Architecture

What, Why and How?
Topics

• What Is Architecture?
• Why Do Architecture?
• How Do We Do It?
What is architecture?

“The basic elements, systems, and orders that constitute a work of architecture …should be interrelated to form an integrated whole having a unifying or coherent structure.”

“Architectural order is created when the organization of the parts makes visible their relationships to each other and the structure as a whole.”

Architecture: Form, Space and Order by Francis D. K. Ching
What is architecture?

- Architecture defines the parts, the essential external characteristics of each part, and the relationships between the parts.
- It includes a set of design decisions.
- Provides a technical vision and a means to achieve it.
- Provides for an organized and unified structure.
Enterprise Architecture is the process of aligning technology investments with business objectives through the use of "models".

Enterprise Architecture is about the relationship of the Business Architecture to the Application, Data and Technical architectures. "It provides the organization with the methods, processes, discipline and organizational structure to create, manage, organize, and use models for managing the impact of change" - MetaGroup.

Business Architecture is the expression of key business strategies and their relationship to business functions, business processes and business information.

Application Architecture (sometimes referred to as Application Portfolio) is the collection of IT solutions needed to fulfill the Business Architecture. The Application Architecture is about what is provided not how it is provided.

Technical Architecture (sometime called Enterprise-Wide Technical Architecture or EWTA) is about standards in technologies and tools. This is the first step any organization needs to take - Met started this in 1995.

Data Architecture (or Information Architecture) is about understanding the data within an organization and defining standards around naming, categorization and repositories. This, to some extent, is part of Enterprise Architecture as well.

Software Architecture - How to design, construct, and implement distributed or "n-tier" systems from a software point of view.

Deployment Architecture - This one is a favorite of the consulting firms (witness: Scient). This is about all of the hardware and software pieces and how they are assembled. Typically, this ends up being an over-abundant set of details about server configurations and network equipment.

Hardware Architecture - Actually, you won't see this one called Enterprise Architecture, but since I'm on a roll: This is about making computers (particularly chips).

Vendor (or Voodoo) Architecture - This is my favorite. Microsoft actually has a whole lot of information published about Enterprise Architecture which, in their definition, is all of Microsoft's products.
Objective of Enterprise Architecture Initiative

Architecture Bridges Strategy and Implementation

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What is Enterprise Architecture

A series of principles, guidelines, drawings, standards and rules that guide an organization through acquiring, building, modifying and interfacing IT resources in support of the business strategy.
Topics

• What Is Architecture?
• Why Do Architecture?
• How Do We Do It?
Why Architect?

“One of the most difficult challenges facing IT organizations today is ensuring alignment with business objectives of quality, flexibility, initial cost and time to market.” — GartnerGroup

The architecture-driven process is followed to ensure that what is produced and delivered conforms to and promotes the business vision in a correct, efficient and consistent manner.
An Improved Approach to ...

Control the proliferation of silo approaches and associated costs.

- I/T spending related to supporting and integrating systems into complex spaghetti legacy environments is increasing at a rate of 15%+ per year.
- Technology decisions being made on a one off basis during individual projects continue to expand the legacy base.
- Investment in an Architecture Blueprint, Migration Plan, and Governance Process can begin to arrest the rate of spending supported with operating and integrating with the legacy environment.
Enterprise Architecture is the common vision and framework that provides a foundation for strategic alignment of:

- Establishes a common language and view of the business
- A framework that supports the full range of business initiatives from business re-engineering through systems development
- Provides an external view of the insurance business that is technology and organizational independent
Some benefits of the architecture process

- Provides a common high-level abstraction that serves as the basis for communication and mutual understanding.
- Defines the earliest and most fundamental design decisions about the system.
- Provides a model for how the system is structured and how its components work together.
- Defines constraints on implementation.
- Dictates organizational structure.
- Makes it easier to reason about and manage change.
- Enables a system’s required quality attributes.
Some benefits of having an Enterprise Architecture

- Based on business drivers and the business information requirements.

- Enables more adaptive and responsive IT resource.

- Immerses IT decisions around a comprehensive picture of how technologies must work as a whole.

- Saves significant time for new application, data base and infrastructure projects.

- Prevents chaos amid rapid technology advancement.
Topics

- What Is Architecture?
- Why Do Architecture?
- How Do We Do It?
Enterprise Architecture Cycle
## Goals and Objectives for Enterprise Architecture

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<th>WHAT</th>
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<tr>
<td>Establish Business/IT alignment</td>
<td>Define Business Architecture with principles and drivers</td>
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<td>Establish IT Strategy based upon prioritized business drivers</td>
<td>Define IT Standards and prioritized Application Portfolio</td>
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<td>Enable IT to adapt to changing business needs</td>
<td>Define Component Architecture to enhance reusability of IT services</td>
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<td>Enhance the sharing of data across the enterprise</td>
<td>Define Data Architecture and manage data resources across IT</td>
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Goals and Objectives for Enterprise Architecture

**WHAT**

- Improve speed of developing and integrating new business solutions
- Reduce rate of growing IT costs
- Improve efficiency of application development process
- Enhance the effectiveness of IT organization

**HOW**

- Simplify technical environment and leverage reusable services
- Define a framework for decision making, budgeting and prioritizing IT investments
- Define architecture governance process to ensure compliance across IT development community
- Drive organizational changes and IT staff training initiatives
Enterprise Architecture Framework

Comment:
Framework option: 1
What is Enterprise Architecture

Enterprise architecture is defined by the business architecture and the I/T architecture and the relationship between them. The I/T architecture meets the business needs through the automated support of business processes.

Comment: Framework option: 2
MetaGroup Enterprise Architecture Process Model

Comment:
Arch Process option: 1
Architecture Planning Process

Comment:
Arch Process option: 2

Business Vision

External Forces

Baseline

Gap Analysis

Short Term Opportunities

Long Term Initiatives

Future State (Desired)

Investment Strategy

Strategy

Structure
Architecture Planning Project Overview

**Phase 0: Project Startup**
- Identify, Define & Communicate
  - Project Goals
  - Project Scope
  - Stakeholders
  - Project Deliverables
  - Resources
  - Project Approach
  - Project Plan

**Phase 1: Discovery**
- Business Context
  - Opportunities, Threats
  - Vision, Goals, Objectives
  - KPIs, CSFs, Barriers
  - Strategies
- Business Architecture
  - Process, Information, Organization
- IT Architecture
  - Current State IT Architecture
  - Applications, Data, Technical

**Phase 2: Develop Recommendations**
- Business Context
- High-Level System Vision
  - Architecture Guiding Principles
  - System Strategy
  - Future State Architecture
- Recommendations
  - Short-Term (2003) Opportunities
  - Long-Term (2004) Initiatives
  - Prioritization

**Phase 4: Implementation Plans**
- Develop Implementation Plans
  - For Selected Initiatives & Opportunities

**Comment:** Arch Process option: 3
Application Portfolio Management

Figure 1 — Pragmatic Portfolio Process

IT Asset Evaluation

- Excellent
  - Re-Evaluate/Reposition
  - Maintain/Evolve
- Technical Condition
- Poor
  - Phase Out/Replace
  - Develop Infrastructure

IT Investment Evaluation

- High
  - Disregard
  - Consider
- Risk
- Low
  - Consider
  - Perform

Source: META Group