DoDAF as System Design

Where systems and subsystems = “capabilities” and “performers”
And “individual performers” deliver the capabilities

“Capability”

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- A capability is
  - A system or subsystem
  - A business function with all the resources it needs to perform
  - A combination of processes, people and technologies that deliver required products or services.
  - A logical encapsulation of the activities and resources an enterprise or system needs to deliver desired effects, to required measures or standards.
- A capability can provide an aim or focus of attention for a strategic project plan
- A capability may correspond to a **System, Business Function** or **Role** in TOGAF or ArchiMate.

“Performer”

- A performer can be viewed as a subsystem within a capability

- Performers = Roles (types)
- Individual Performers = Actors (instances)

Looking at DoDAF in terms of general system theory

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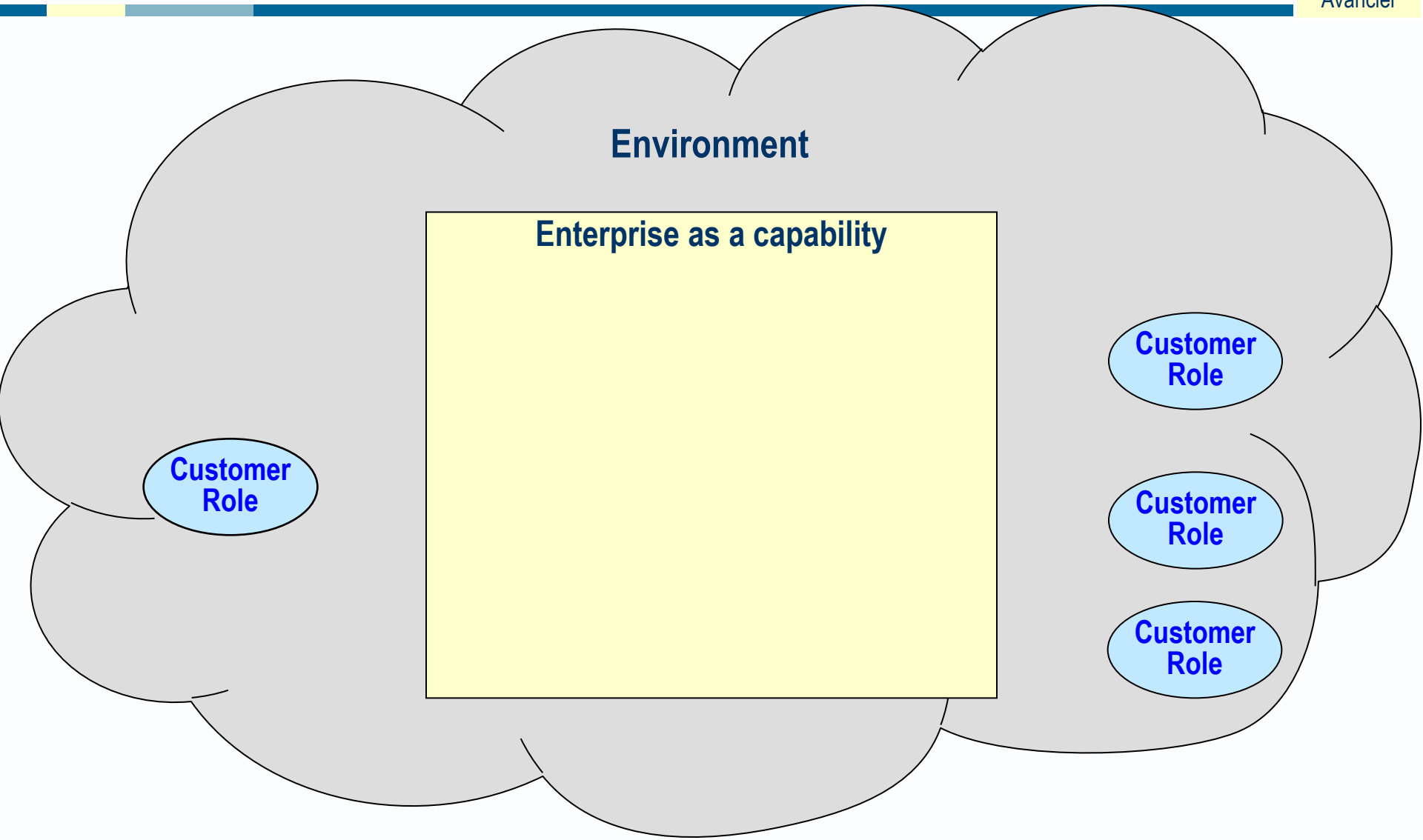
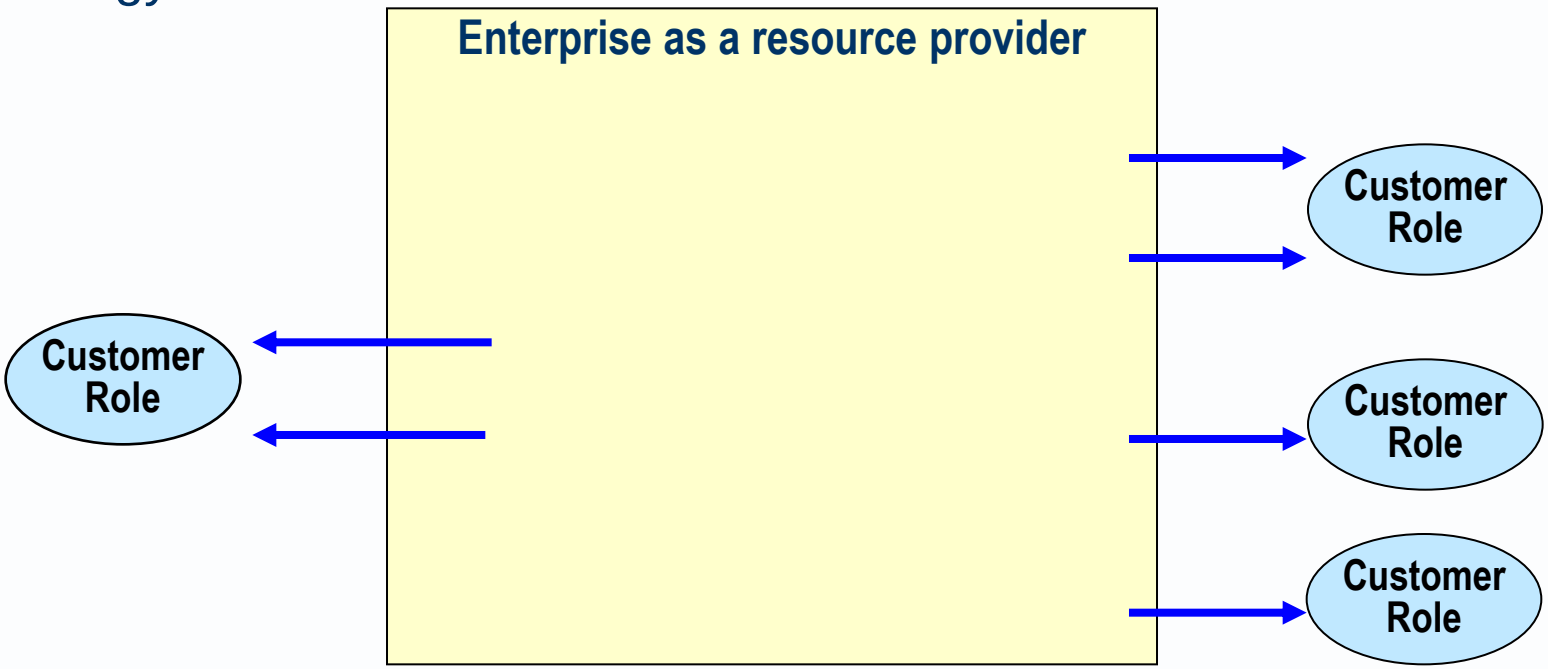
DoDAF interpreted as a 10 step process

