Semantic Approach to Modelling a Consumer Electronics Enterprise

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EIS
ENTERPRISE INFORMATION SYSTEMS

Objectives

Comprehensive

- Well specified, detailed model of the enterprise and its components

Consistent

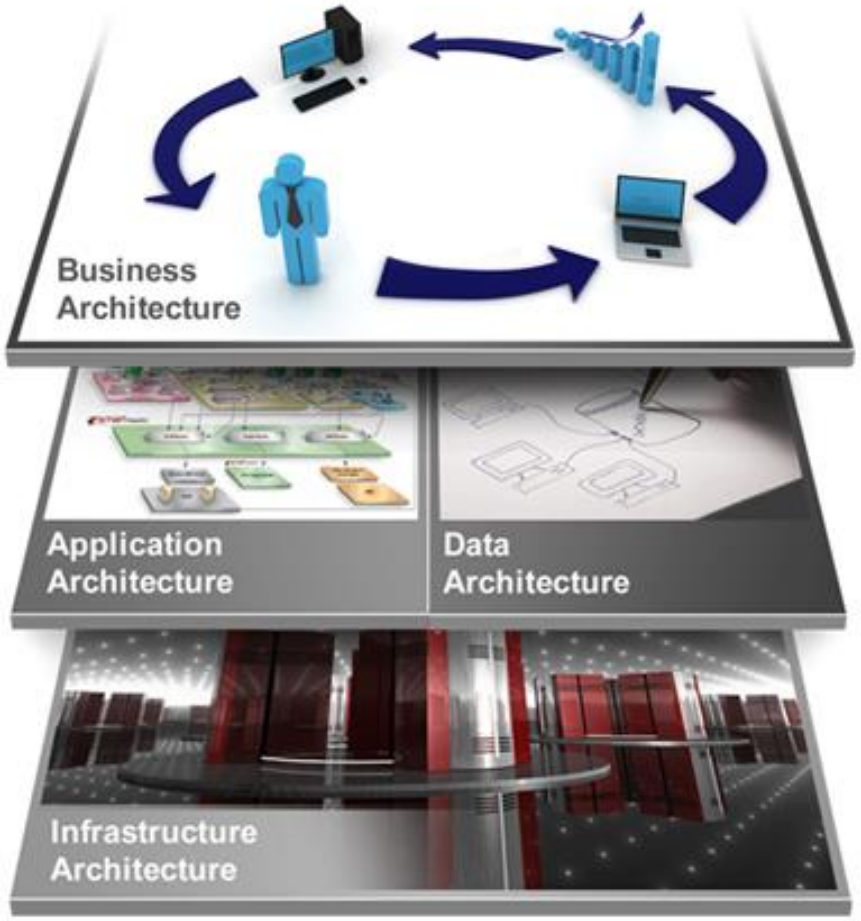
- Model contains consistent terminology

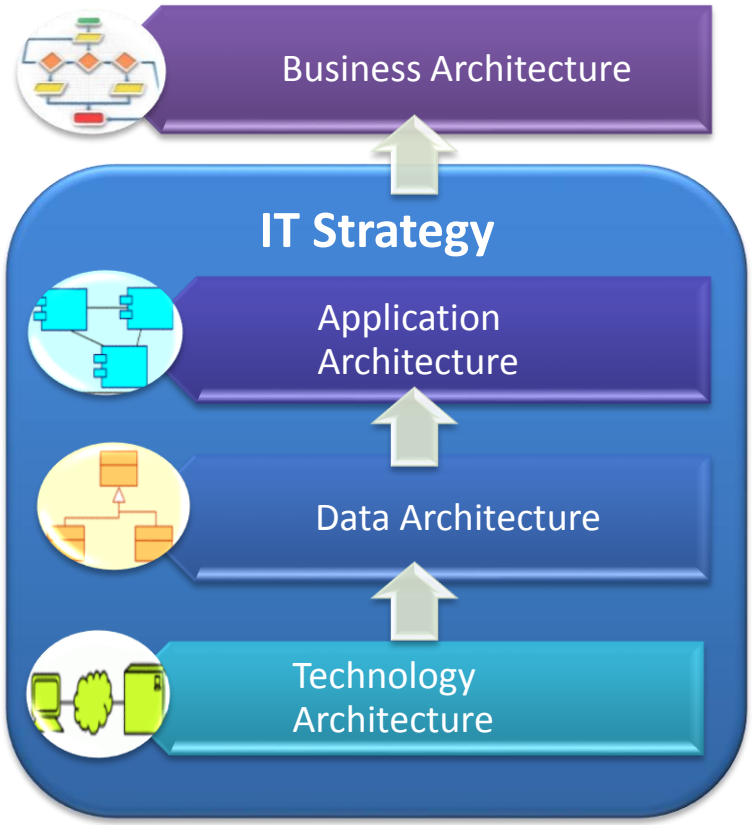
Unambiguous

- No ambiguous situations in model and between its states

The primary goal of EA is to make the organization as efficient and effective as possible!

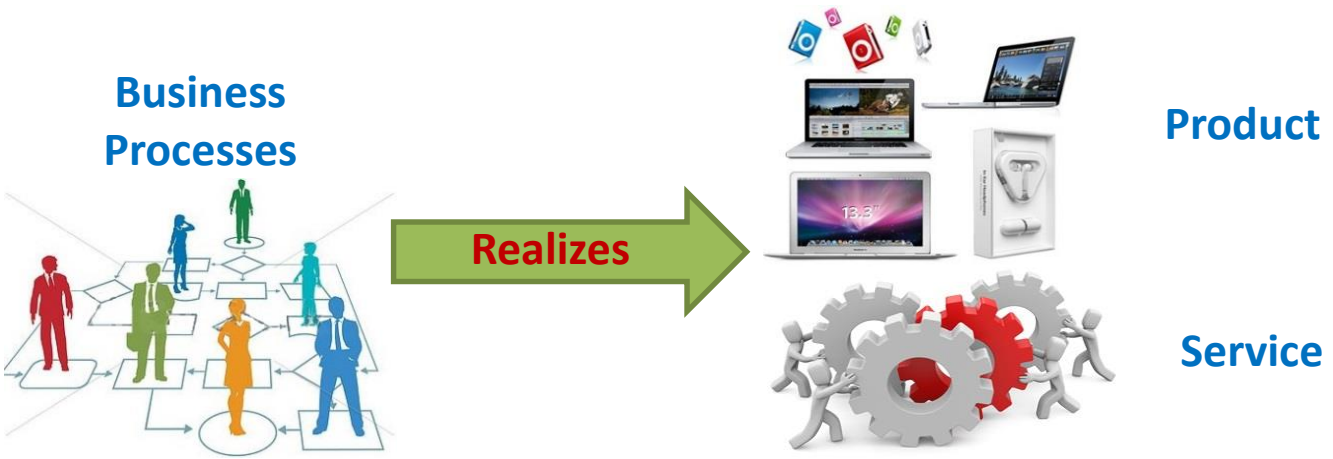
Key Components of Enterprise Architecture





What is a Business Process

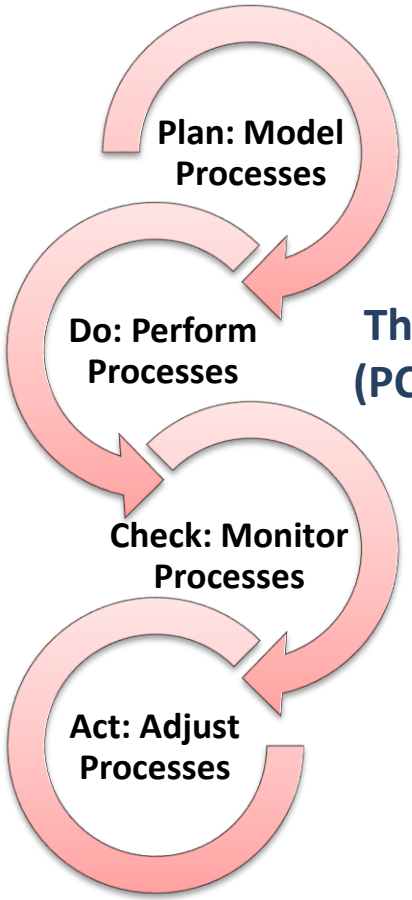
- A Business Process consists of a set of activities that are performed in coordination in an organizational and technical envioroment. These activities jointly realize a business goal (service or product).



