# IT441-Enterprise Architecture
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# Introduction and Overview of EA

# Enterprise?

- The term enterprise is used because it is generally applicable in many circumstances, including:
1. Public or private sector organizations
2. An entire business or corporation
3. A part of a larger enterprise (such as a business unit)
4. A conglomerate of several organizations, such as a joint venture or partnership
5. A multiply outsourced business operation
6. Many collaborating public and/or private organizations in multiple countries

# An Enterprise

- **Enterprise – An organization or sub-activity whose boundary is defined by commonly held goals, processes, and resources.**

- **This includes whole organizations in the public, private, or non-profit sectors, part(s) of an organization such as business units, programs, and systems, or part(s) of multiple organizations such as consortia and supply chains.**

# Examples in Egypt

- Telecom: Mobinil, Etisalat, vodafone, TEDATA
- Technology: Microsoft Egypt, IBM Egypt
- Oil & Gas: Enppi
- Hypermarket: Carefour
- Travel: EgyptAir
- Retail: Cook Door, GAD

# Architecture

A <span style="color:red">systematic</span> approach that <u>organizes</u> and <u>guides</u>:

1. analysis,

2. design,

3. planning,

4. and documentation activities.

# Enterprise Architecture

- enterprise architecture, the practice that tries to describe and control an organization's structure, processes, applications, systems, and technology in such an integrated way.

- we focus on methods and techniques for making and using integrated descriptions by means of architecture models, visualization of these models for various stakeholders, and analysis of the impact of changes.

# Enterprise Architecture

- The analysis and ==documentation of an enterprise in== ==its== ==current== and ==future== states from an integrated ==strategy==, ==business==, and ==technology== perspective.


**EA = S + B + T**

***Enterprise Architecture =****Strategy + Business + Technology*

# Strategy
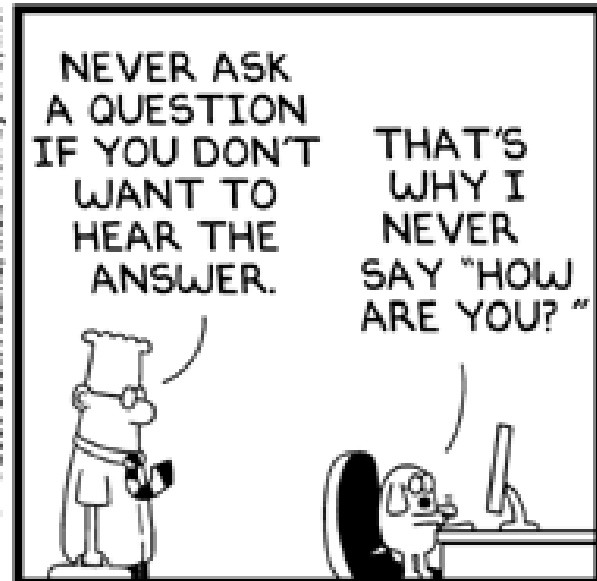
# Strategy

- **Strategy** a coordinated set of actions to fulfill objectives, purposes, and goals. The essence of a strategy is setting limits on what the business will seek to accomplish.

- Strategy starts with a **mission** (for what purpose does the enterprise generally exist)

- **Vision** (what kind of organizations does the enterprise generally intend to be)

- **Strategic goals**, **ongoing or new programs** and **outcome measures**.

Left side:

IT Systems

Video Network

Strategic Initiative 1

Process 1

Data Network

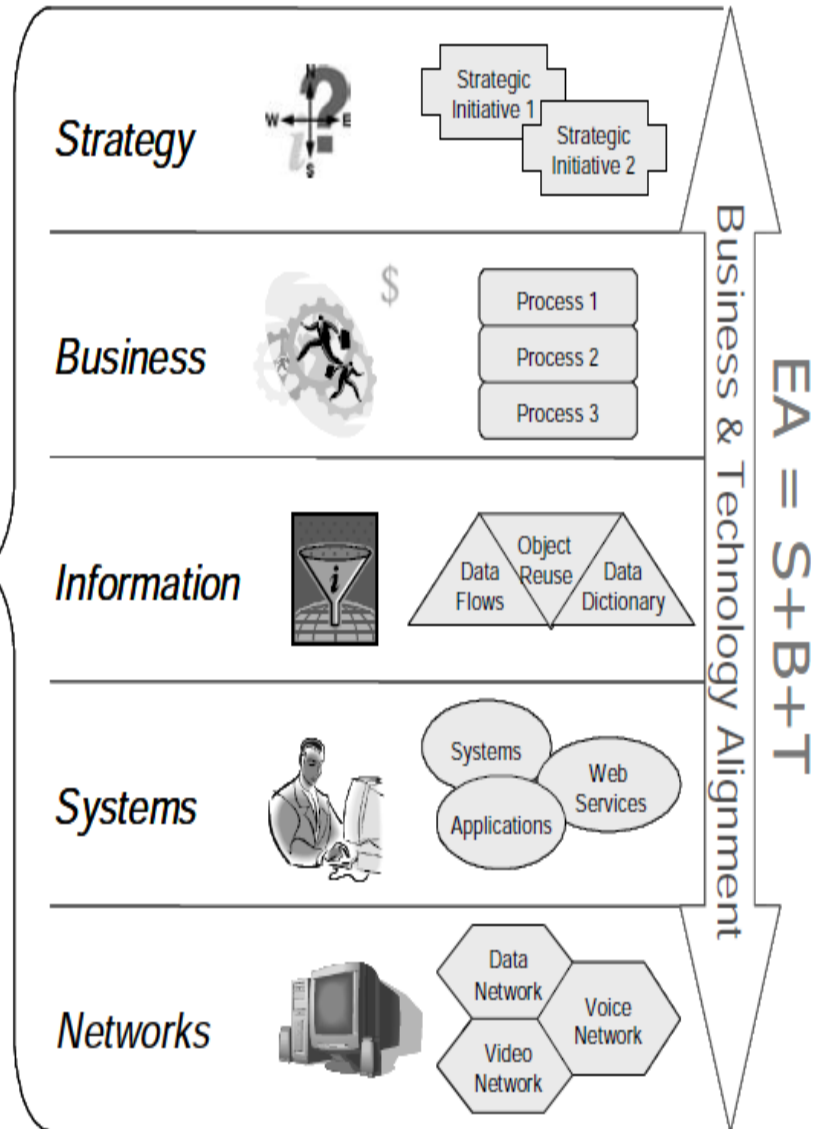Data Dictionary

Process 2

Web Services

Applications

Strategic Initiative 2

Voice Network

Data Flows

Object Reuse
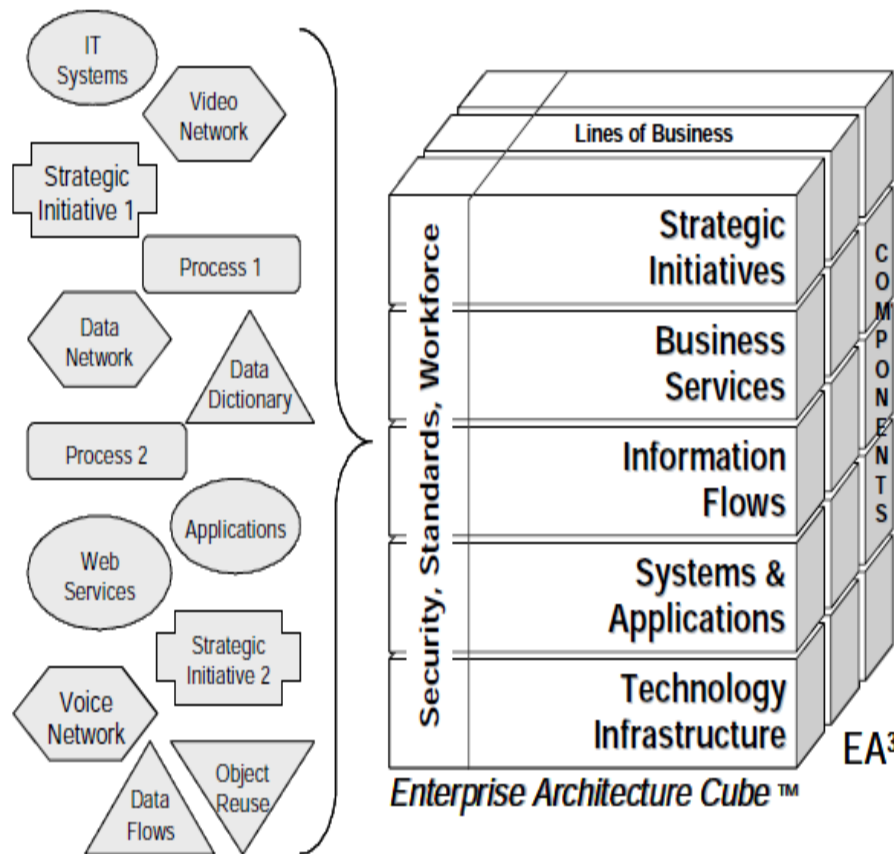
*Non-integrated processes and systems in different parts of the enterprise*

Center — Enterprise Architecture Cube ™ (EA³):

Lines of Business

Security, Standards, Workforce

COMPONENTS

**Strategic Initiatives**

**Business Services**

**Information Flows**

**Systems & Applications**

**Technology Infrastructure**

*Enterprise Architecture Cube ™*    EA³

Enterprise Architecture →

Right side:

Business & Technology Alignment

$EA = S + B + T$

*Strategy*

Strategic Initiative 1
Strategic Initiative 2

*Business*

Process 1
Process 2
Process 3

*Information*

Data Flows
Object Reuse
Data Dictionary

*Systems*

Systems
Web Services
Applications

*Networks*

Data Network
Voice Network
Video Network

*Integrated processes and systems across the entire enterprise*

Lines of Business

Security / Standards / Workforce

Technology – Business – Strategy

Goals & Initiatives

Products & Services

Data & Information

Systems & Applications

Networks & Infrastructure

COMPONENTS

**Design**
Leadership & facilitation

EA

**Assessment**
Any investment or Whole enterprise
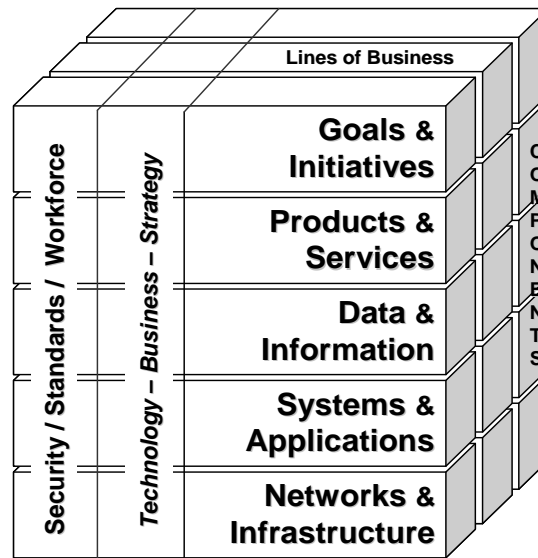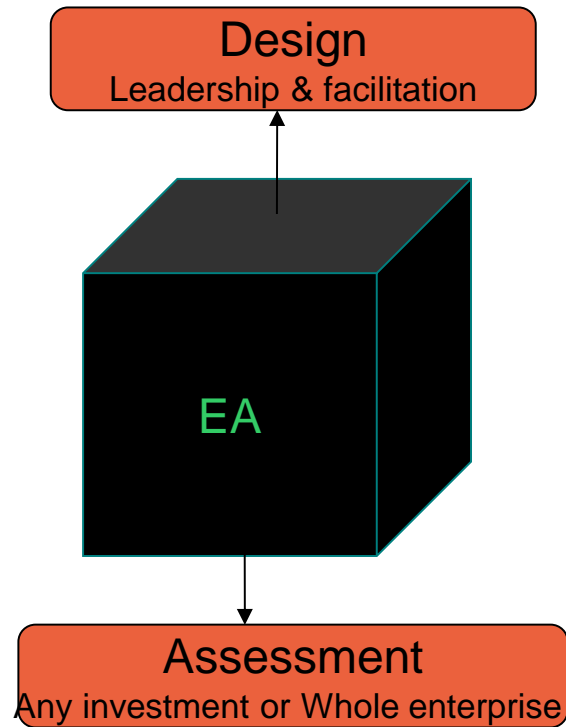
# Observers – Stakeholders – Partners

**Coherent View**

## Continuous Coherency Improvement

### DESIGN
Leadership/Facilitation

**ENTERPRISE ARCHITECTURE**

Structures
Patterns
Frameworks
Designs

**Improve Designs & Descriptions**

**Improve Functioning Enterprise**

### ADVICE
New Rules
Methods, Models
Designs

### ASSESSMENT
Any Investment or Whole Enterprise

### ADVICE
Gaps / Overlaps
*From Strategy to Operations*

## DESIGNERS-DESCRIBERS

**Planners
Policy Writers
Operations:
HR, FM, TM, IM**

## Enterprise Description
Designs (Business & Tech)
Plans (Project, Annual…)
Reports, Org Charts, Job
Descriptions, Précis,
Process Maps
etc

