



# *Enterprise IT Architectures*

## Enterprise Architecture (EA) – Level Set





## Agenda

- I. Positioning Enterprise Architecture (EA)**
- II. Enterprise Architecture – Methodologies**
- III. Enterprise Architecture – Architectures**



## **Positioning Enterprise Architecture (EA)**



## Enterprise Architecture

Doing the right things right



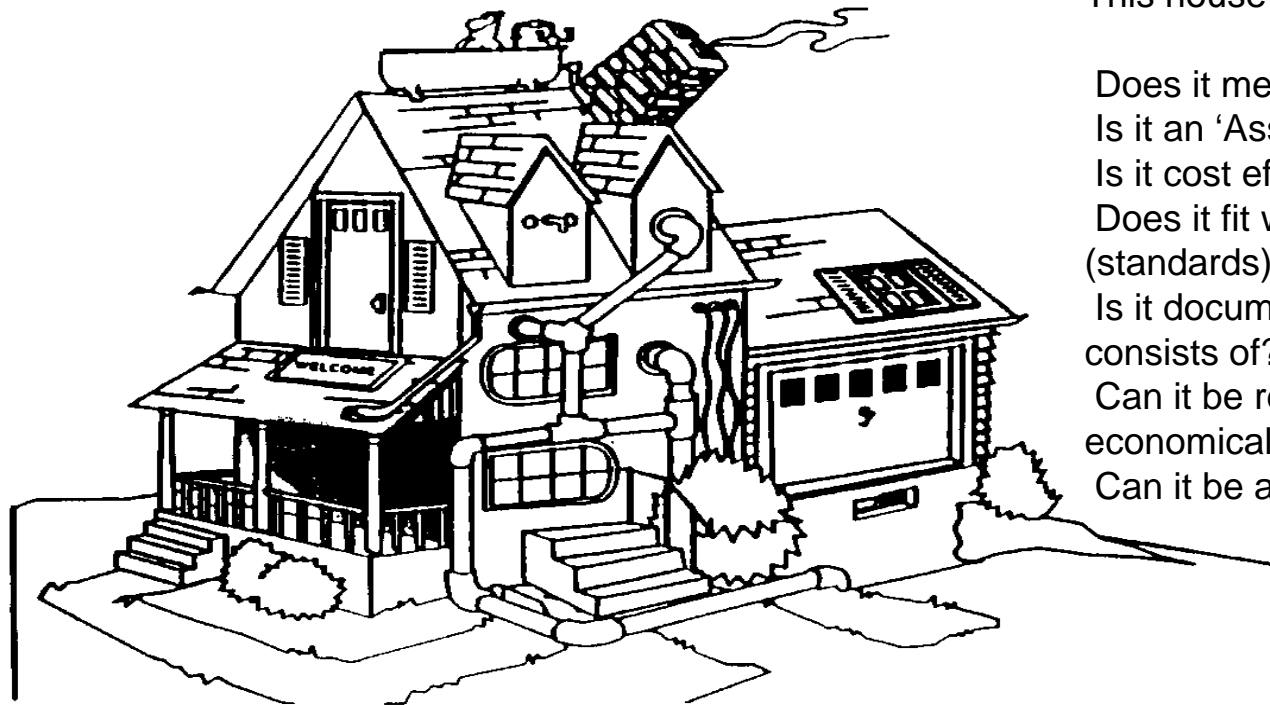
## Why EA – “Enterprise Architecture”

- ***EA is helping enterprises do the right things right***
- **EA is a holistic approach to the control and co-ordination of IT based business projects**
- **Enterprise Architects with a sense of what the enterprise needs to be and do, and how IT should be used in a wider sense**
- **Avoiding results like:**



## Winchester House Syndrome

Yesterday's management approaches are not working in today's complex and fast-paced environment.



This house may function, but...

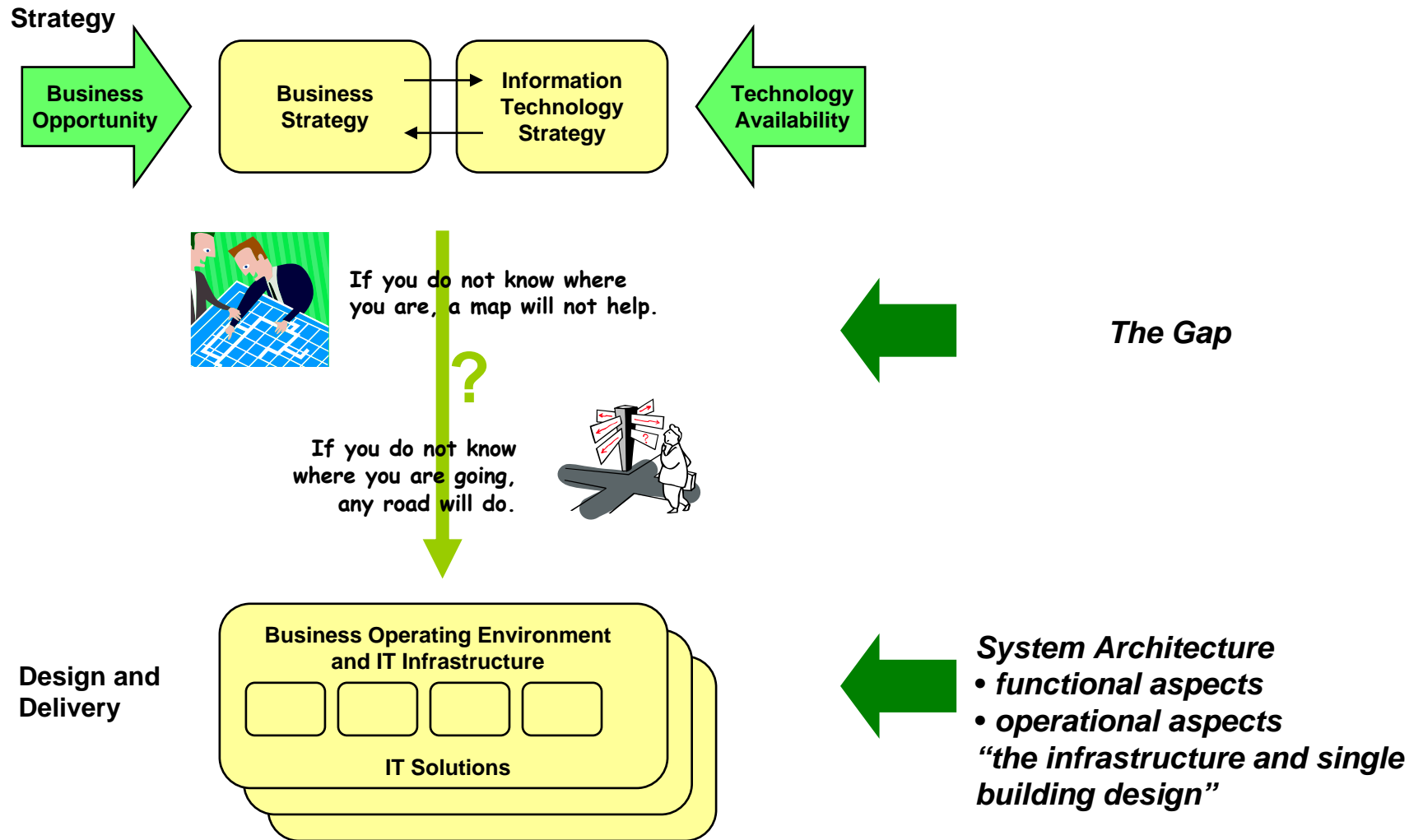
- Does it meet business objectives?
- Is it an 'Asset Junkyard'?
- Is it cost effective?
- Does it fit with the community (standards)?
- Is it documented - who knows what it consists of?
- Can it be repaired easily or economically?
- Can it be adapted to changing needs?