- Each Business Process is enacted by a single organization, but it may interact with business processes performed by other organizations.

Benefit of Process Modeling

- Representation of Processes
- Analysis of Processes
- Continuous Improvement of Processes
- A basis for IT Support
- A solid basis for Process Management



The Deming (PCDA Circle)

What is BPMN?

Business Process Model and Notation

- **Business Process**

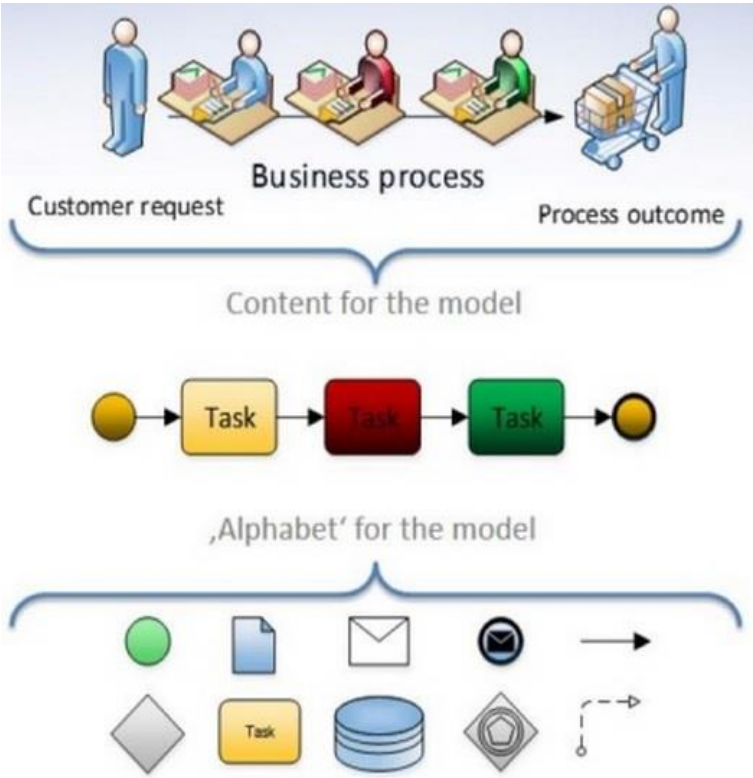
  A collection of related, structured activities which produce a specific service or product for a particular customer

- **Model**

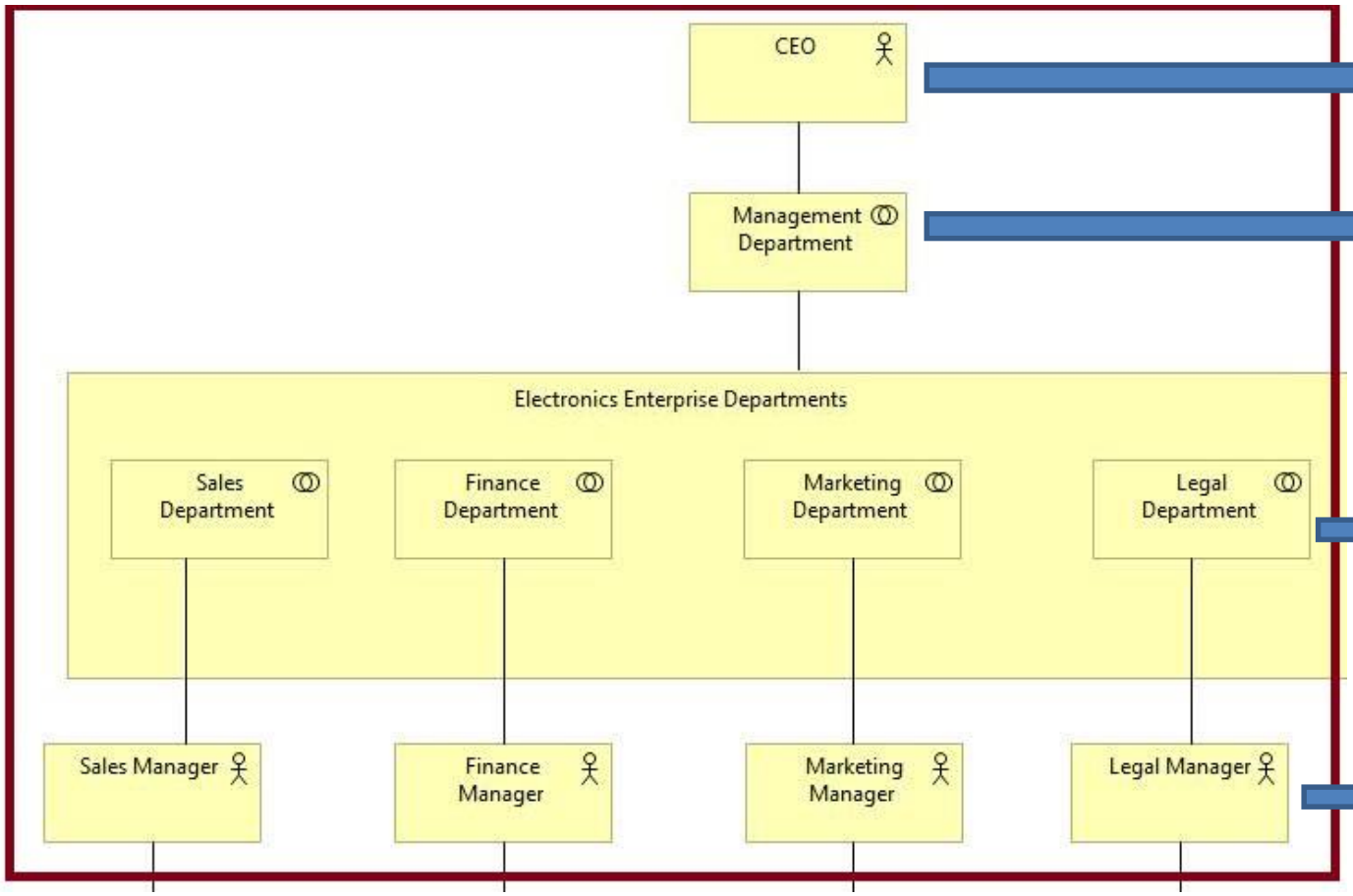
  A representation of a business process

- **Notation**

  A set of elements (languages) + rules used for representing a business process in a business process model(Diagrams)



