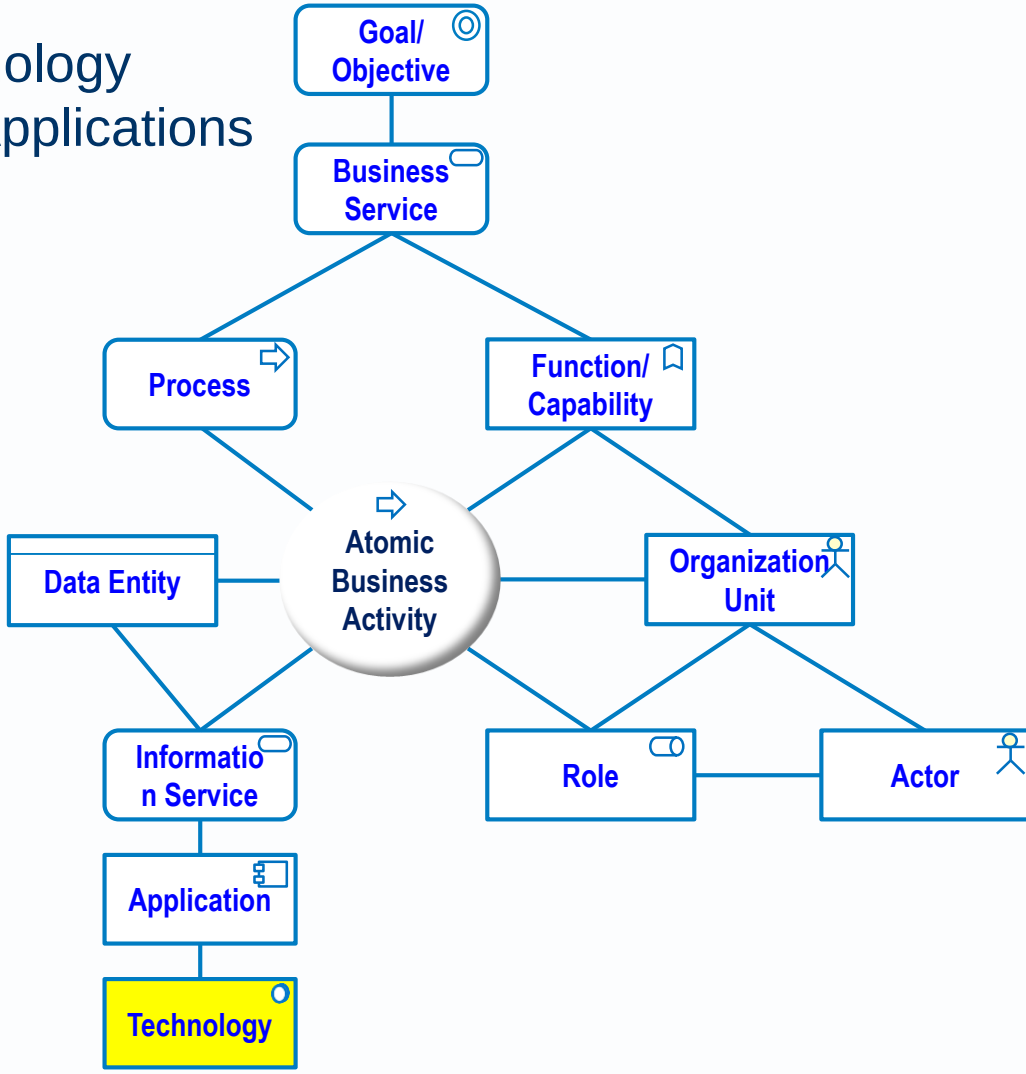
Detailed elsewhere in methods & training
Note: efficiency starts in the business domain
In the design of processes and the assignment of activities to roles and locations



5. Define Platform Technologies

- Define Infrastructure/Platform Technology components needed to enable the Applications
  - Client devices
  - Data servers
  - Browser
  - Middleware
  - DBMS
  - OS
  - Networks
  - Etc.