**'If you don't know where you're going, any road will get you there.'**

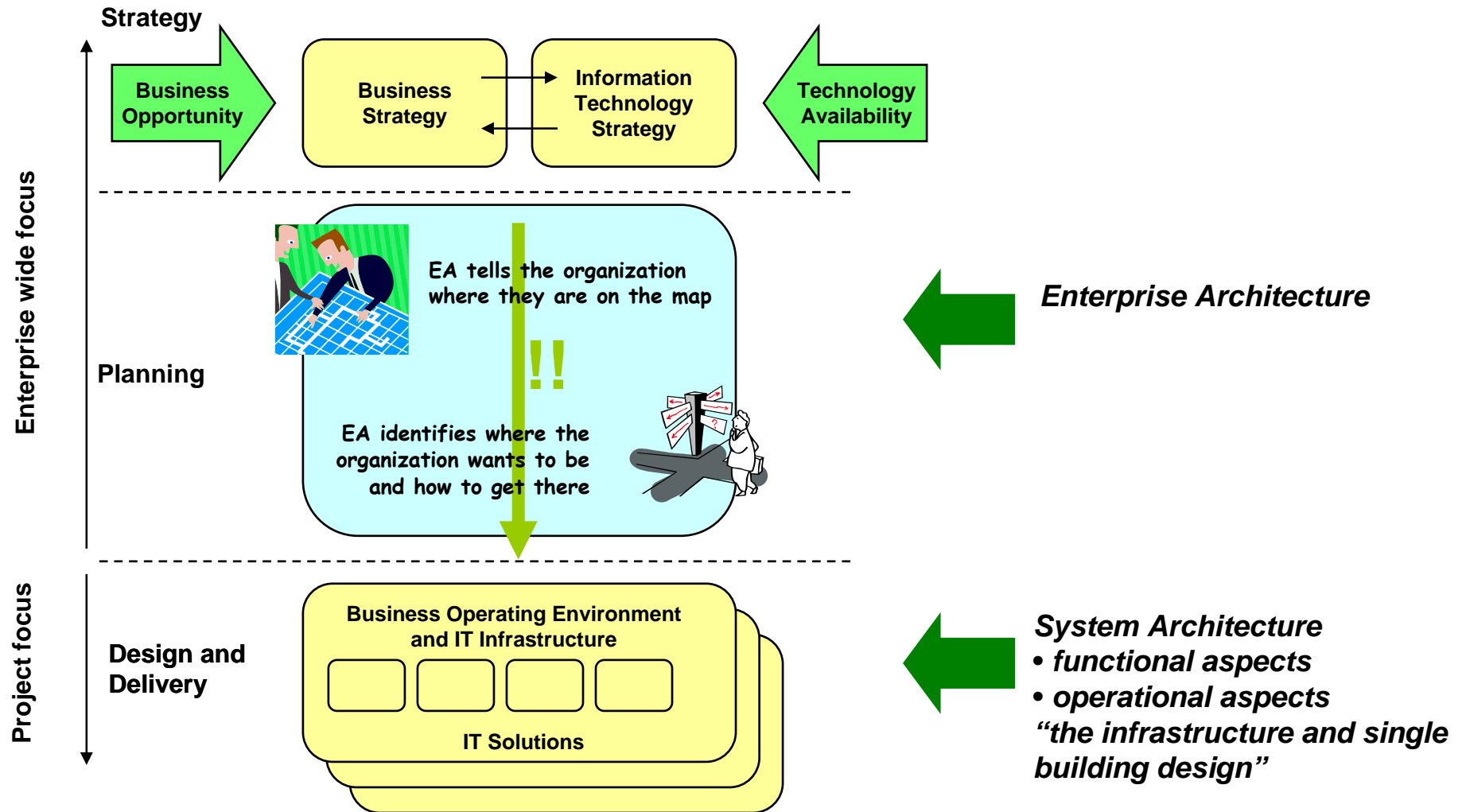
**Lewis Carroll**



# It can be a challenge to ensure IT based business solutions implement the business strategy...

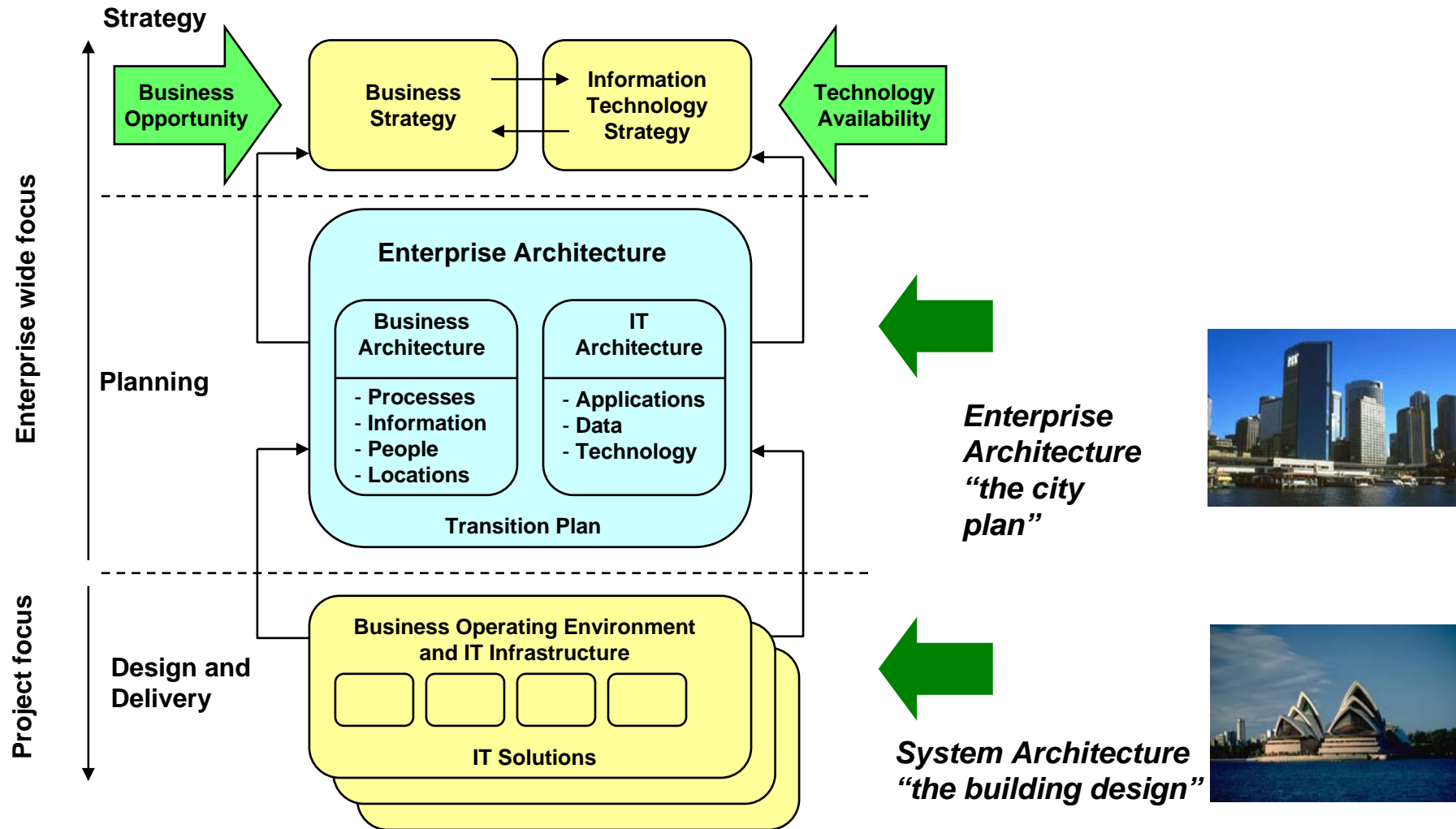


# Enterprise Architecture provides the vital linkages between “strategy” and “implementation”

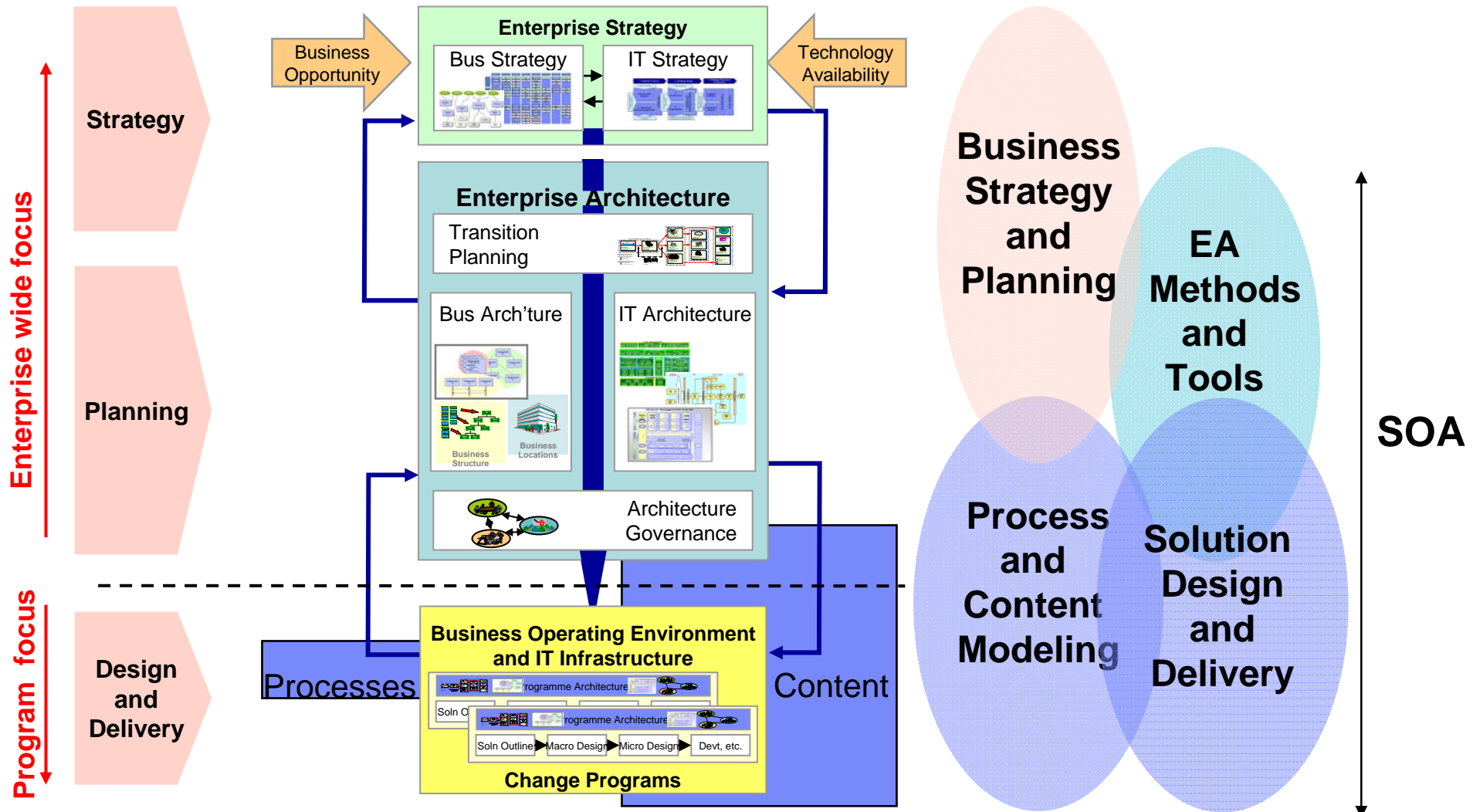




# Enterprise Architecture embraces both Business and IT Architectures, providing the “city plan” for “building projects”

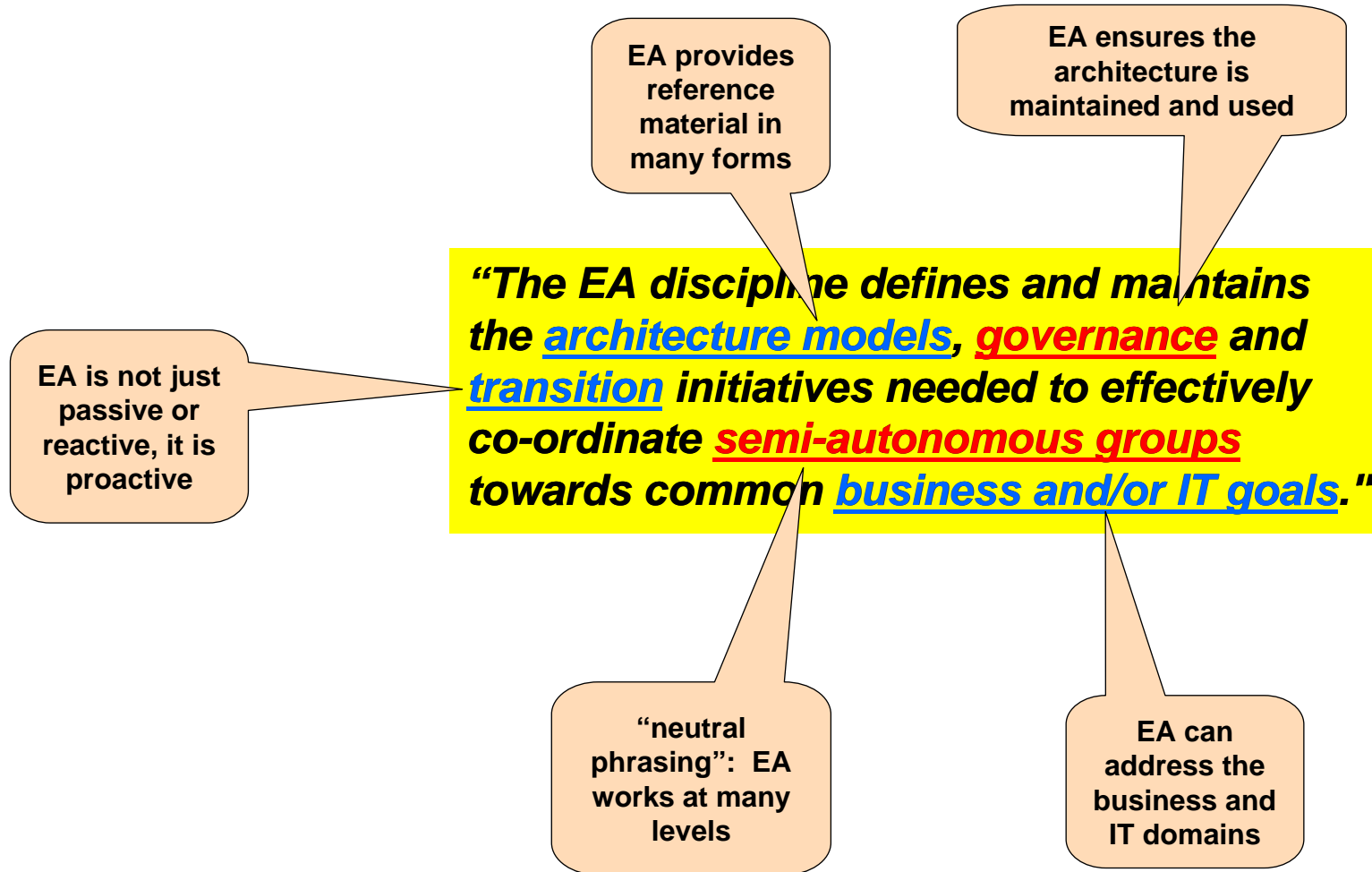