Organizational Structure



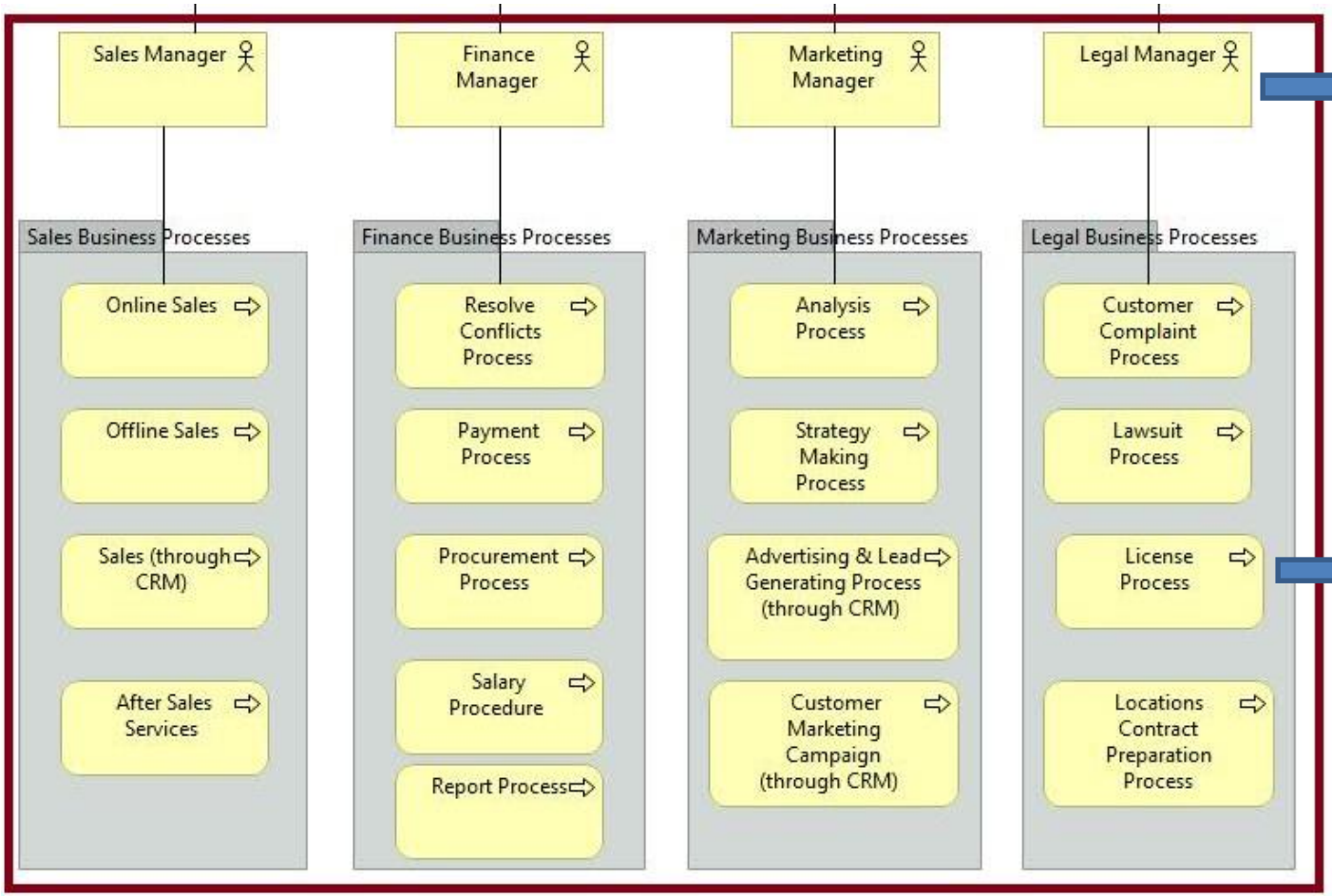
CEO = Business Actor

Management Dept. = Business Collaboration

All Departments = Business Collaborations

All Managers= Business Actors

Business Processes for each Departments

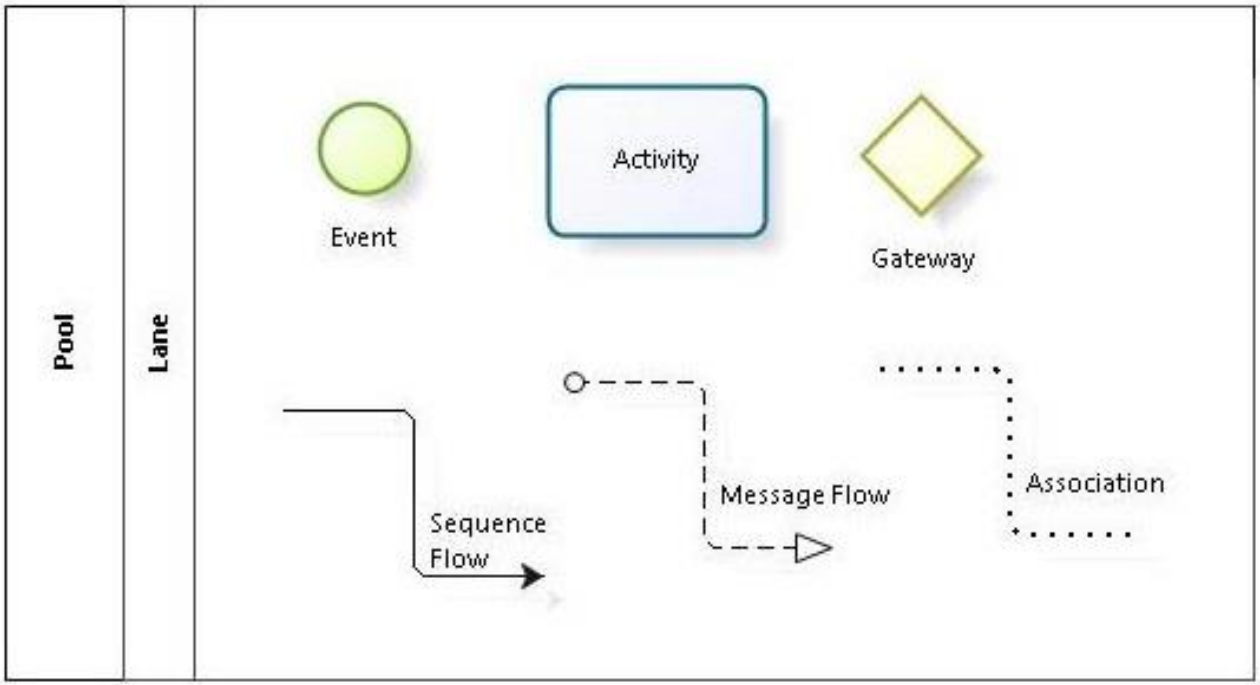


All Managers = Business Actors

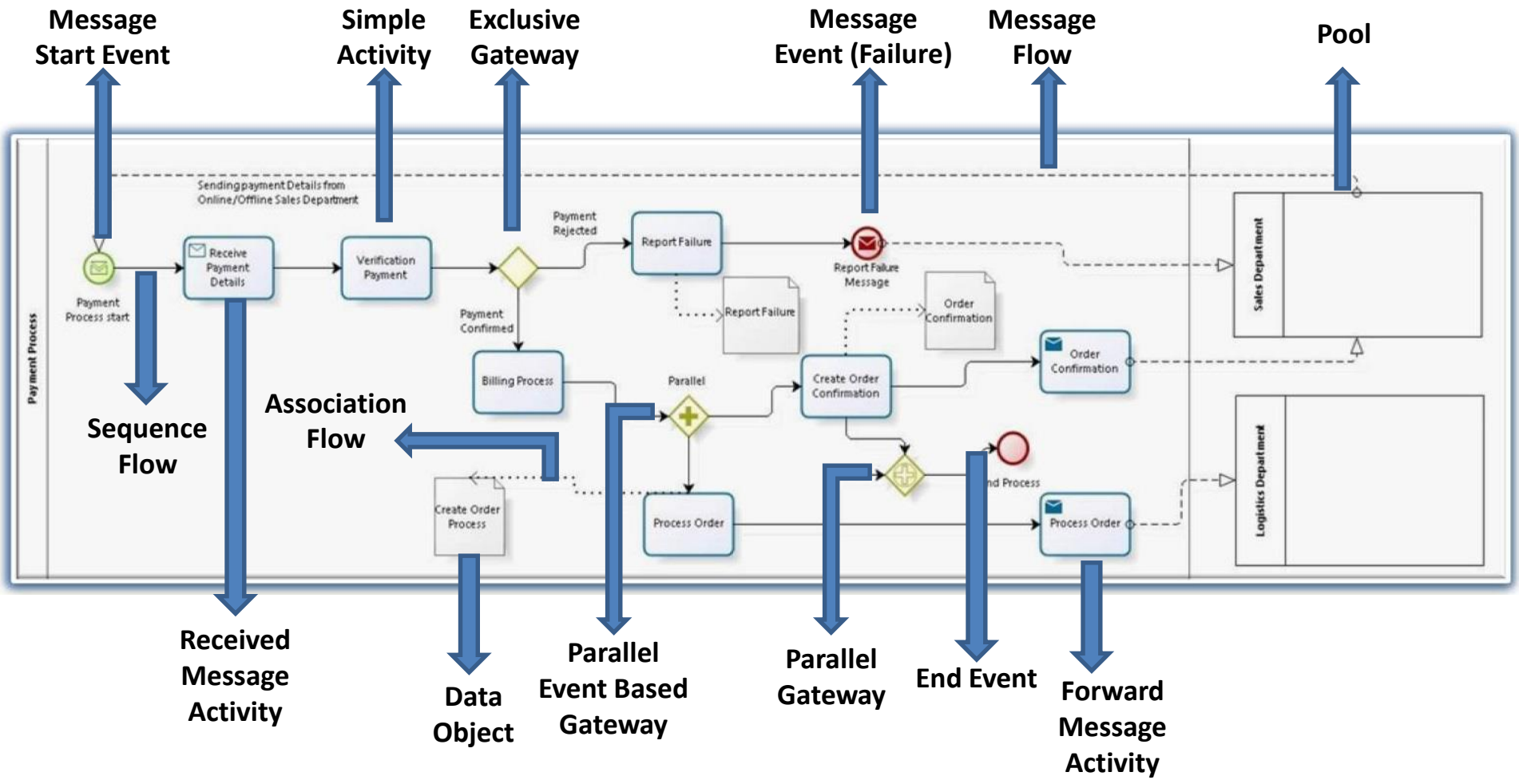
BP Groups of All Departments

Basic BPMN Elements

- **Flow Objects**
  - Events
  - Activities
  - Gateways
- **Connecting Objects**
  - Sequence flows
  - Message flows
  - Assosiations
- **Swimlanes**
  - Pools
  - Lanes

