Enterprise Models: 1

- Capture static and dynamic aspects of enterprises
- Document information resources
  - Databases and knowledge bases
  - Applications, business processes, and the information they create, maintain, and use
Enterprise Models: 2

- Capture organizational structure
- Document business functions
  - Rationales behind designs of databases and knowledge bases
  - Justifications for applications and business processes
Enterprise Models: 3

By being explicit representations, models enable

- Integrity validation
- Reusability
- Change impact analysis
- Automatic database and application generation via CASE tools
Enterprise Architecture Objectives

At the top-level, to support the business objectives of the enterprise; these commonly translate into

- Accommodating *change* by introducing new
  - Users
  - Applications
  - Interfaces and devices
- Managing information resources
  - Preserving prior investments, e.g., in legacy systems
  - Upgrading resources
- Developing blueprints to guide resource and application installation and decommissioning
Enterprise Architecture Observations

Continual squeeze on funds, staffing, and time available for IT resources

- Demand for rapid development and deployment of applications
- Demand for greater ROI
- Essential tension
  - Need to empower users and suborganizations to ensure satisfaction of their local and organizational needs
  - Ad hoc approaches with each user or each suborganization doing its own IT cause failure of interoperability
Enterprise Architecture Principles

Business processes should drive the technical architecture

- Define dependencies and relationships among users and suborganizations of an organization
- Message-driven approaches are desirable because they decouple system components
- Event-driven approaches are desirable because they help make a system responsive to events that are potentially visible and significant to users
Architecture Modules: Applications

Often most visible to users

- Application deployment
- Data modeling and integrity
- Business intelligence: decision support and analytics
- Interoperation and cooperation
  - Ontologies: representations of domain knowledge
- Component and model repositories
- Business process management
Architecture Modules: Systems

Functionality used by multiple applications

- Middleware: enabling interoperation, e.g., via messaging
- Identity management
- Security and audit
- Accessibility
- Policy repositories and engines
Architecture Modules: Infrastructure

- Connectivity
- Platform: hardware and operating systems
- Storage
- System management
Enterprise Functionalities: 1

It helps to separate the key classes of functionality in a working software system

- Presentation: user interaction
  - A large variety of concerns about device constraints and usage scenarios

- Business logic
  - Application logic
  - General rules