Principles

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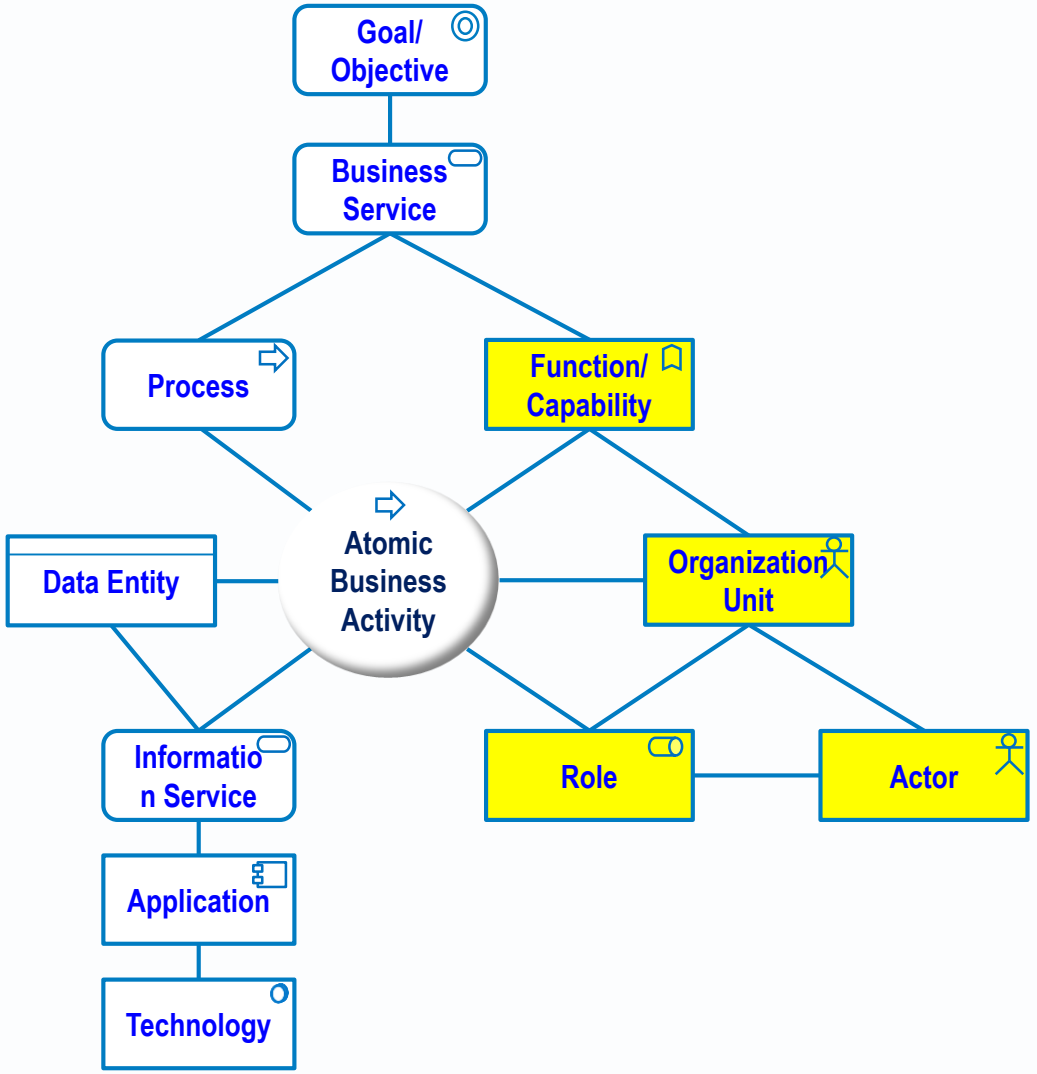
- Consider
  - Business before technology
  - External before internal
  - Behaviour before structure
- Define required behaviour
  - Uncover requirements thru' process decomposition:
  - What does the business do? What do people do?
  - What must be automated or supported by creating and using data?
  - Define end-to-end processes which are triggered by events and produce results of value
- Before designing the structures to perform them
  - Design the capability considering non-functional qualities
  - Define roles/components needed to perform the processes

What about the business organisation structure?



- Commonly, a parallel "business change" team handles issues to do with changes to roles and organisation structure.