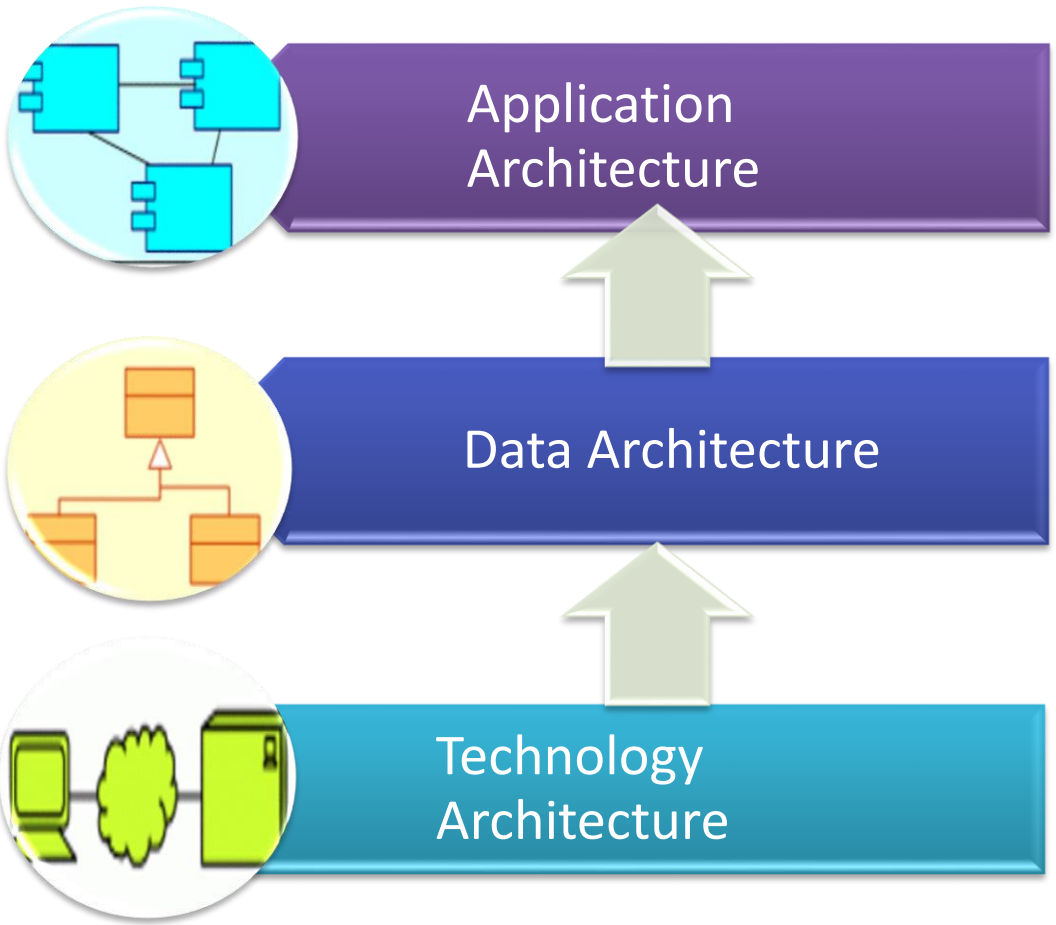


Payment Business Process



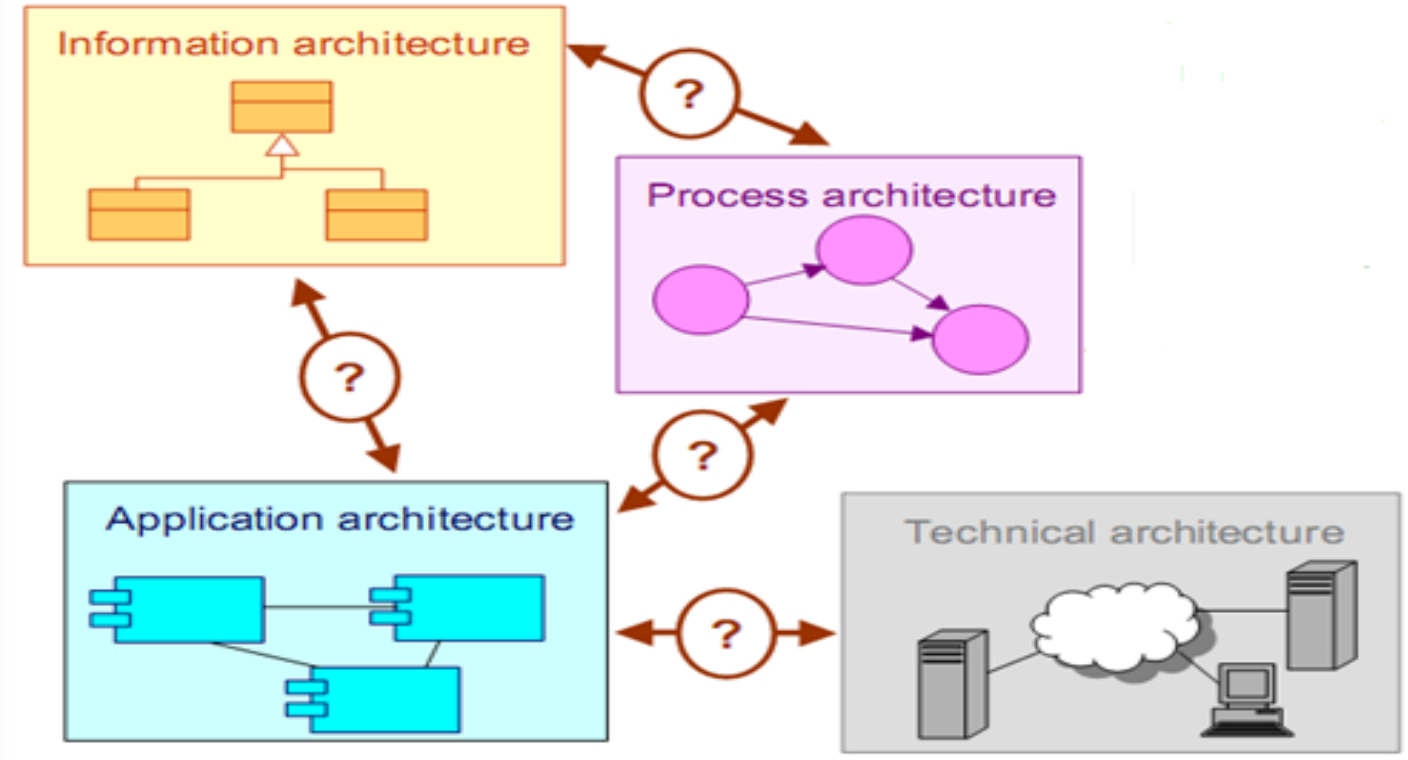
IT Architecture

ArchiMate



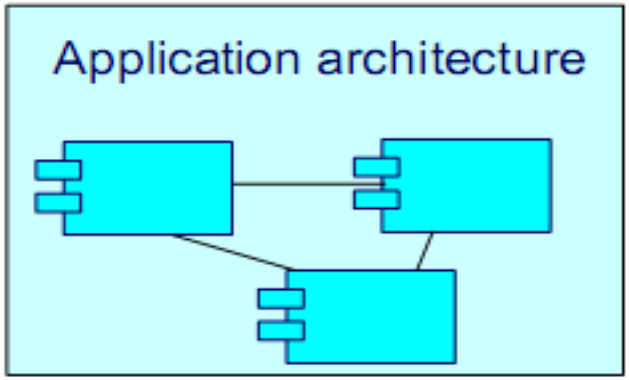
What is ArchiMate?

- **ArchiMate** offers a common language for describing the construction and operation of business processes, organizational structures, information flows, IT systems, and technical infrastructure.