# Bridging the Gap Between Strategy and Delivery

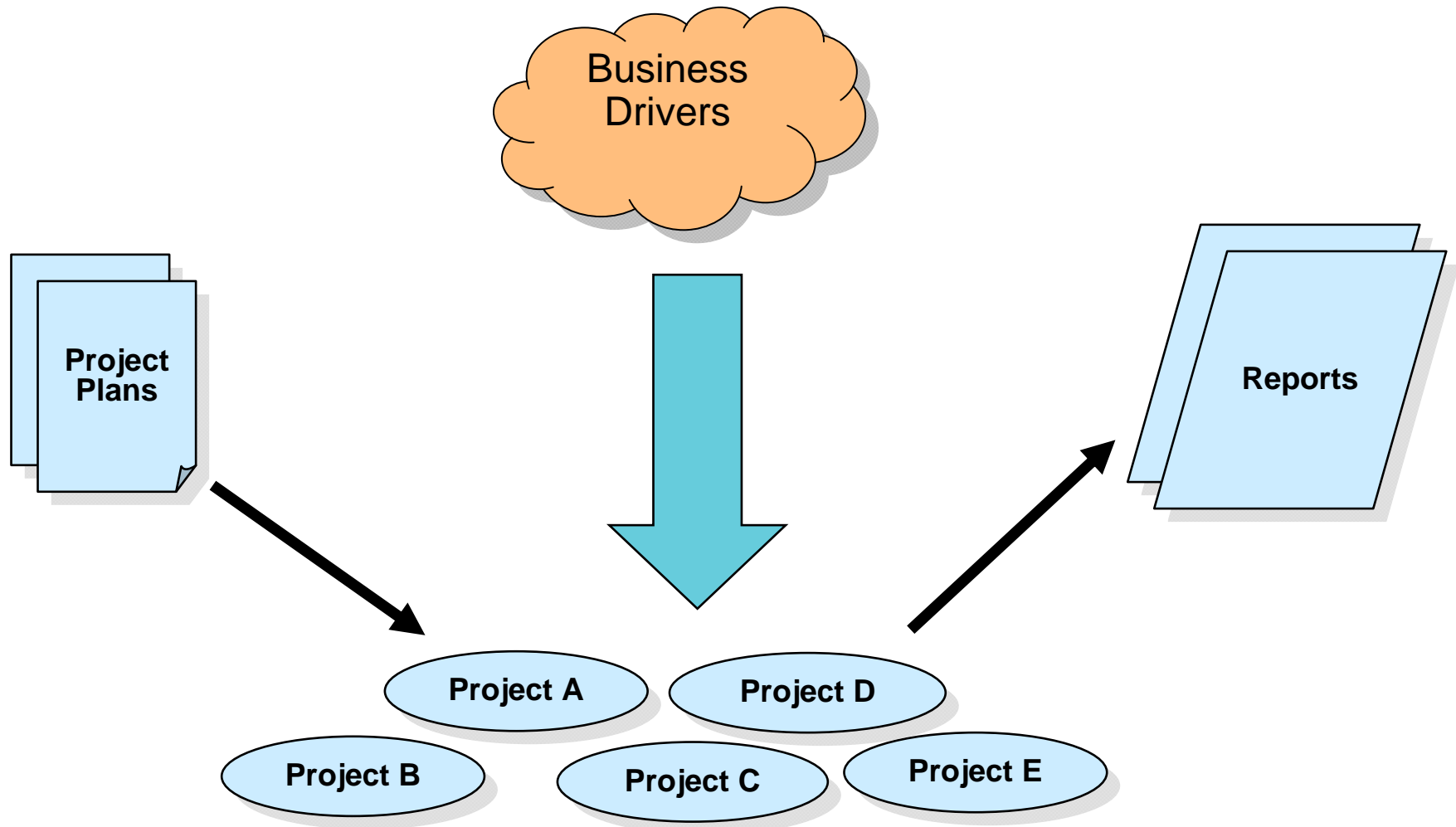




# Enterprise Architecture: defines the building blocks needed to underpin the portfolio of programs

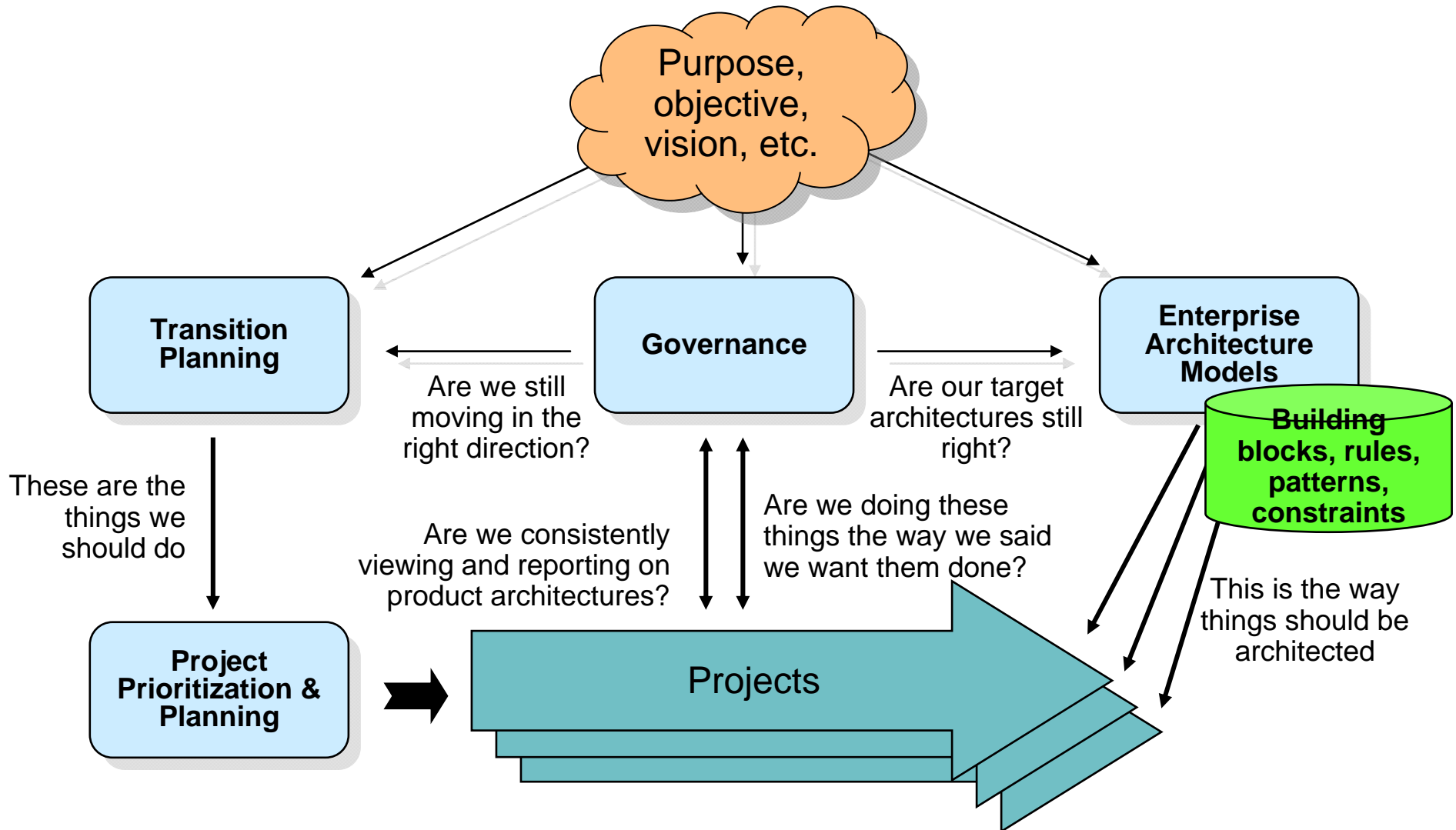


# Current Enterprise Planning and Control



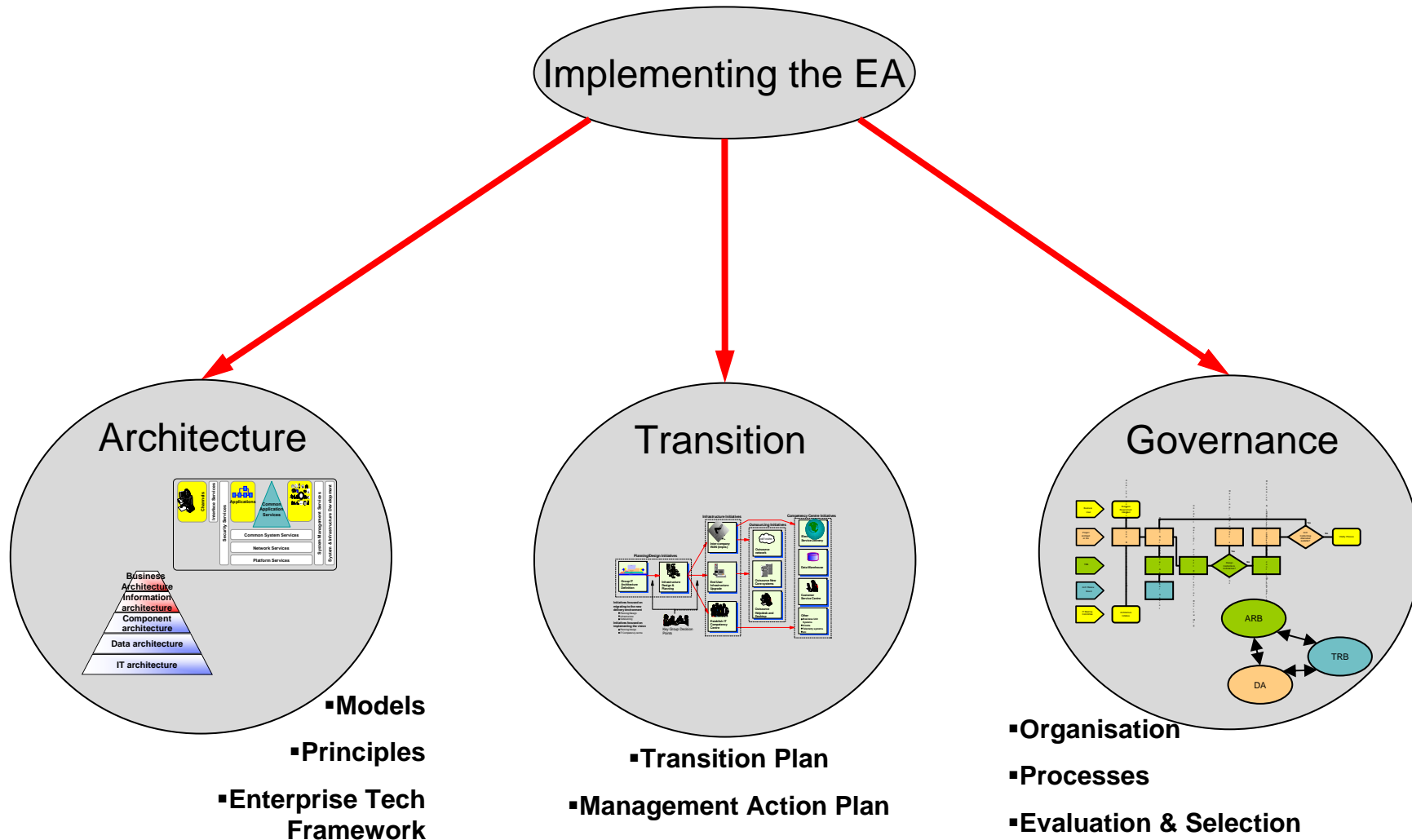


# Enterprise Architecture Solution Overview



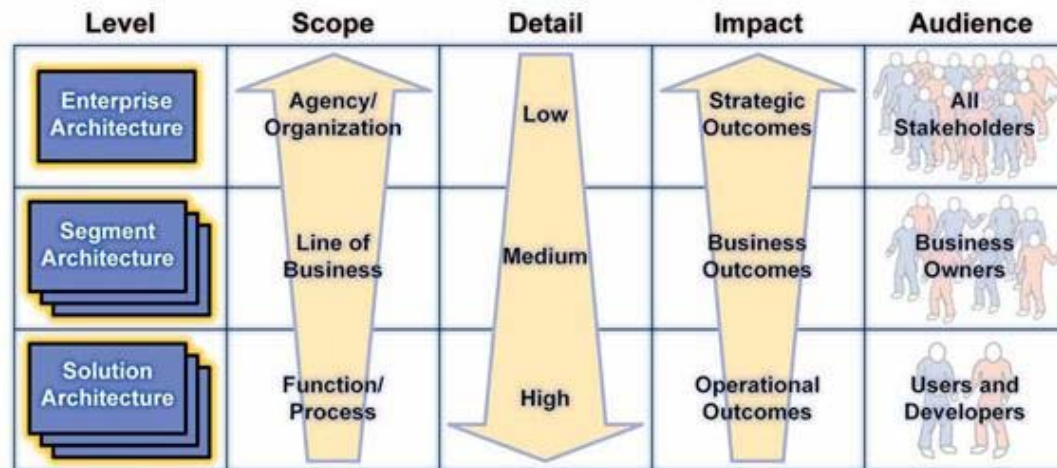