## DECIDERS

**Owners
Executives
Managers
Staff**

### Resources
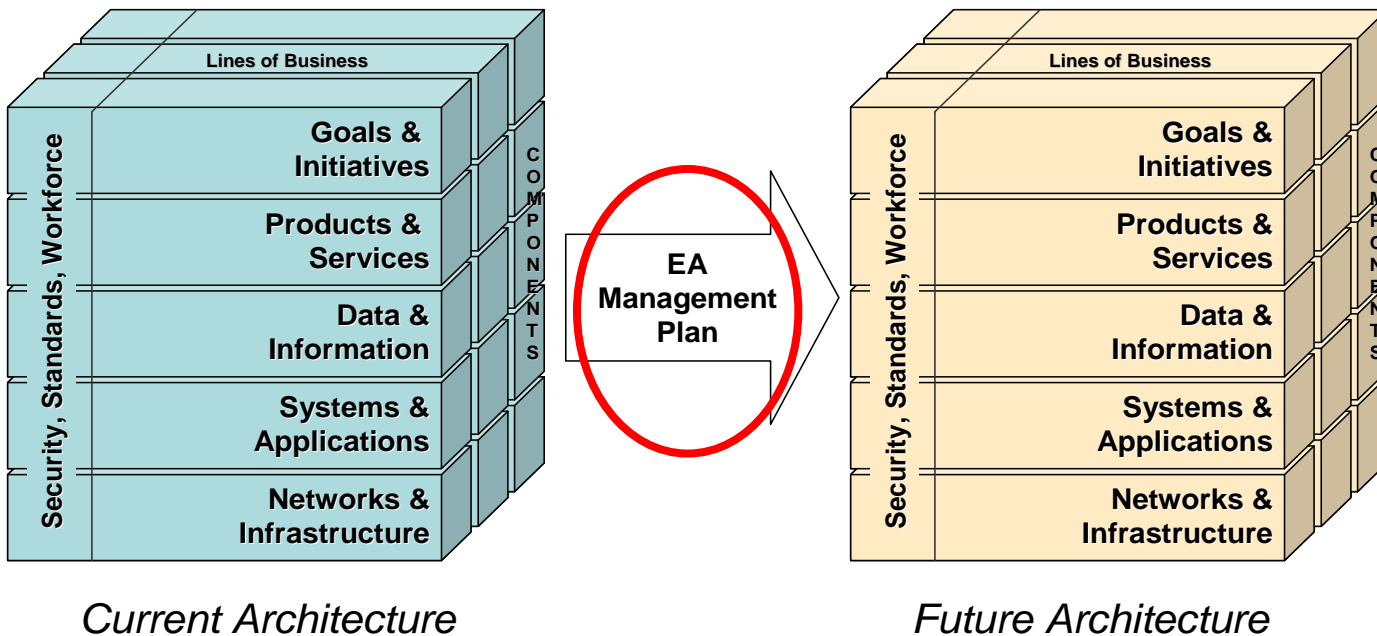People, Money, Information,
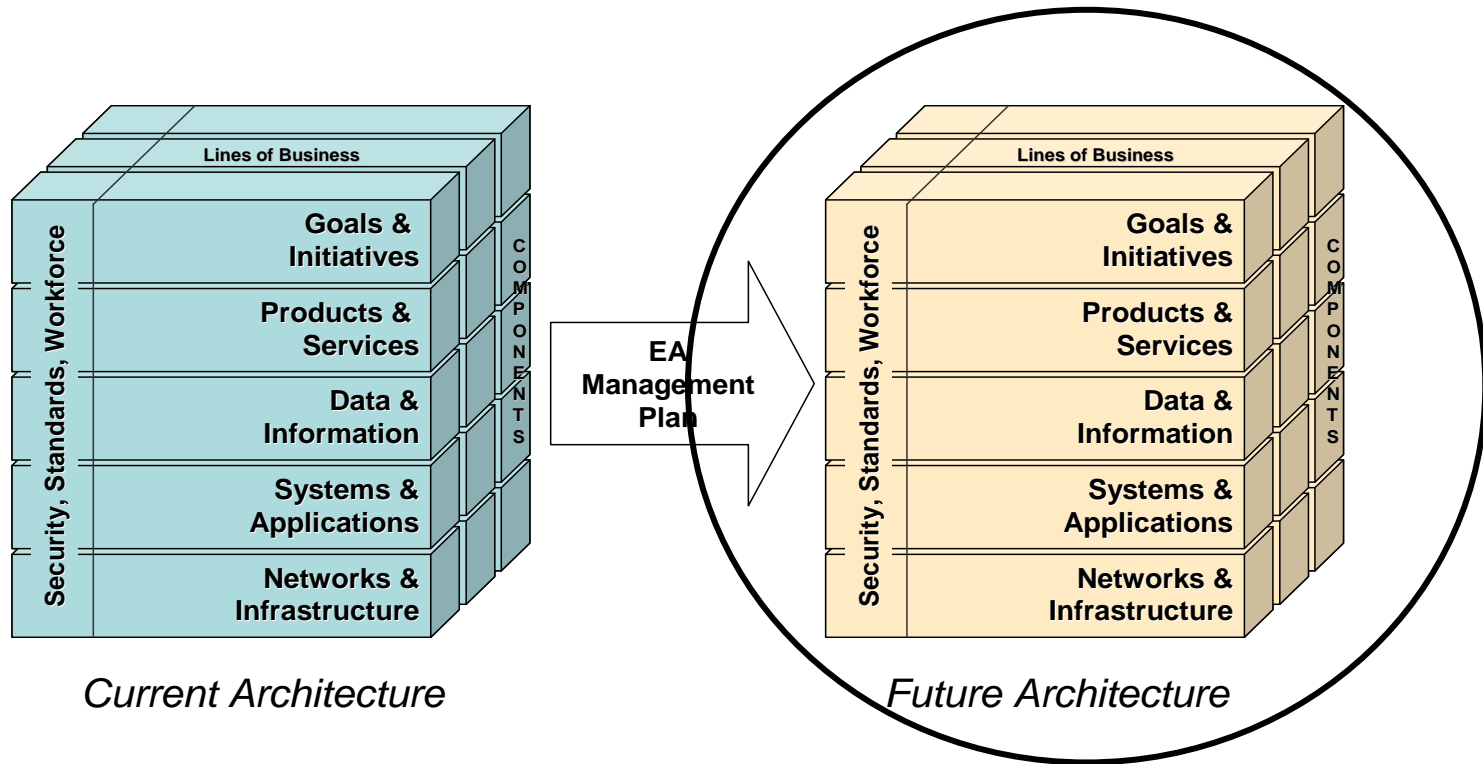Technology, Property, Assets…