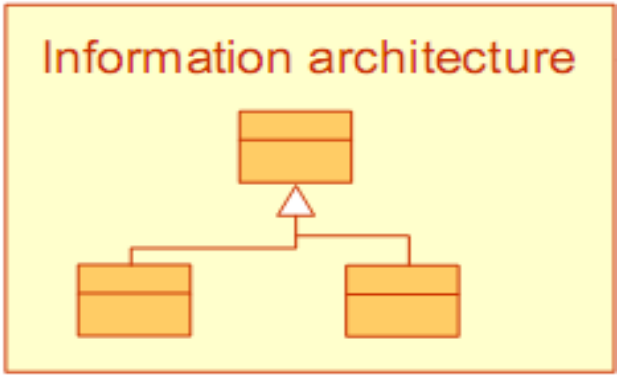


IT Architecture

Applications Architecture is the science and art of ensuring the suite of applications being used by an organization to create the composite architecture is scalable, reliable, available and manageable.

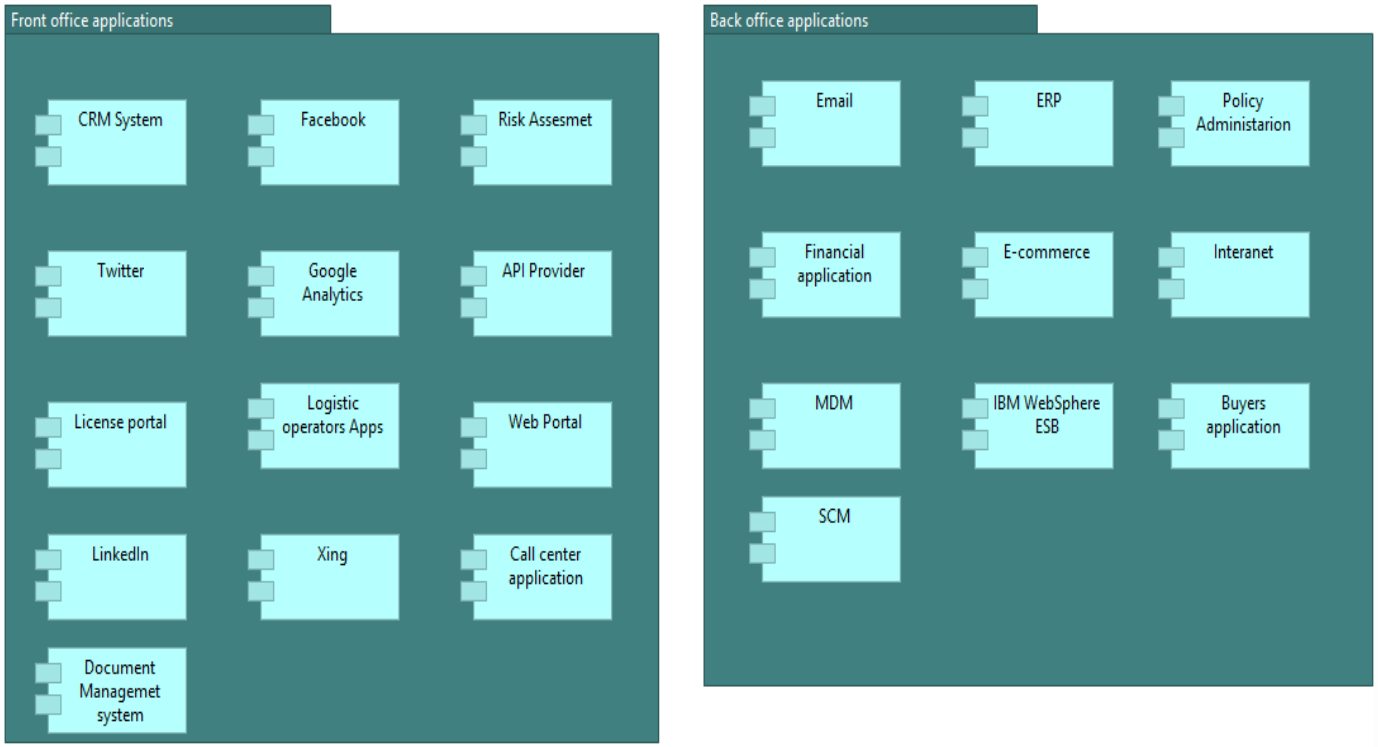


Data Architecture is composed of models, policies, rules or standards that govern which data is collected, and how it is stored, arranged, integrated, and put to use in data systems and in organizations