# Therefore there are three aspects to implementing an Enterprise Architecture



## Enterprise Architecture vs. Solution Architecture

**Enterprise Architecture is the formal organization (design or layout) of the components, structures and processes required or relevant to the attainment of the goals and visions invested or envisioned in an enterprise.**



From US OMB 2006 FEA Practice Guidance

**Solution architecture aims to address specific problems and requirements, usually through the design of specific information systems or applications.**



## So we recognise two different types of IT Architect...

- ...Are responsible for ensuring the design of IT based business solutions meet the functional and non-functional requirements, within the constraints of budget, time, skills and other givens (such as IT Standards)

**“Solution Architects”**

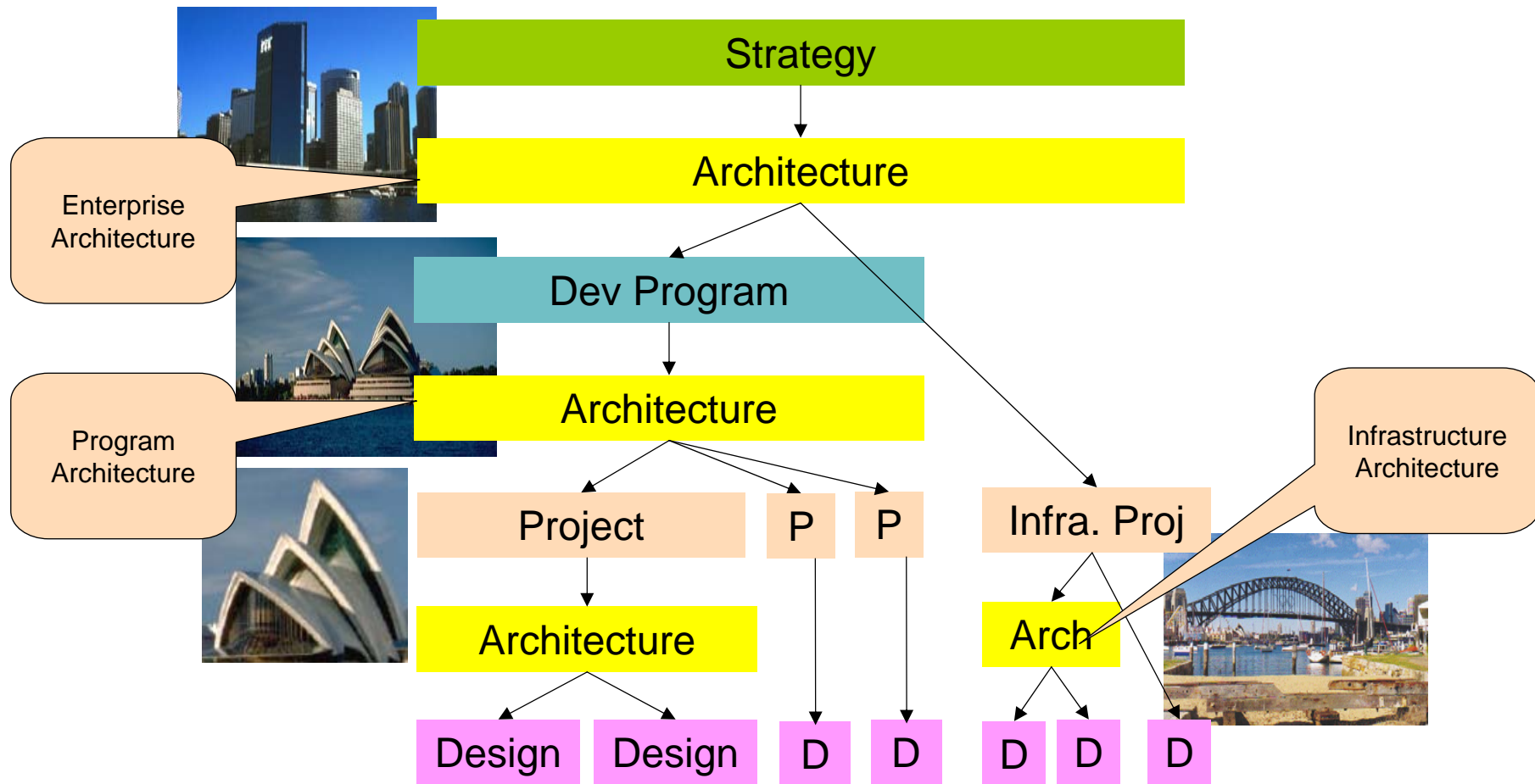
- ...Are responsible for ensuring an IT Organisation approaches the identification, specification and implementation of these IT based business solutions in a co-ordinated and standardised manner, aligned to the Enterprise’s Business and IT Strategies.