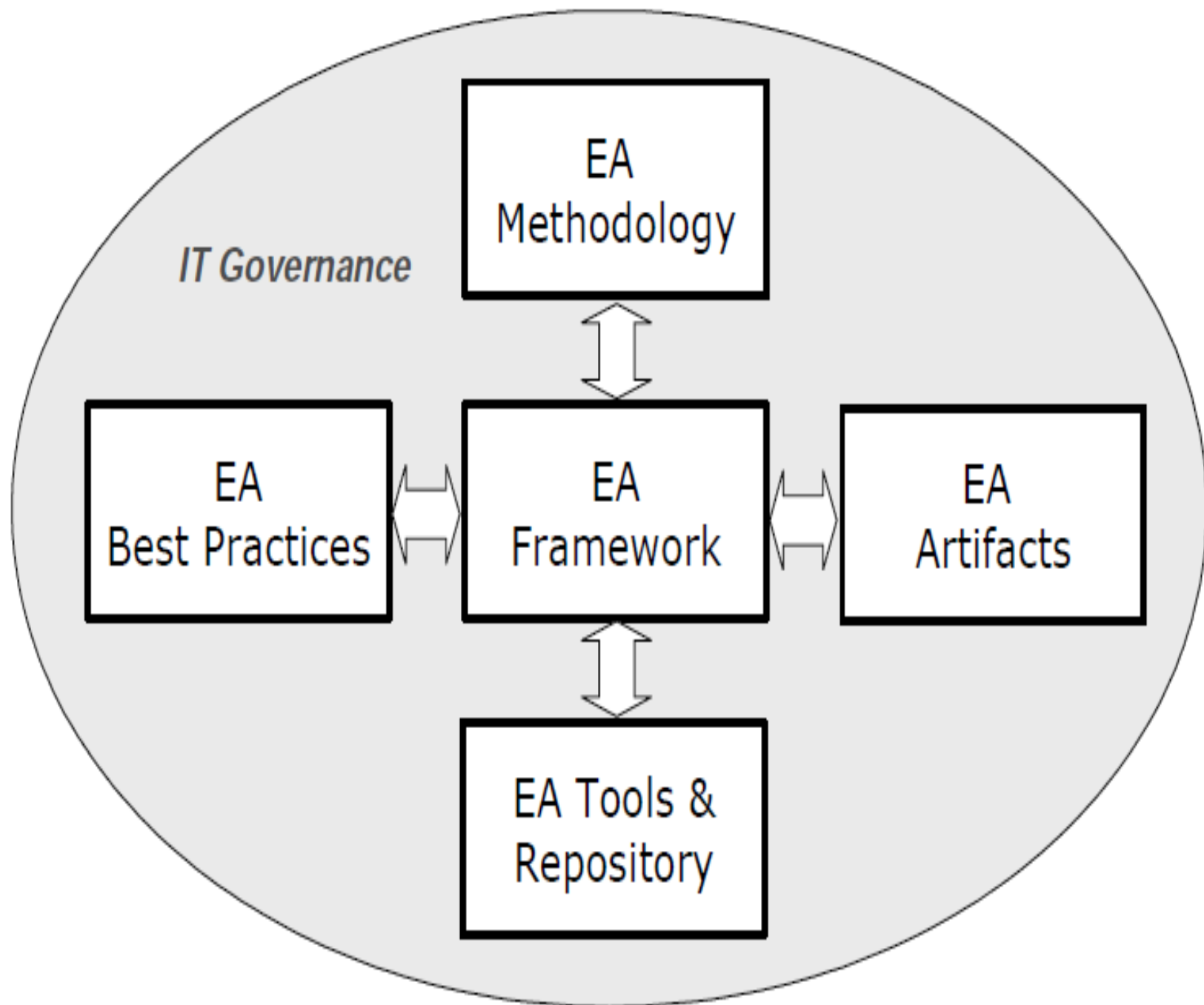# Operational Enterprise

# EA Transition Planning

- An enterprise architecture is in <mark>continual transition as implementation and upgrade projects are completed</mark>.

- Needs coordination, prioritization, and oversight. "We need a plan".



*Current Architecture*                    *Future Architecture*

# Forward-Looking Architecture

- One of the purposes of an EA program is to develop future views of the architecture



Current Architecture

Future Architecture

IT Governance

EA Methodology

EA Best Practices

EA Framework

EA Artifacts

EA Tools & Repository

- EA is both a ==management program== and an ==analysis and design== method
- As a <u>management program</u>, EA provides:

## Resource Alignment:

- Resource planning and standards determination

## Standardized Policy:
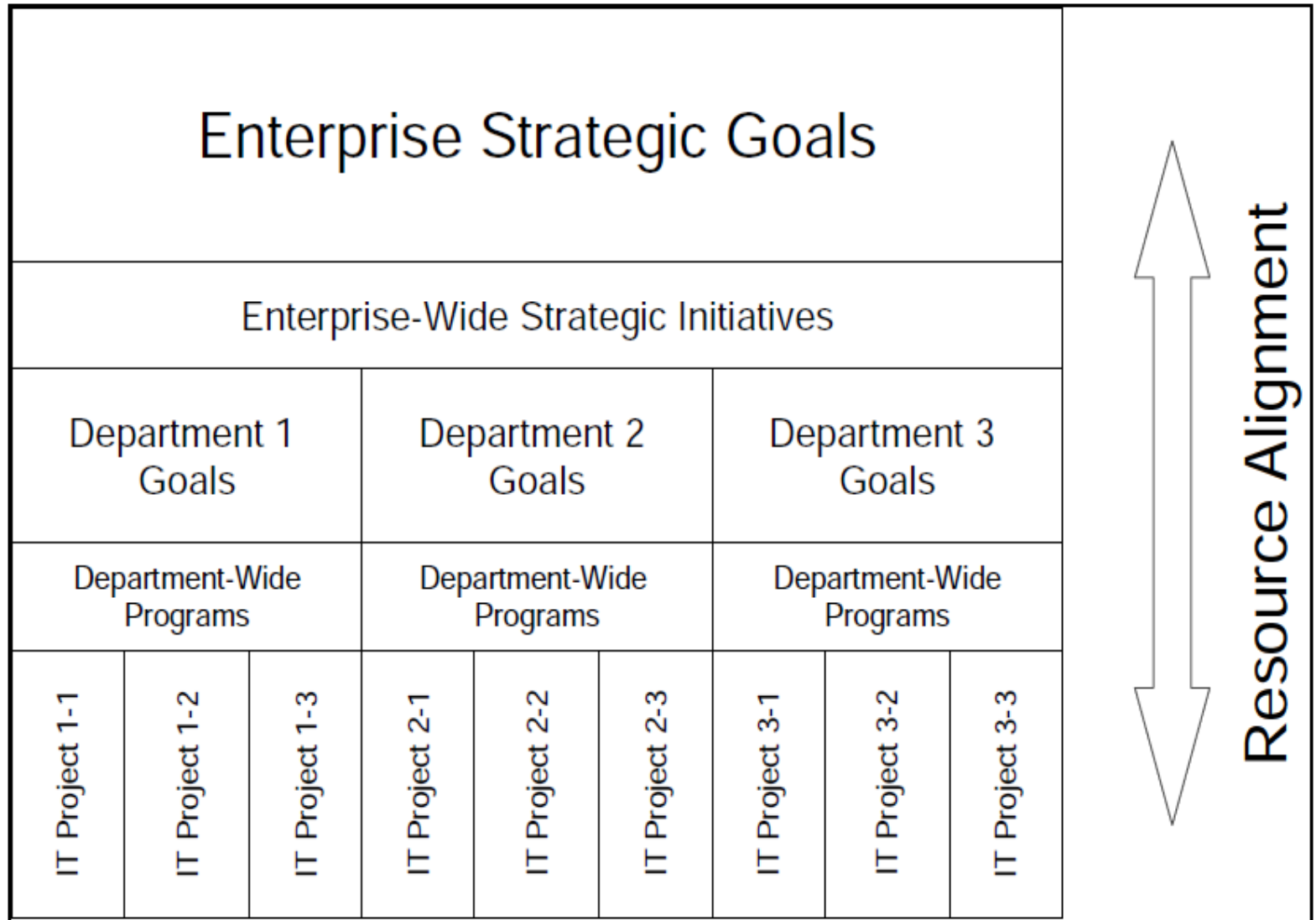
- Resource governance and implementation

## Decision Support:

- Financial control and configuration management

## Resource Oversight:

- Lifecycle approach to development/management

# Resource Alignment

| Enterprise Strategic Goals | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Enterprise-Wide Strategic Initiatives | | | | | | | | |
| Department 1 Goals | | | Department 2 Goals | | | Department 3 Goals | | |
| Department-Wide Programs | | | Department-Wide Programs | | | Department-Wide Programs | | |
| IT Project 1-1 | IT Project 1-2 | IT Project 1-3 | IT Project 2-1 | IT Project 2-2 | IT Project 2-3 | IT Project 3-1 | IT Project 3-2 | IT Project 3-3 |

Resource Alignment

As an <u>analysis and design method</u>, EA provides:

- EA Approach:

  ==A modeling framework and implementation methodology==

- ==Current== Views:

  Views of ==as-is== strategies, processes, and resources

- ==Future== Views:

  Views of ==to-be== strategies, processes, and resources
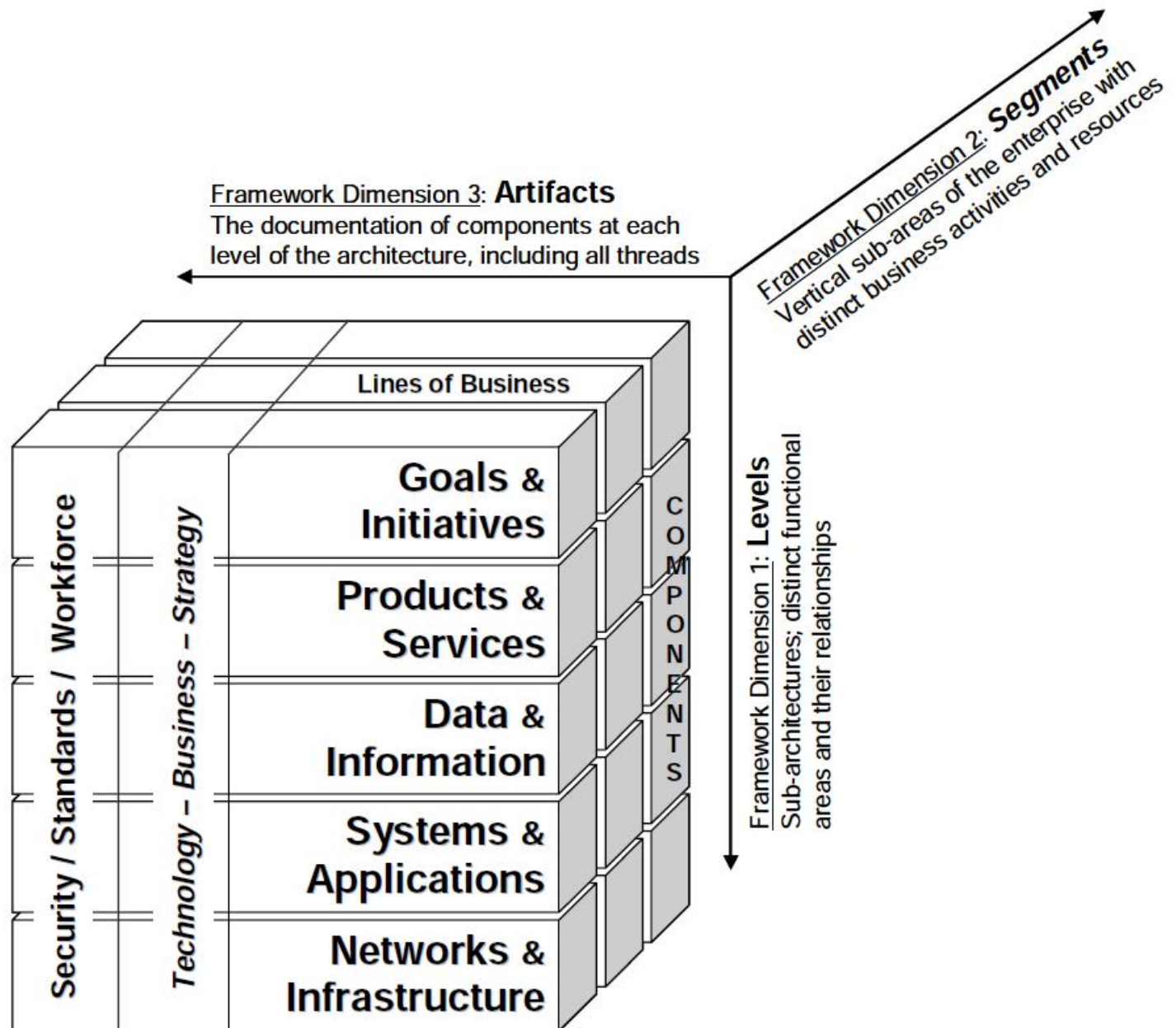
- EA Management Plan:

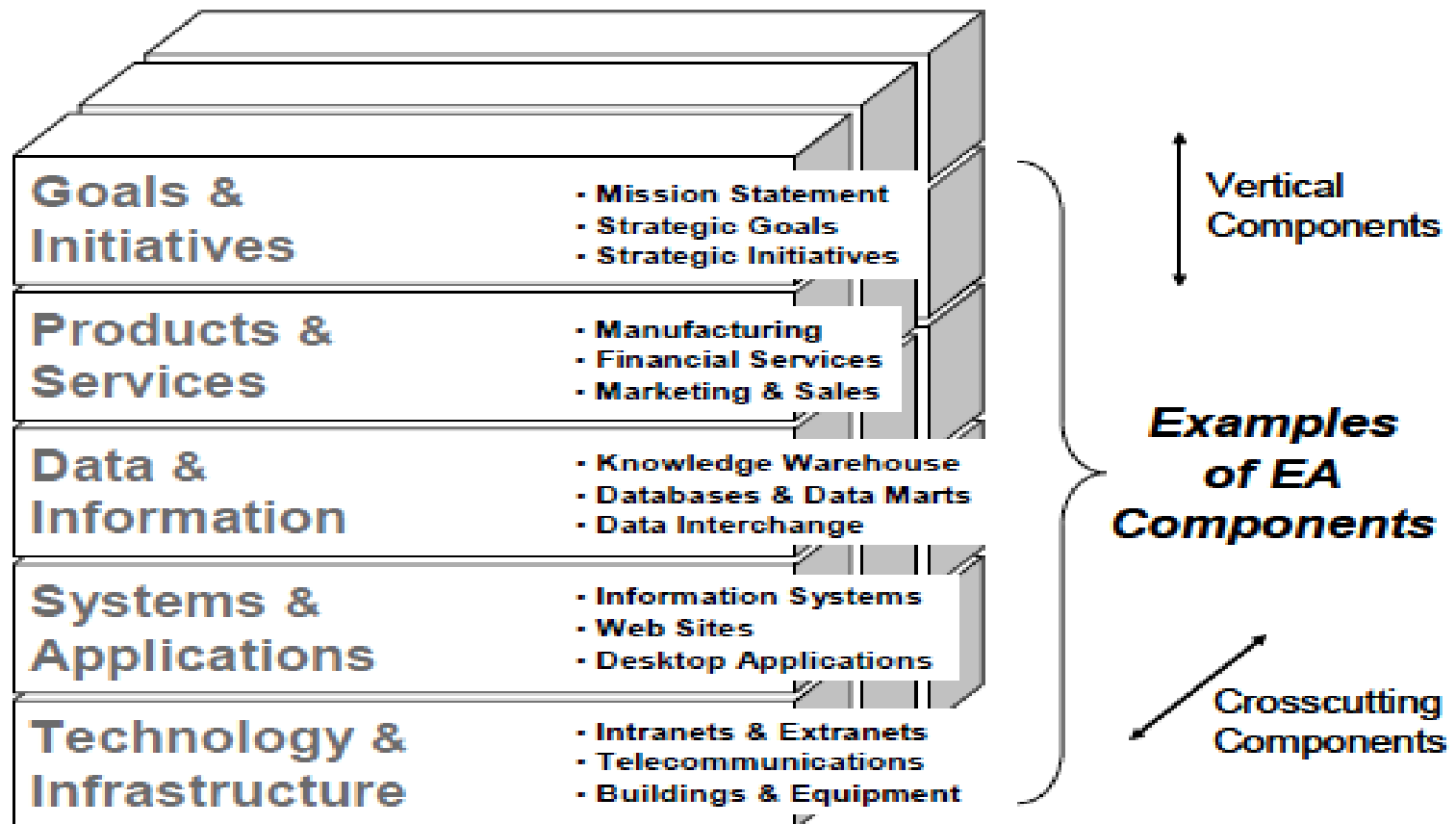  A plan ==to move from the current to the future EA==