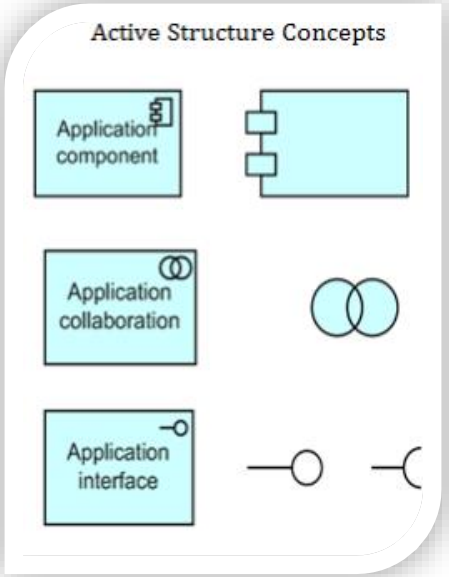


Application Architecture Demo

Application Landscape

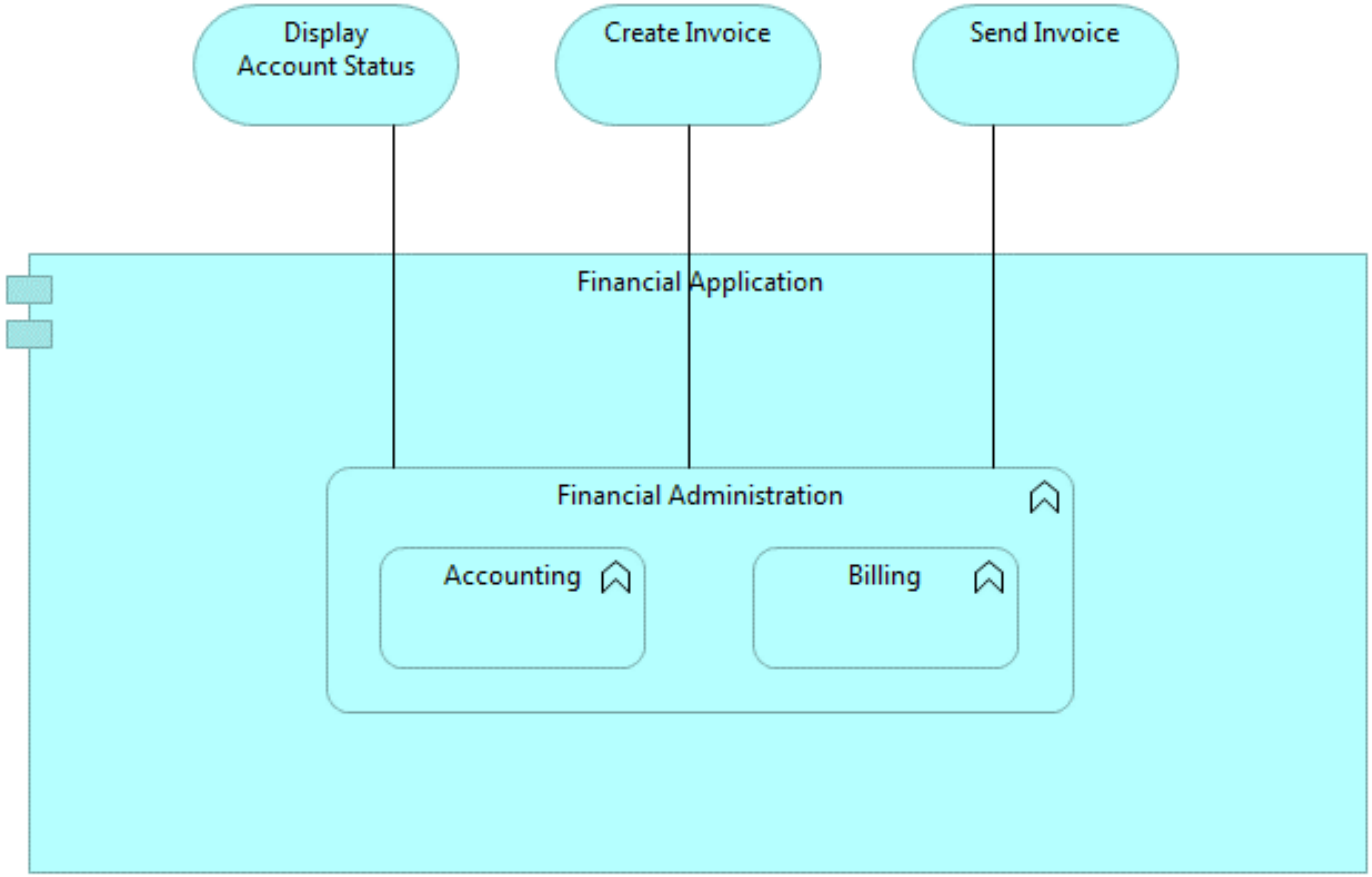


Archimate Notation

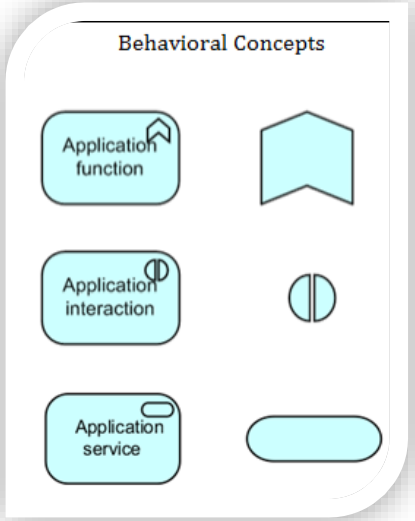


Application Architecture Demo

Application Behavior Viewpoint

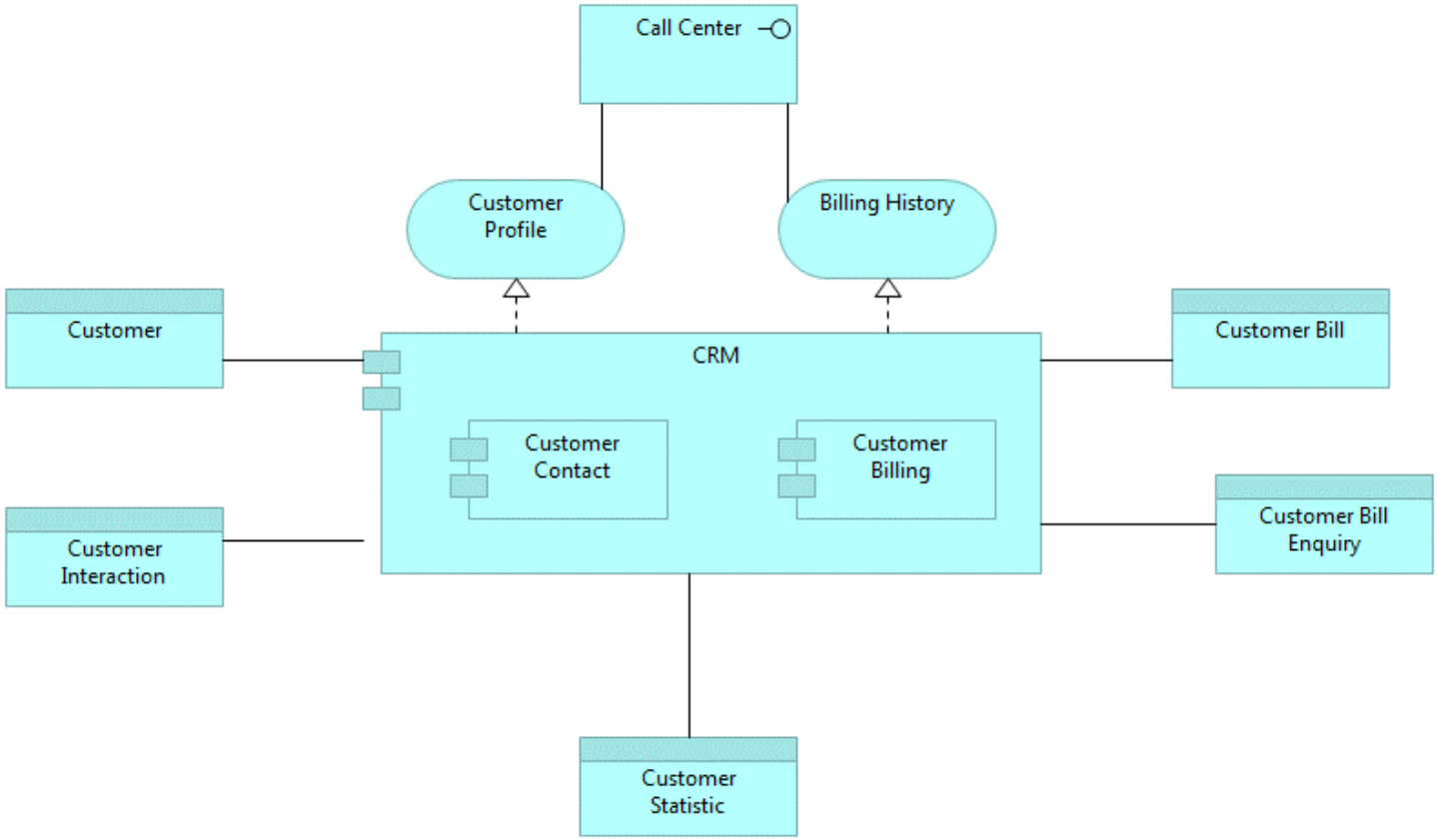


Archimate Notation

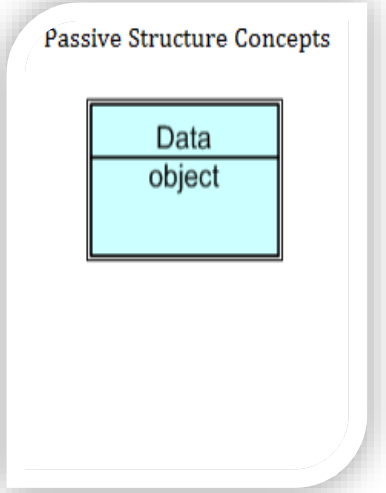


Application Architecture Demo