**“Enterprise Architects”**

- ...Are generally *not* product specialists, although they must be able to work at a sufficient level of technological detail to be sure their architectures can be implemented.



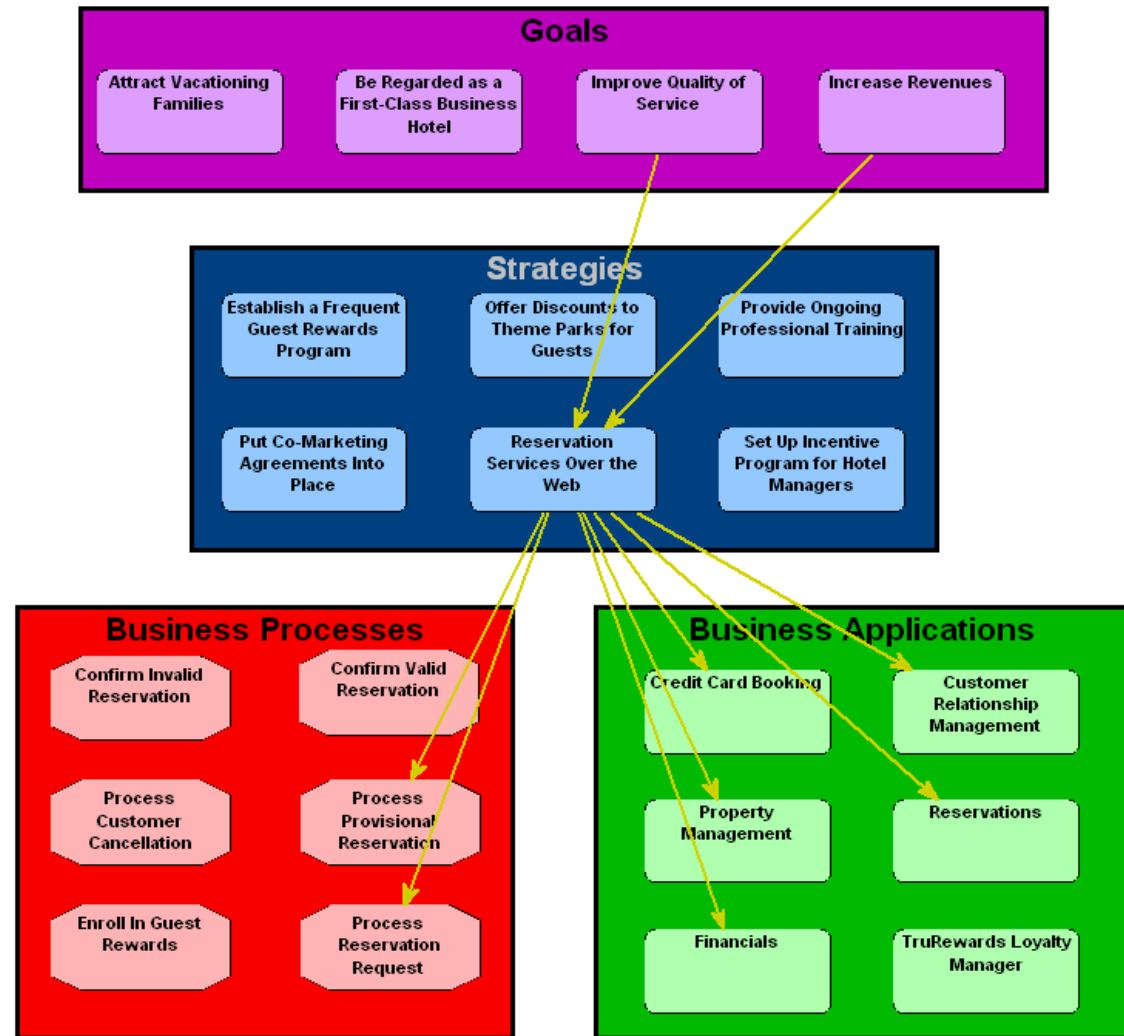
# EA provides a context and guidance, keeping everyone “on the same road”



# Benefits (1): Analyze the Linkage Between Technology and Business, Communicate Actionable Information

*“How have we aligned technology investment with our business objectives?”*

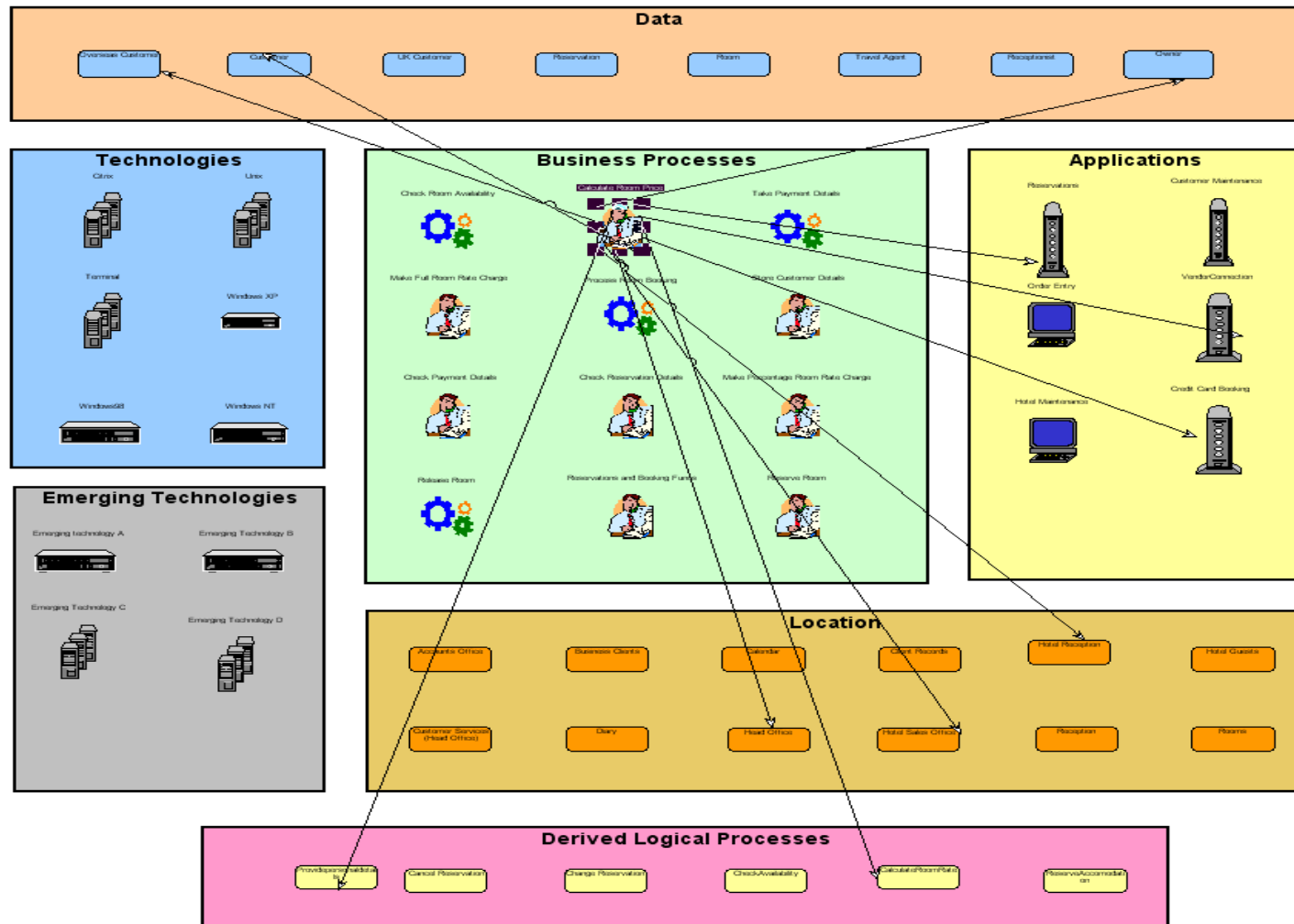
*“If we change our technology stack, what applications and organizations will be effected?”*



# Benefits (2): Analyze Change to Processes...

What Happens If....?