1. What Activities and Roles are to be enabled or supported?



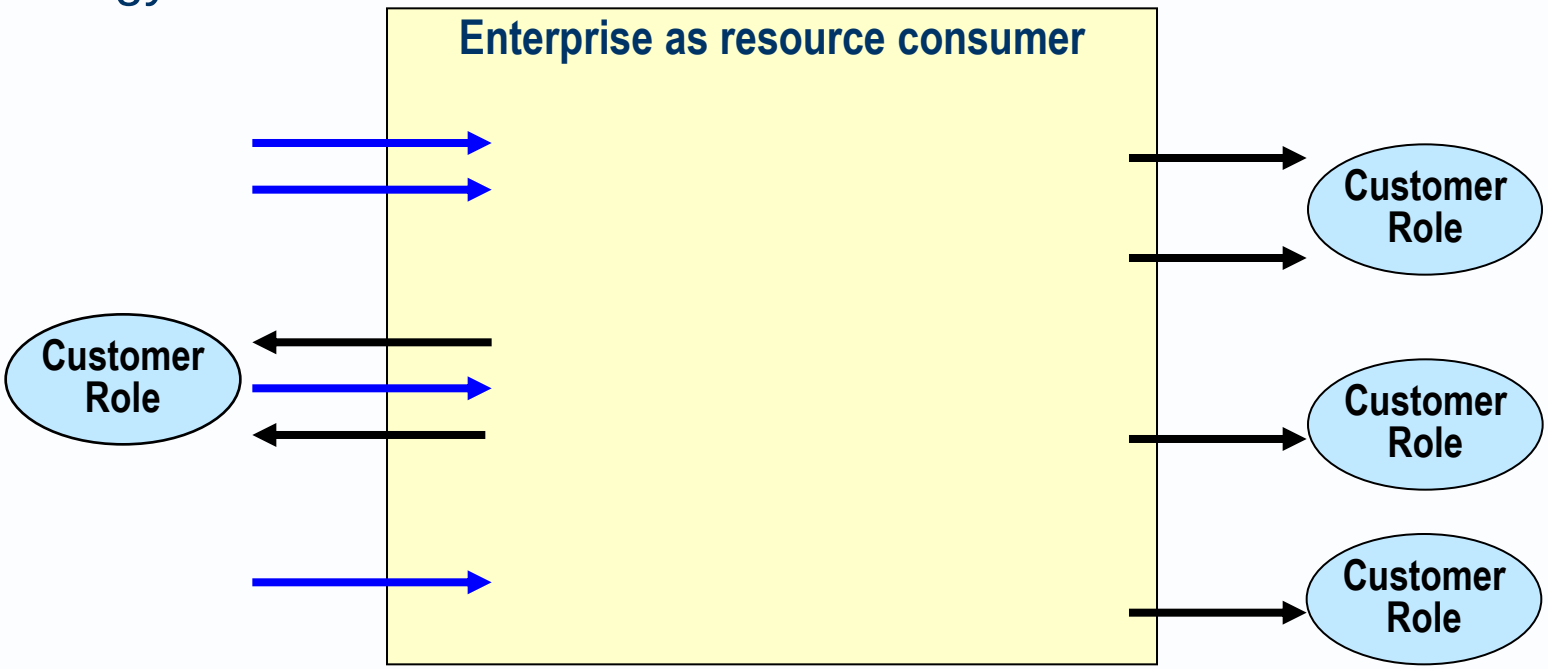
2. What output resources do Roles and Processes need?