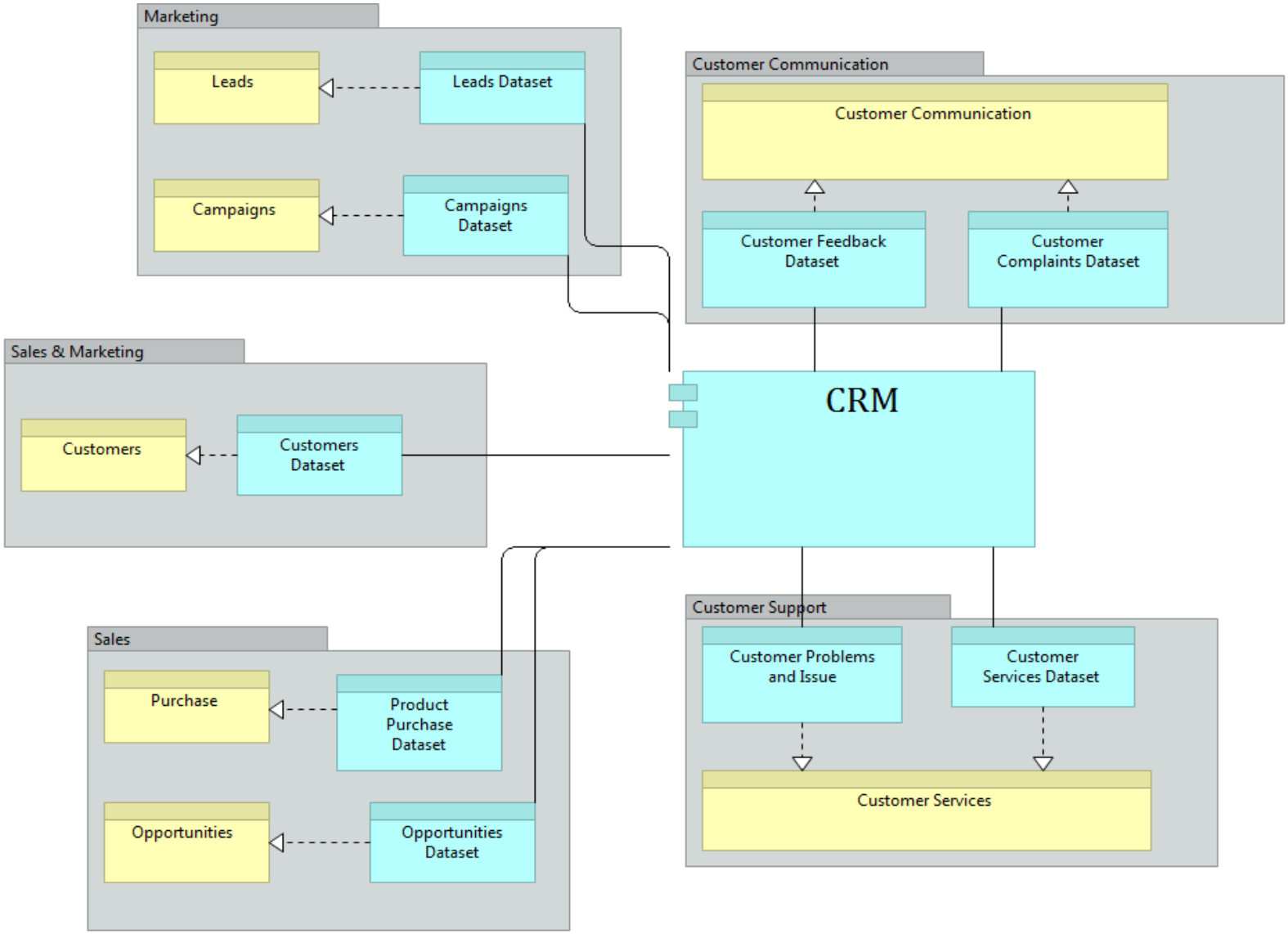
Application Structure Viewpoint



Archimate Notation

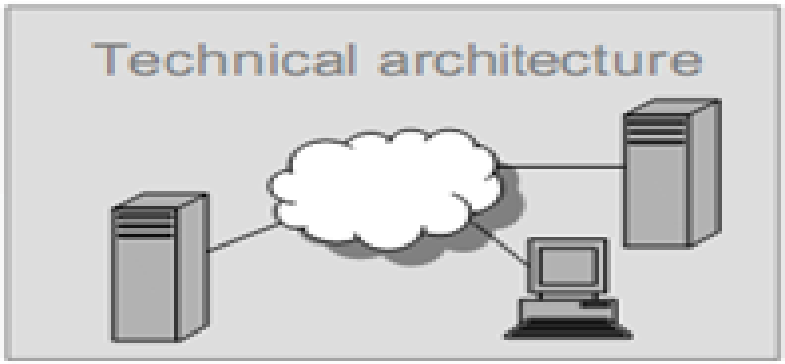


Data Architecture Demo



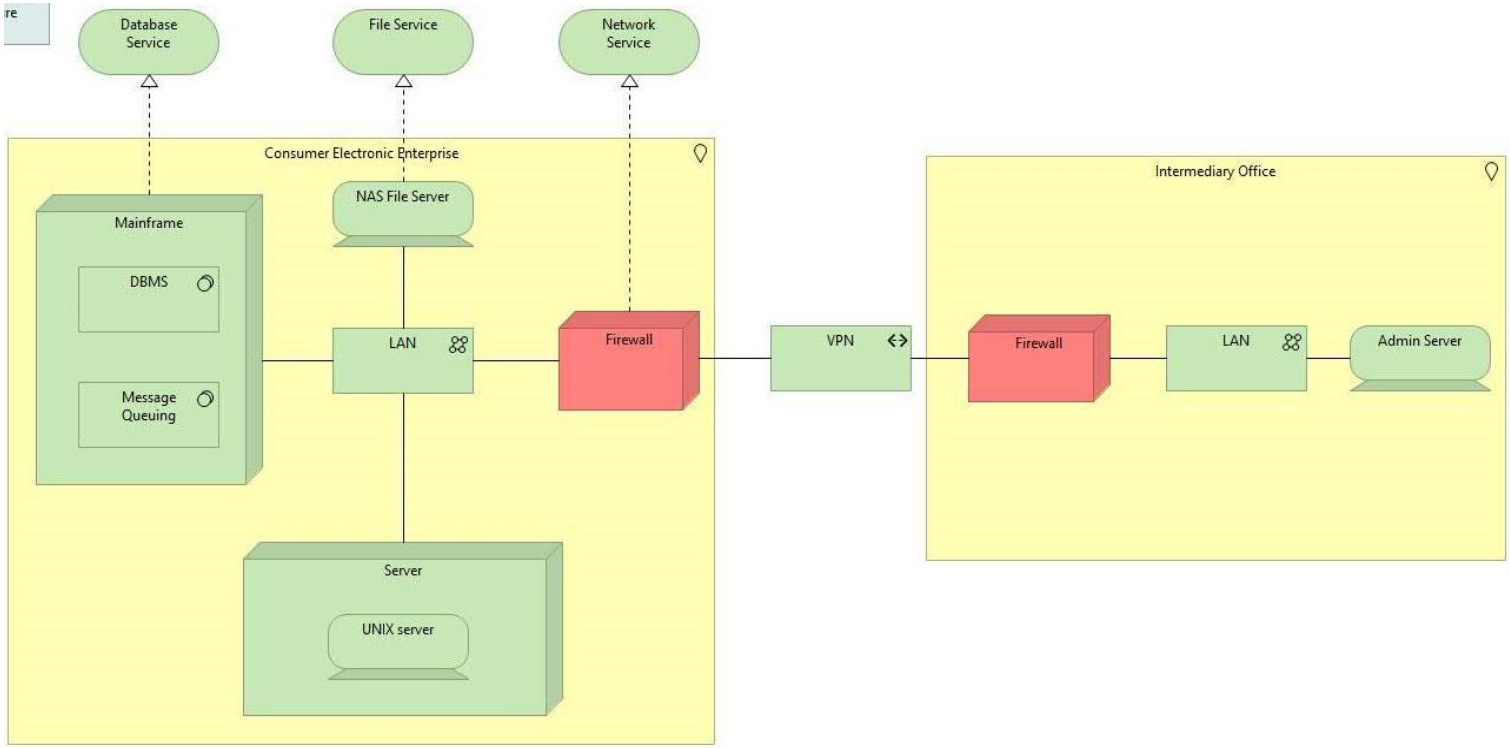
Technical Architecture

offers infrastructural services (e.g., processing, storage and communication services) needed to run applications, realized by computer and communication hardware and system software