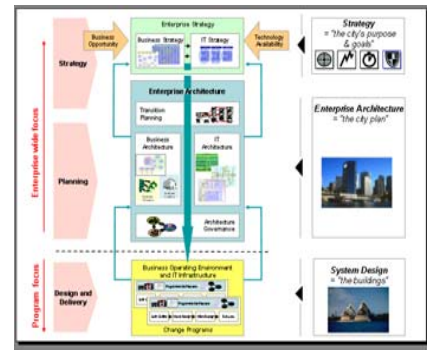
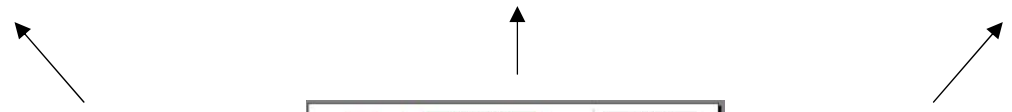
Focus on Information needed to make a decision





# And only when we can ensure it's "architecture all the way down", will we be able to satisfy all our stakeholders

<p><b><u>The Board</u></b> Those responsible for the overall ROI for the Enterprise's (IT) investments and projects. (aka Programs Steering Committee)</p>	<p><b><u>Solution Development</u></b> Those responsible for the design and development of Business &amp; IT systems associated with specific business requirements</p>	<p><b><u>IT Operations</u></b> The folk who operate the Enterprise's IT infrastructure</p>
<p><i>Maximise the overall ROI by aligning all change programs with each other and with the enterprise's strategic direction</i></p>	<p><i>Minimise project risk and integration challenges, maximise value of available IT skills and resource. (i.e. maximise chance of success)</i></p>	<p><i>Minimise systems management challenges and product support issues, maximise value gained from IT infrastructure through shared and flexible deployment.</i></p>
<p><b>"The Bridge"</b></p>	<p><b>"The Engineers"</b></p>	<p><b>"The Engine Room"</b></p>





## **Enterprise Architecture – Methodology**

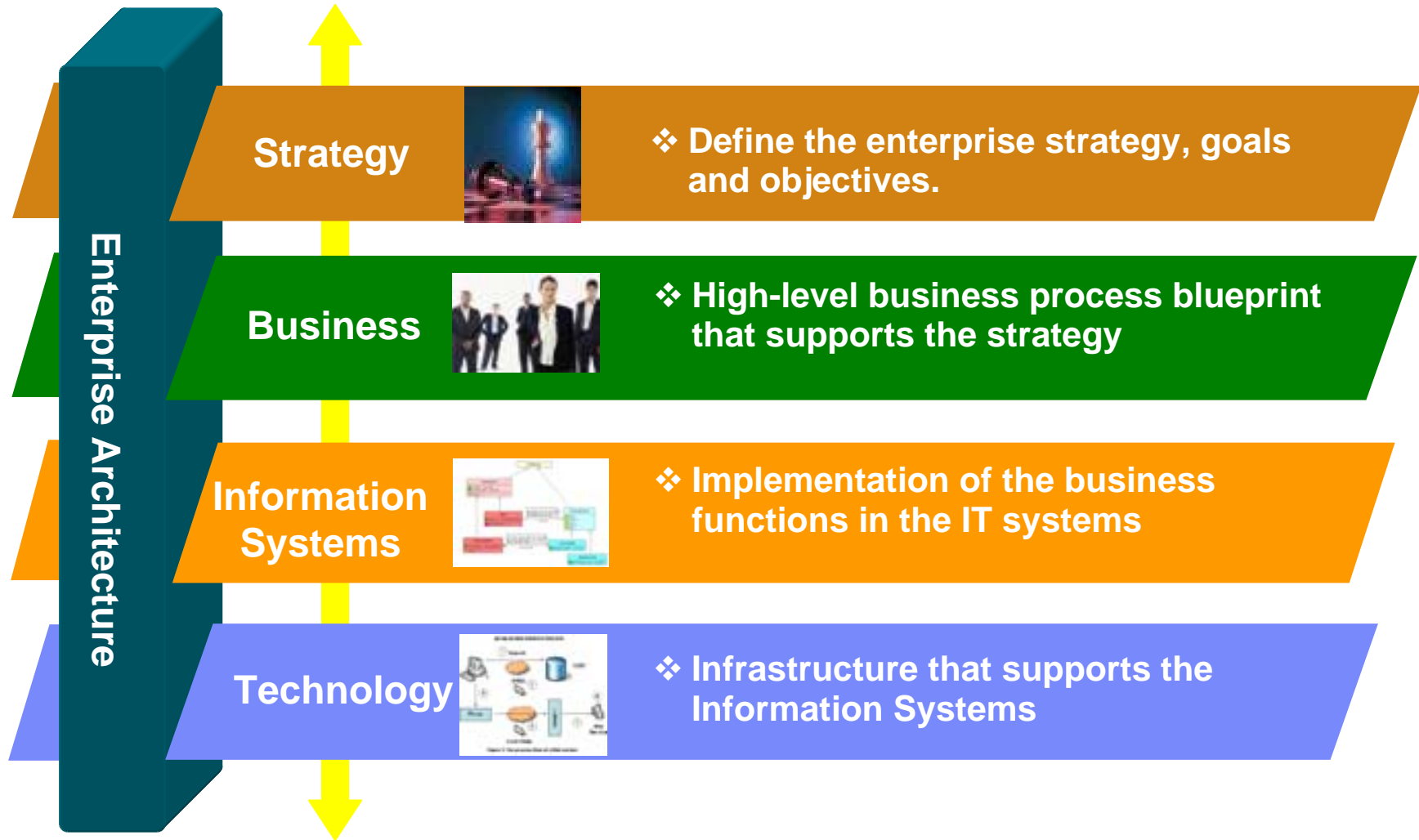


## Main aspects of an Enterprise Architecture

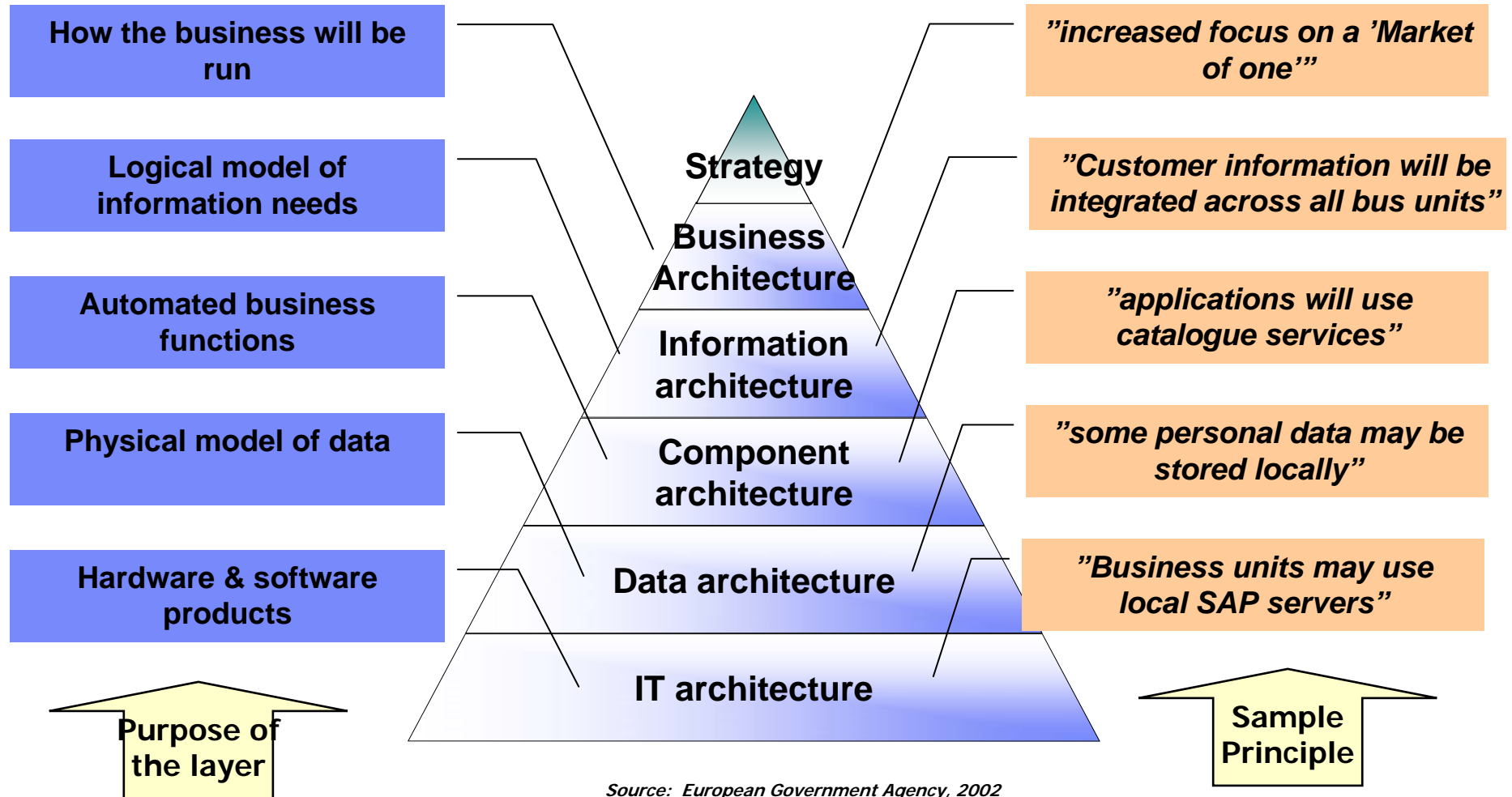
- Enterprise Architecture **is between the Business and IT Strategy and the programs and projects to be carried out**
- **Enterprise Architecture includes Business Architecture as well as IT Architecture (which is IS Architecture – Information System – and Technology Architecture)**
- **Enterprise Architecture guides the programs and projects**