Design the target (AM level 3)

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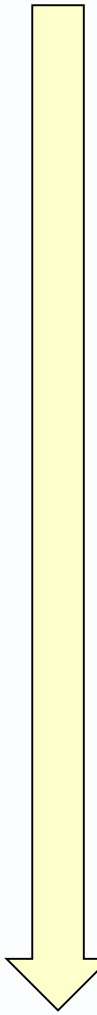
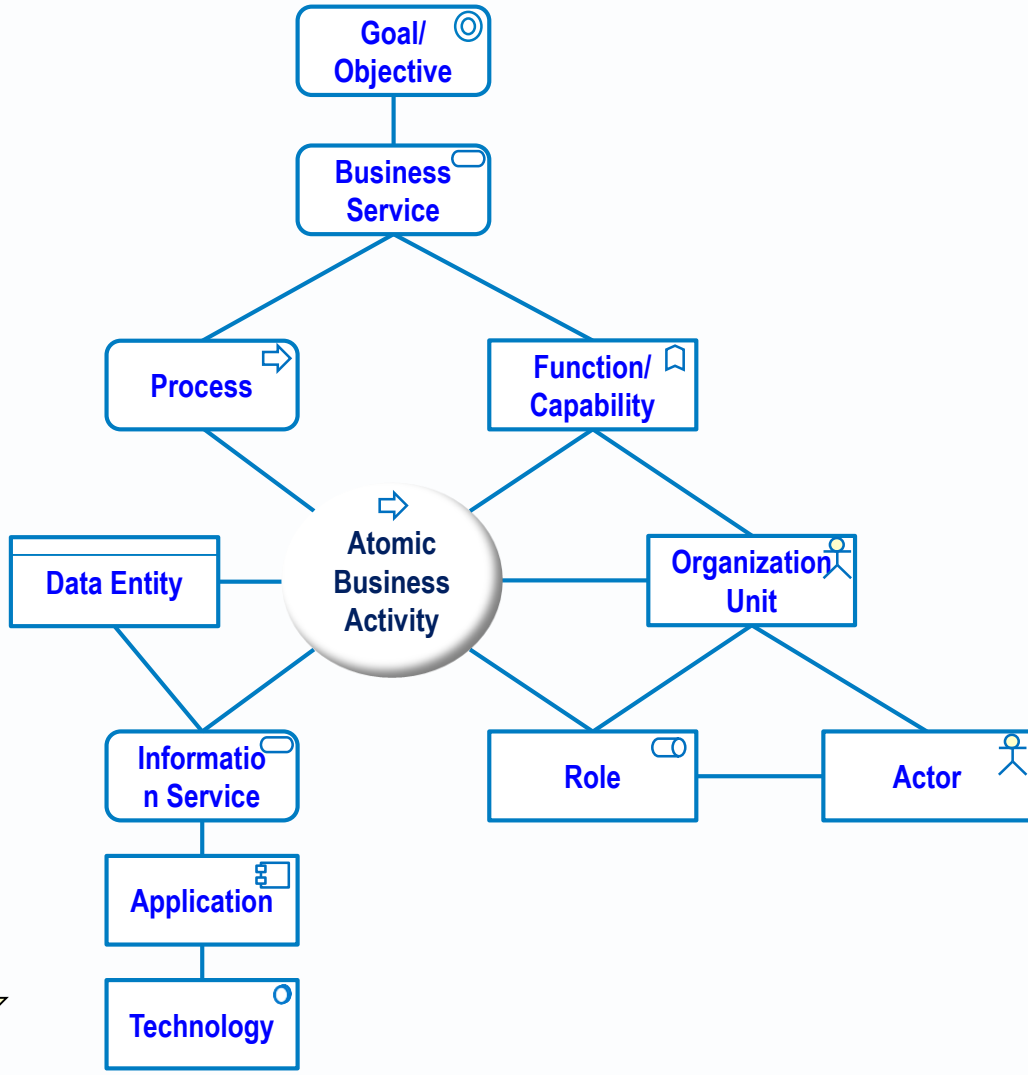
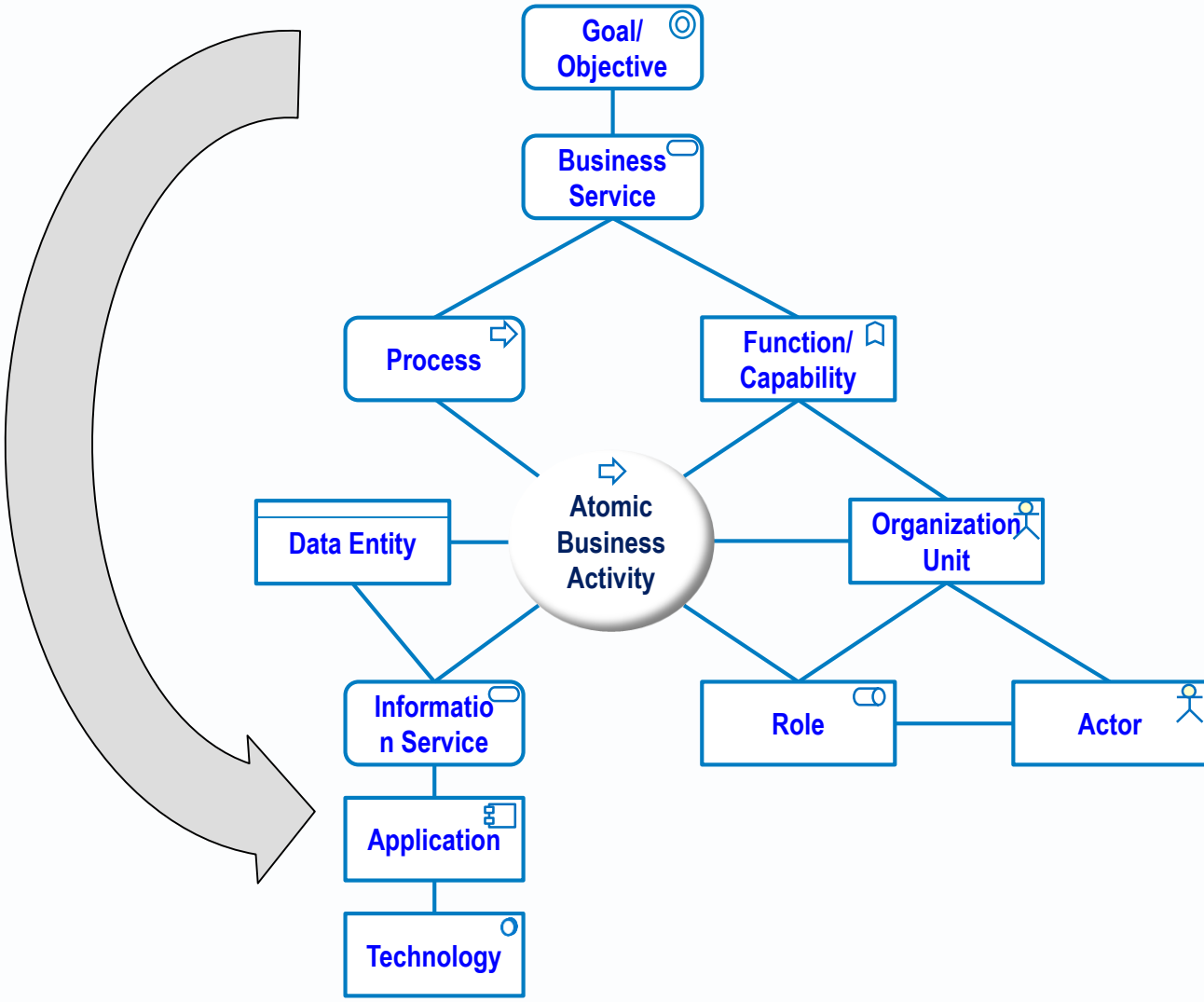




Beware

- Managers short cut the analysis!



Aside: where to document business rules?

- We don't lack for requirements analysis and capture techniques!
- We have *many* ways to document the same information
- *You* have decide where to document business rules

- E.g.
- "Calculate insurance premium" might be documented as
  - In business architecture
    - as a pre or post condition of a business service contract or process
  - In data architecture
    - as a derivation rule for a business data item
  - In applications architecture
    - as a pre or post condition of an application service or use case

For TOGAF users only: a possible solution design sequence