- **Information**
- Materiel
- Energy



3. What inputs are needed to deliver output Services?

- **Information,**
- Materiel,
- Energy



4. Who supplies the inputs?

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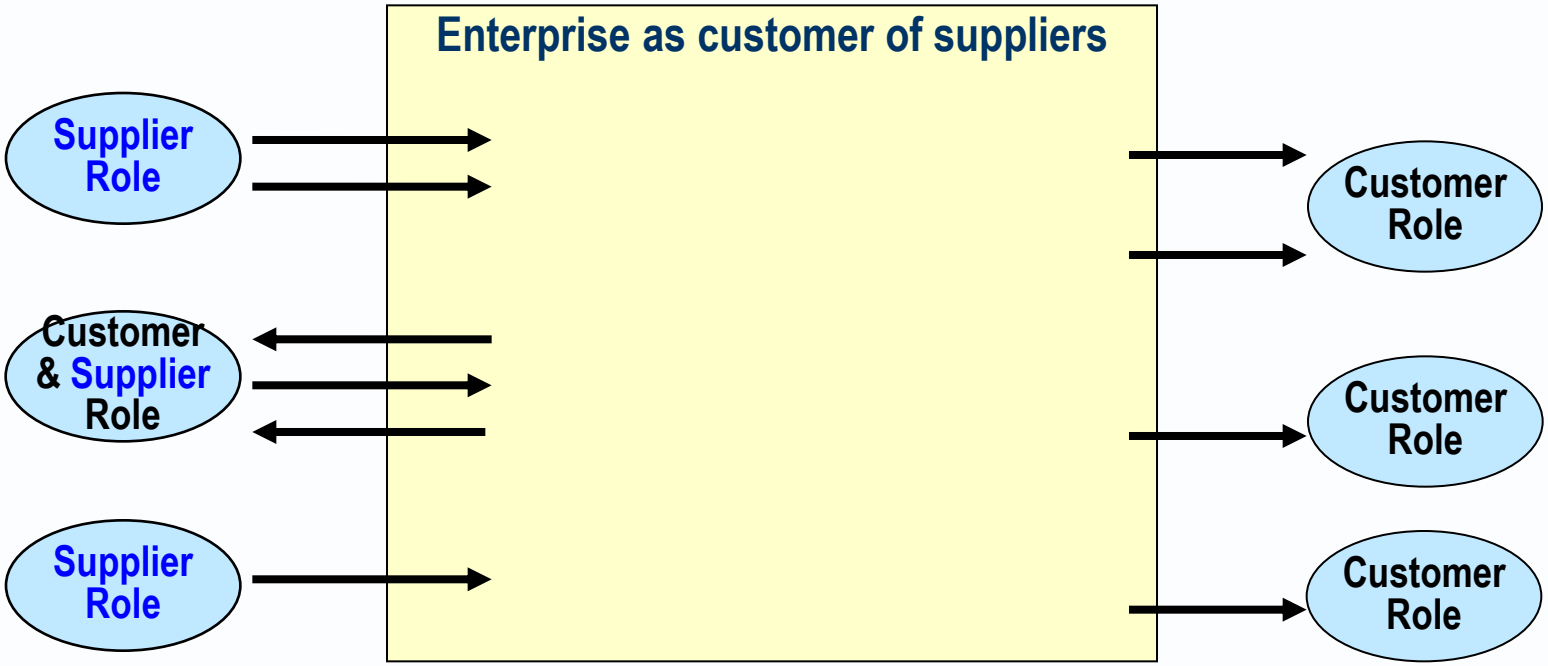
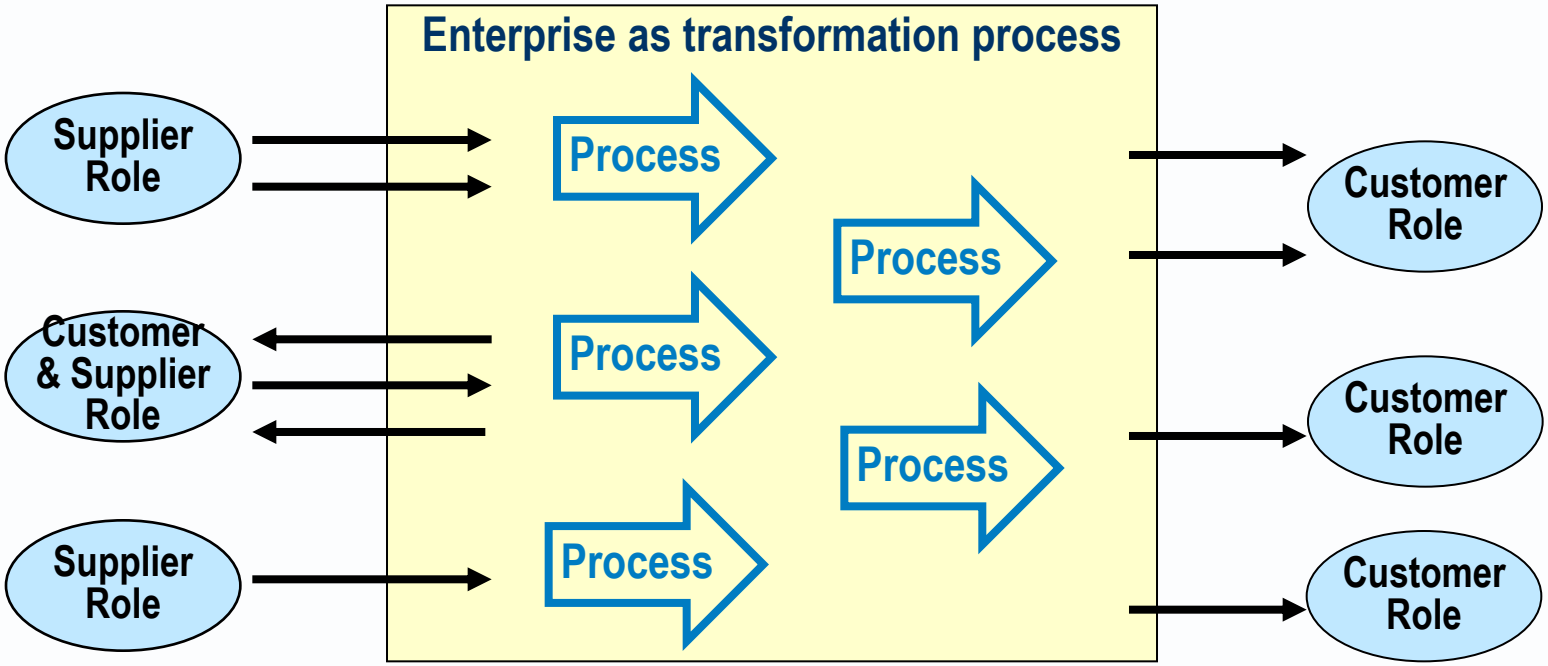
- **Suppliers**