Infrastructure Architecture Demo

Infrastructure Landscape



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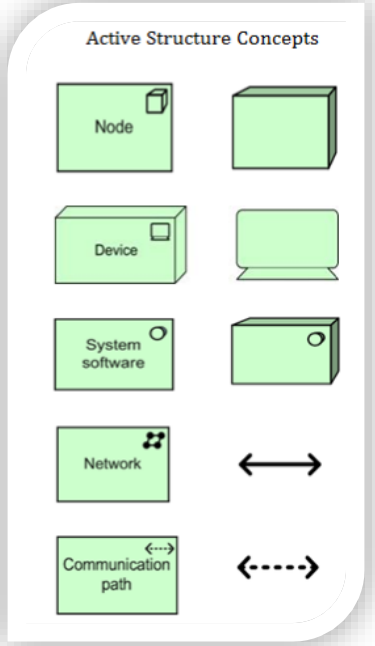
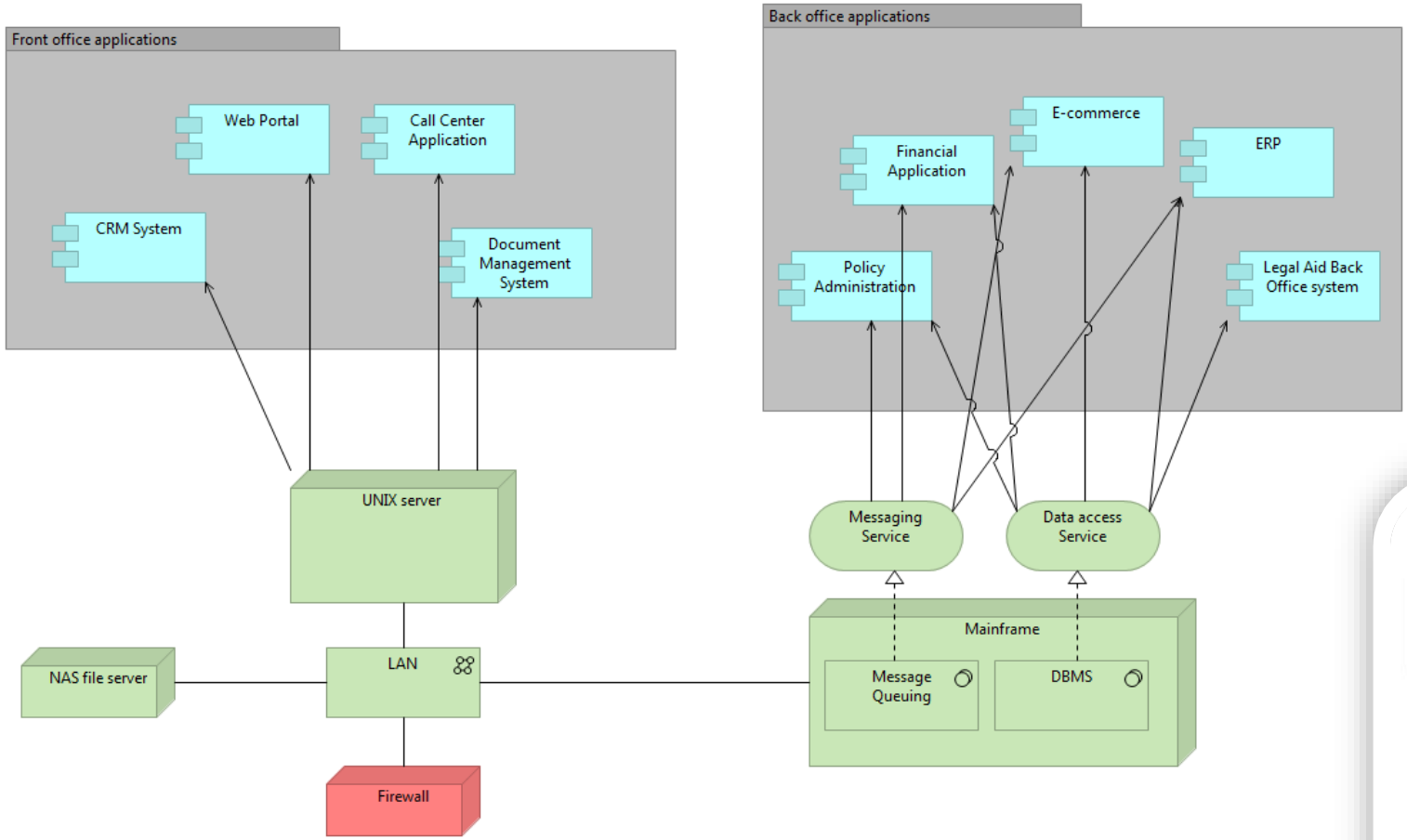
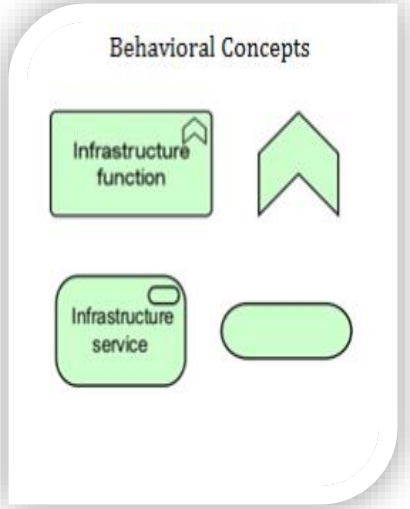


Infrastructure Architecture Demo

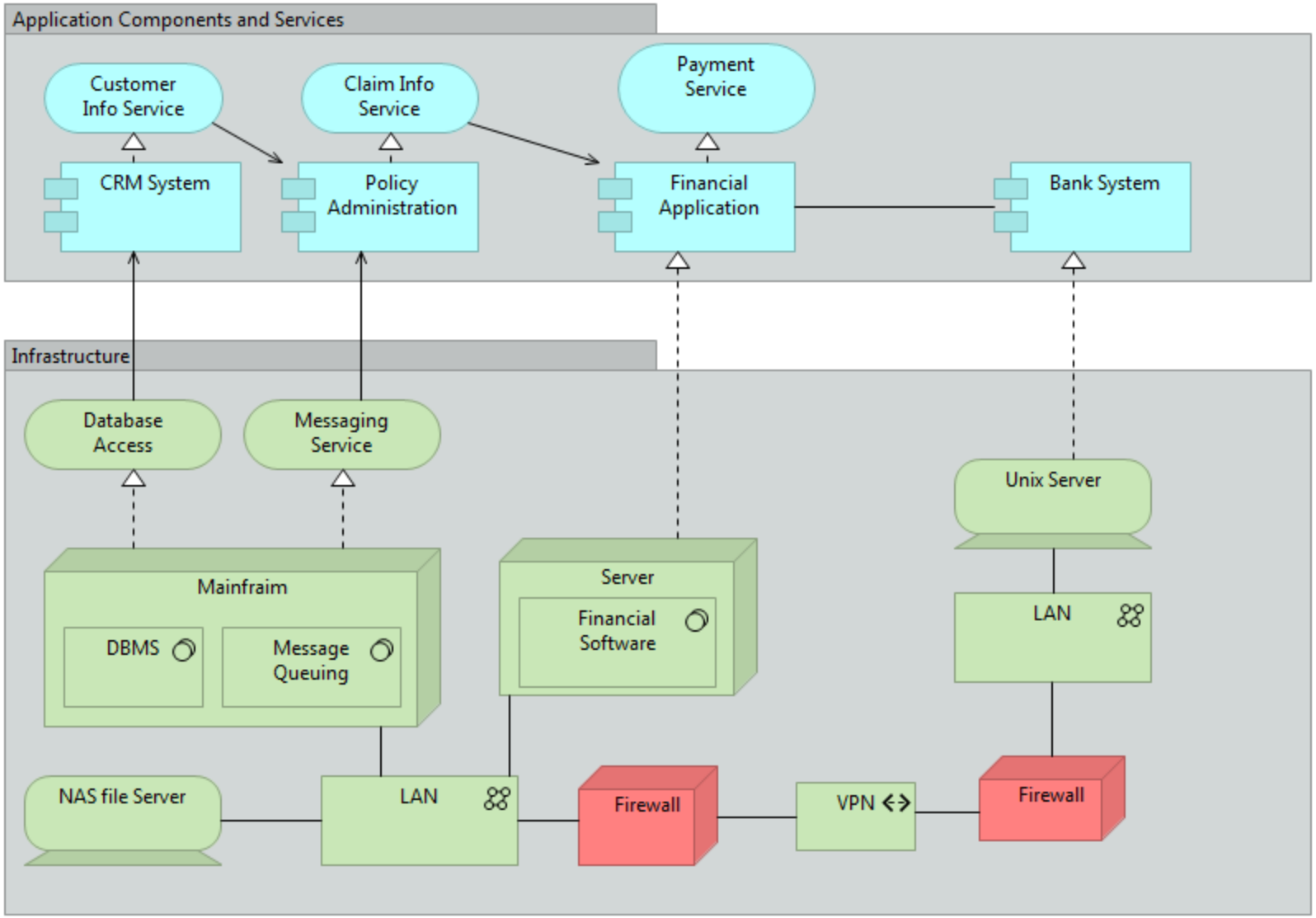
Infrastructure Usage Viewpoint



Archimate Notation



Infrastructure Deployment Viewpoint



Difficulties and Challenges

- Getting information about business processes for each domain and department

- Selecting a tool (we required tool with both BPMN and Archimate notations to automatically keep diagrams and entities consistent, we found one, but was it expired in between, so we had a problem to switch to other tools and redraw all our diagrams)

- Maintain consistency between two tools (later we switched to 2 different tools for BPMN and Archimate, and it was a challenge to maintain consistency for entities between them)

Documentation Strategy

Documentation consists of two main parts:

- **Technical System Documentation**

Contains detailed information about implemented EA models

  - **Components:**
    - Framework and Architecture Layers
    - Organizational Structure of EA
    - Business Process Models
    - Application, Data and Technology Architecture

- **User Manual**

Describes BPMN and Archimate notations and helps user to understand the models.

Q & A