# EA as an <u>analysis and design method</u>,

1. EA Analysis and Design Element #1: The Framework,

2. EA Analysis and Design Element #2: EA Components,

3. EA Analysis and Design Element #3: Current Architecture,

4. EA Analysis and Design Element #4: Future Architecture,

5. EA Analysis and Design Element #5: EA Management Plan,

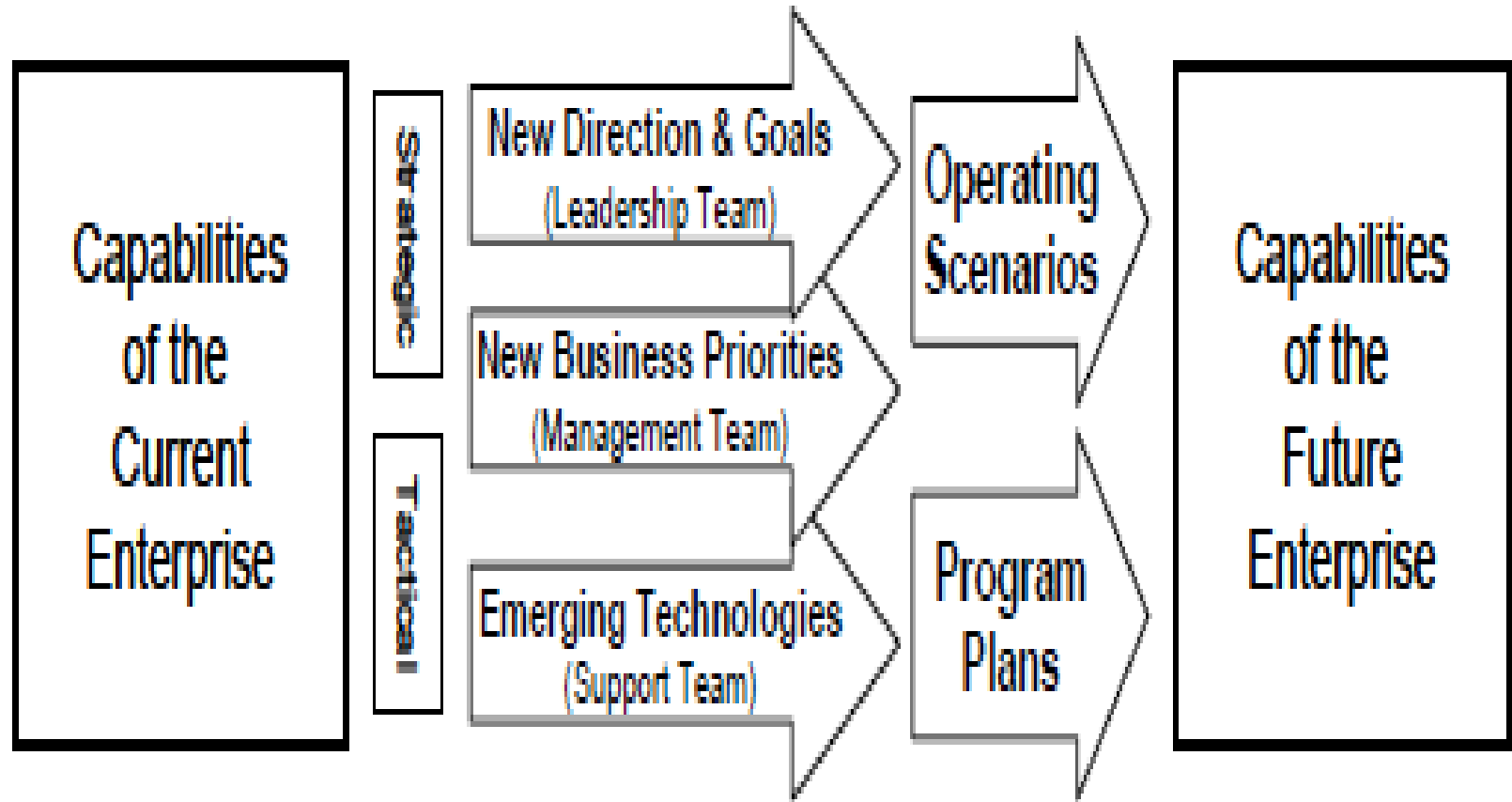6. EA Analysis and Design Element #6: Threads.

# The EA³ "Cube" Framework



**Framework Dimension 3: Artifacts**
The documentation of components at each level of the architecture, including all threads

**Framework Dimension 2: Segments**
Vertical sub-areas of the enterprise with distinct business activities and resources

**Framework Dimension 1: Levels**
Sub-architectures; distinct functional areas and their relationships

Lines of Business

Security / Standards / Workforce

Technology – Business – Strategy

**Goals & Initiatives**

**Products & Services**

**Data & Information**

**Systems & Applications**

**Networks & Infrastructure**

COMPONENTS

# EA Components

# Future Architecture



Capabilities of the Current Enterprise

Strategic

Tactical

New Direction & Goals (Leadership Team)

New Business Priorities (Management Team)

Emerging Technologies (Support Team)

Operating Scenarios

Program Plans

Capabilities of the Future Enterprise

# Threads

EA documentation includes 'threads' of common activity that are present in all levels of the framework.
These threads include:
- IT-related security,
- standards,
- and workforce considerations.

# Enterprise Repository