5. What transient processes are needed to generate outputs?

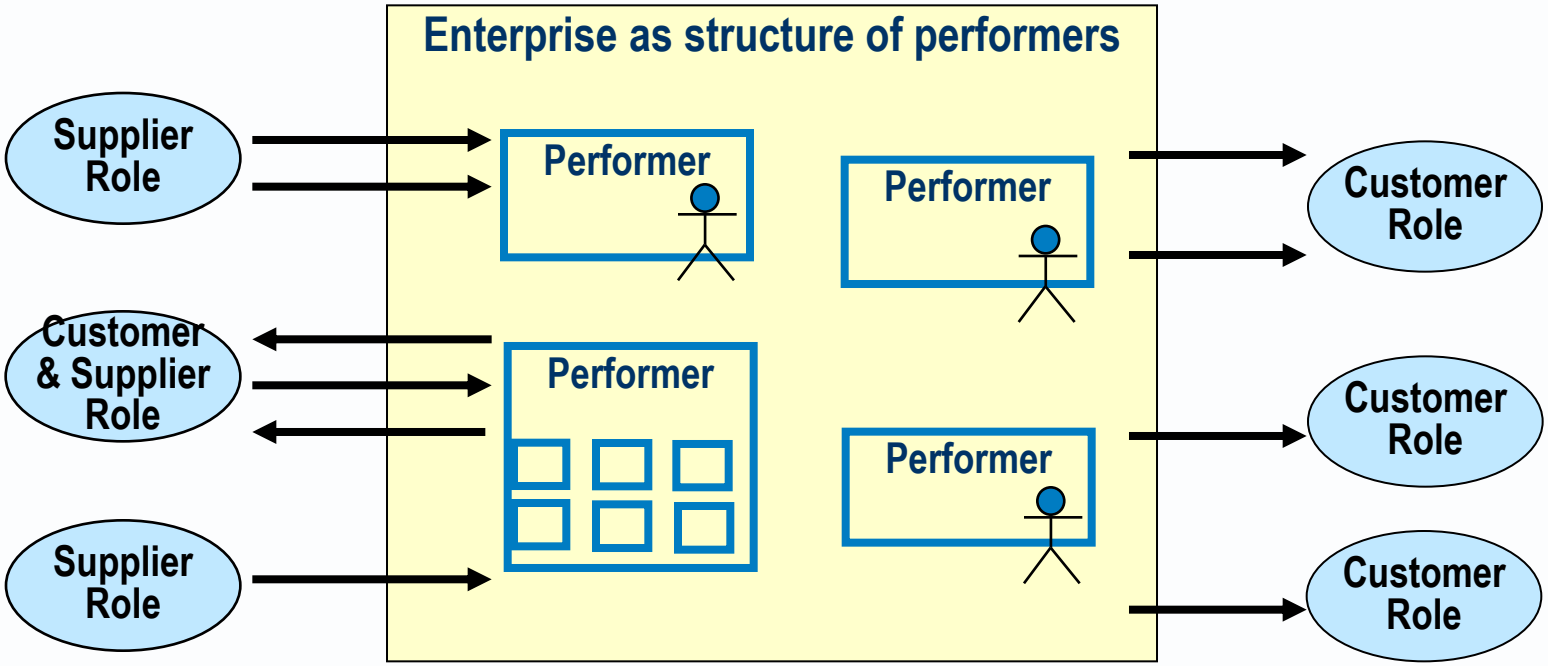
- **The *behavioural* view of a system = processes executed**
- EA models repeatable, deterministic processes



- Often drawn as a use case diagram

6. What Performers are needed to execute processes?

- The *structural* view of a system = performers



The components and actors, the people & technologies, that cooperate to execute the activities

7. What resource stocks do performers need?

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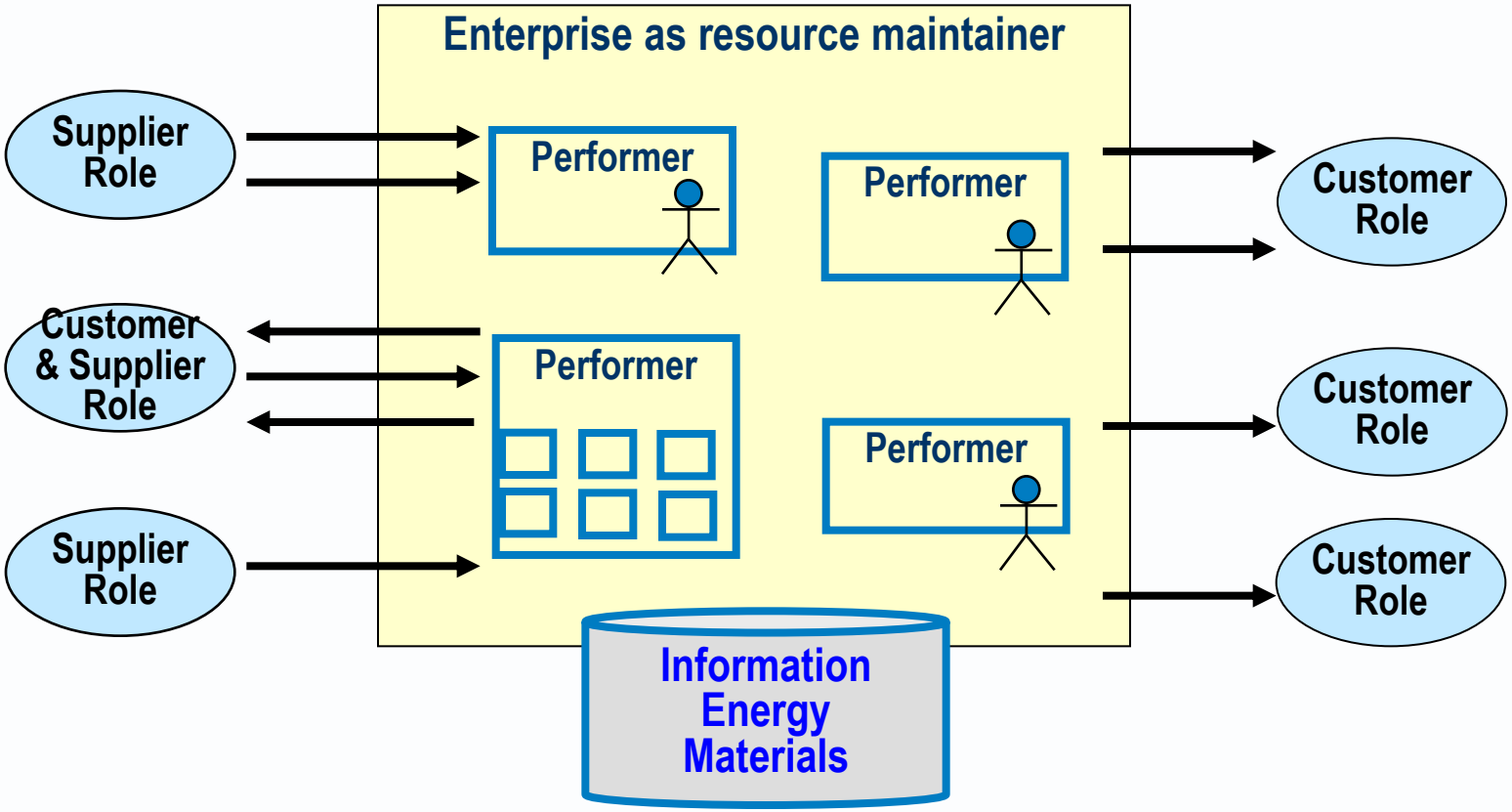
- **Enablers**



8. How do performers cooperate?

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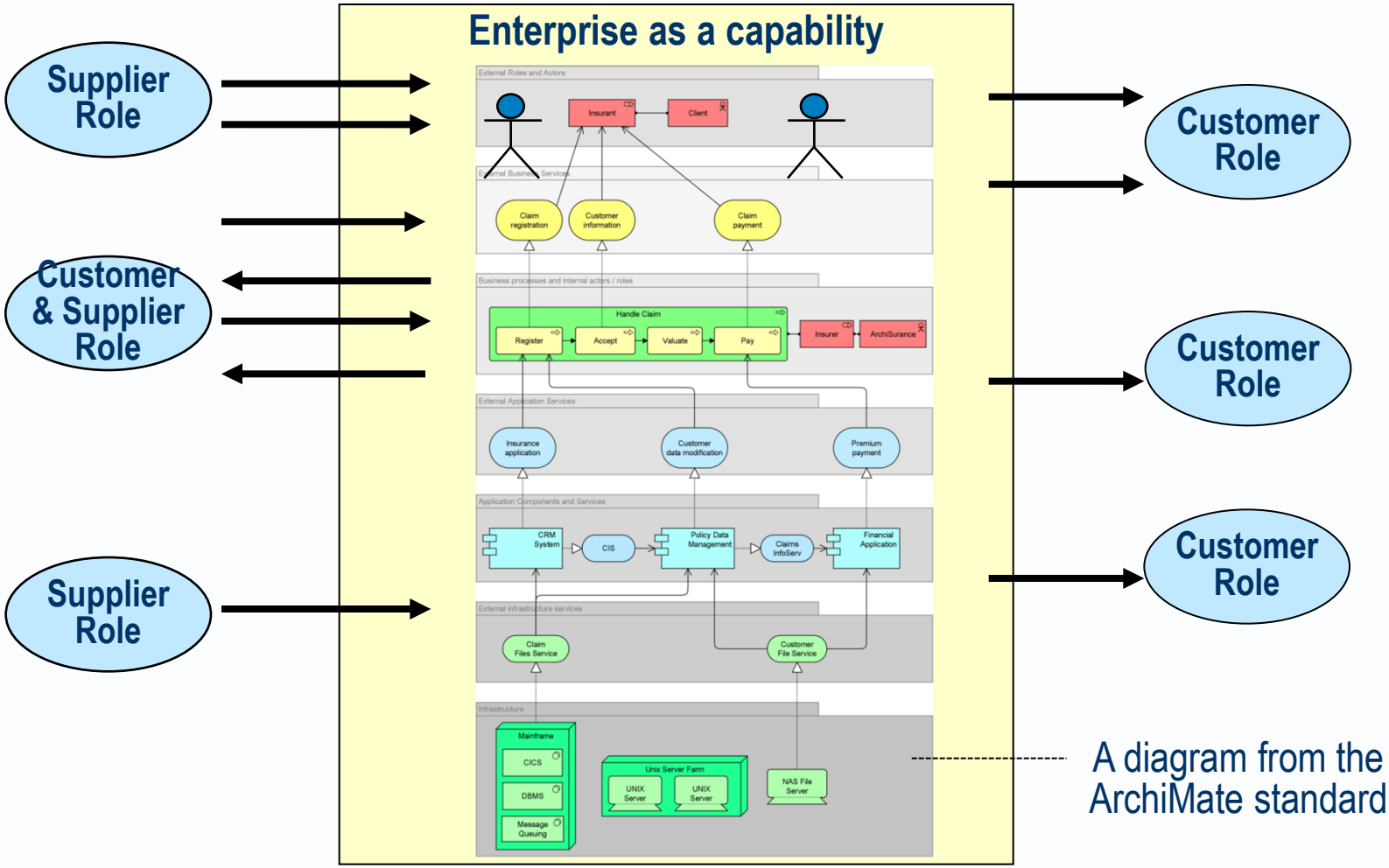
- How do (people and technology) performers interact?



9. Plan projects to implement the required capability

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- Architects assist programme/project managers in drawing up plans for change.

- DoDAF artefacts
- PV-1: Project Portfolio Relationships
  - Describes the dependency relationships between the organizations and projects and the organizational structures needed to manage a portfolio of projects.
- PV-2: Project Timelines
  - A timeline perspective on programs or projects, with the key milestones and interdependencies.
- PV-3: Project to Capability Mapping
  - A mapping of programs and projects to capabilities to show how the specific projects and program elements help to achieve a capability.

10. Build and deploy the component subsystems

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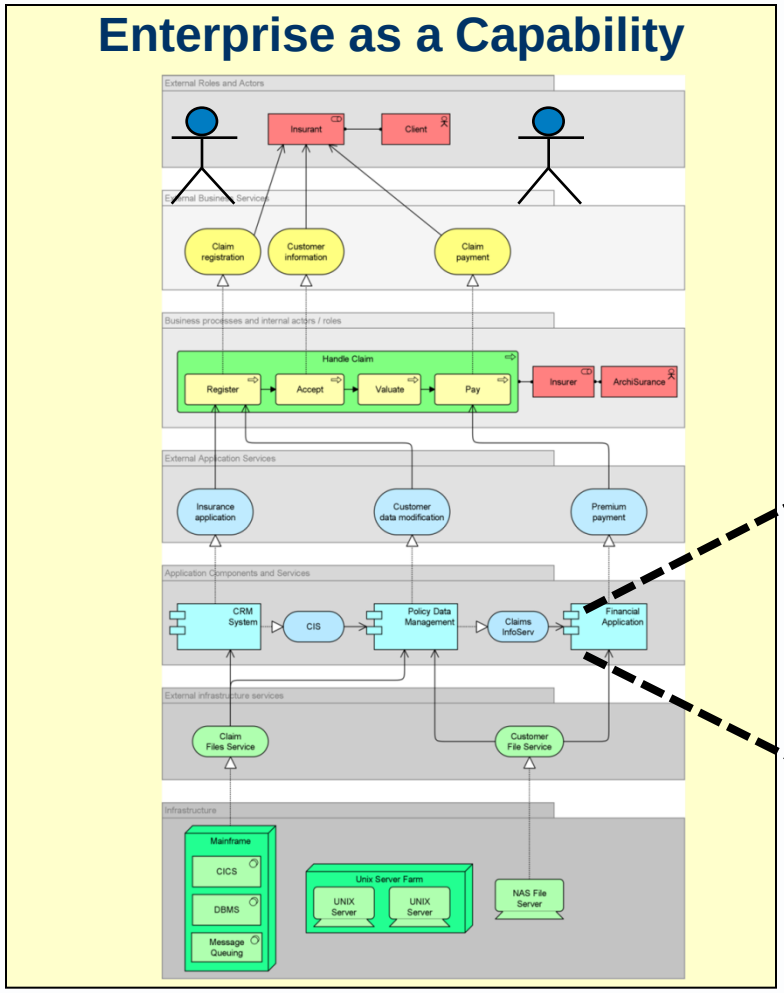
- **The whole enterprise, system or capability can be seen as a performer in a wider system**



- At a lower level, a software architect follows the same process to define a software application

Application as a Capability

Capability-based planning (CBP)

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- Planning projects to deliver capabilities (as defined above)
  - "focuses on the planning, engineering and delivery of strategic business capabilities."

- CBP provides a context for EA
- But the scope of CBP can be wider than EA

- Conversely, EA can inform CBP, and elaborate on some parts, but is not responsible for all of CBP.

This is the first of three slide shows

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- An attempt to distil DoDAF into c100 slides
  - **Part one: DoDAF as applied system theory**
  - Part two: DoDAF terms and concepts
  - Part three: DoDAF viewpoints and models

- You can find parts two and three at avancier.co.uk