# Enterprise Architecture Defined



# A popular way of structuring an EA's architecture framework: is to adopt a simple layered approach



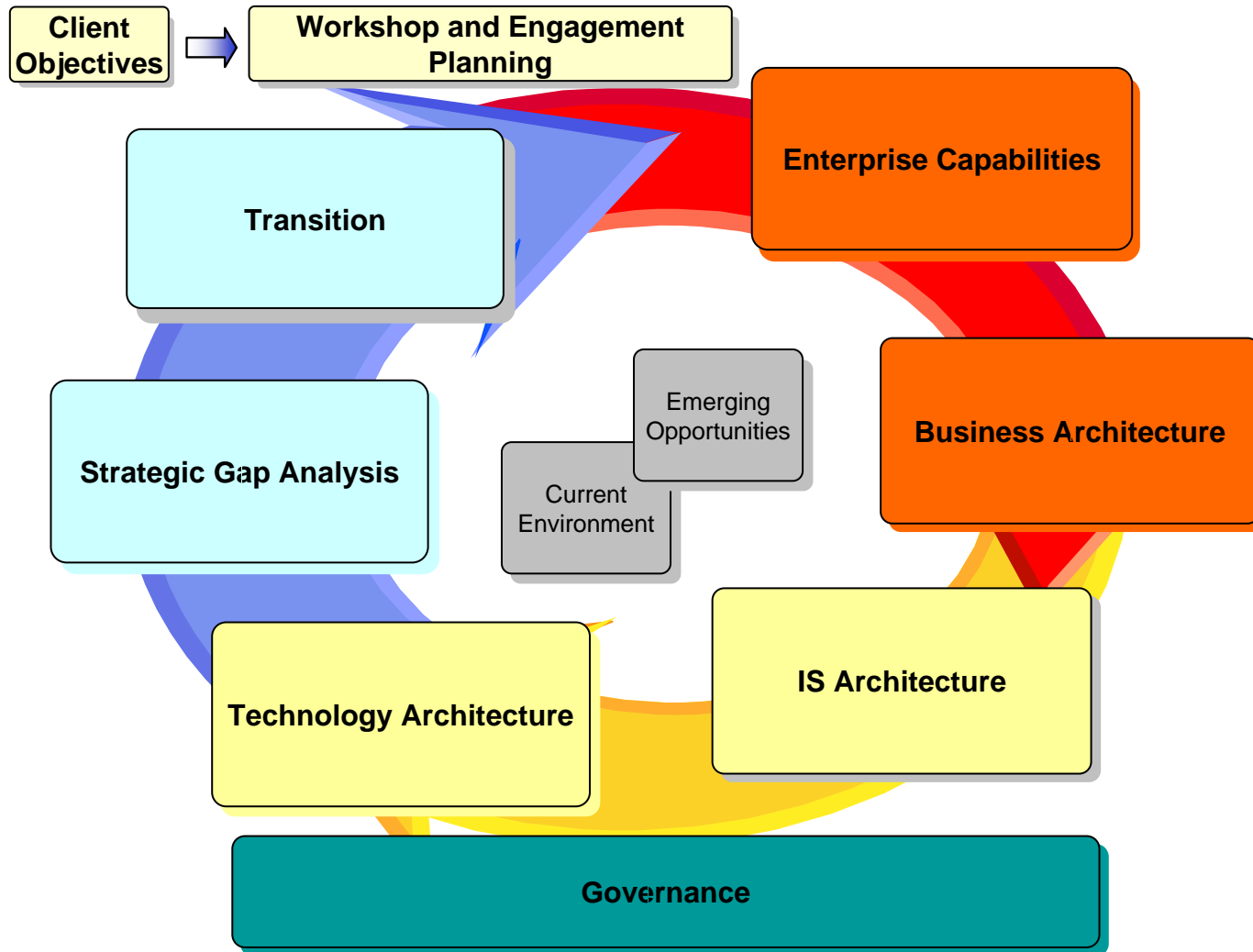




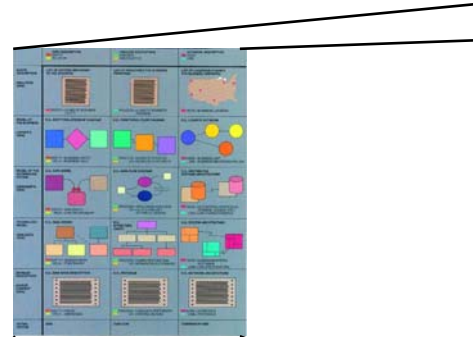
## Enterprise Architecture Methods

- **Enterprise Architecture methods provide** guidelines and templates for the definition of an Enterprise Architecture
  
- **Templates are available for** Work Products / Artifacts – most of them as described in Architecture Methods
  
- **Most popular Enterprise Architecture Methods**
  - IBM
  - Zachman ([www.zifa.com](http://www.zifa.com))
  - TOGAF ([www.opengroup.org](http://www.opengroup.org))

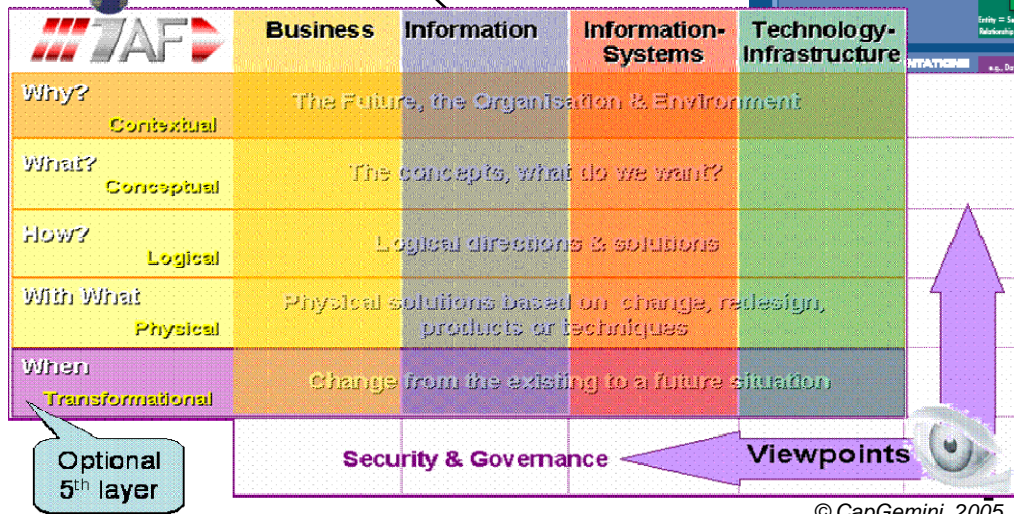
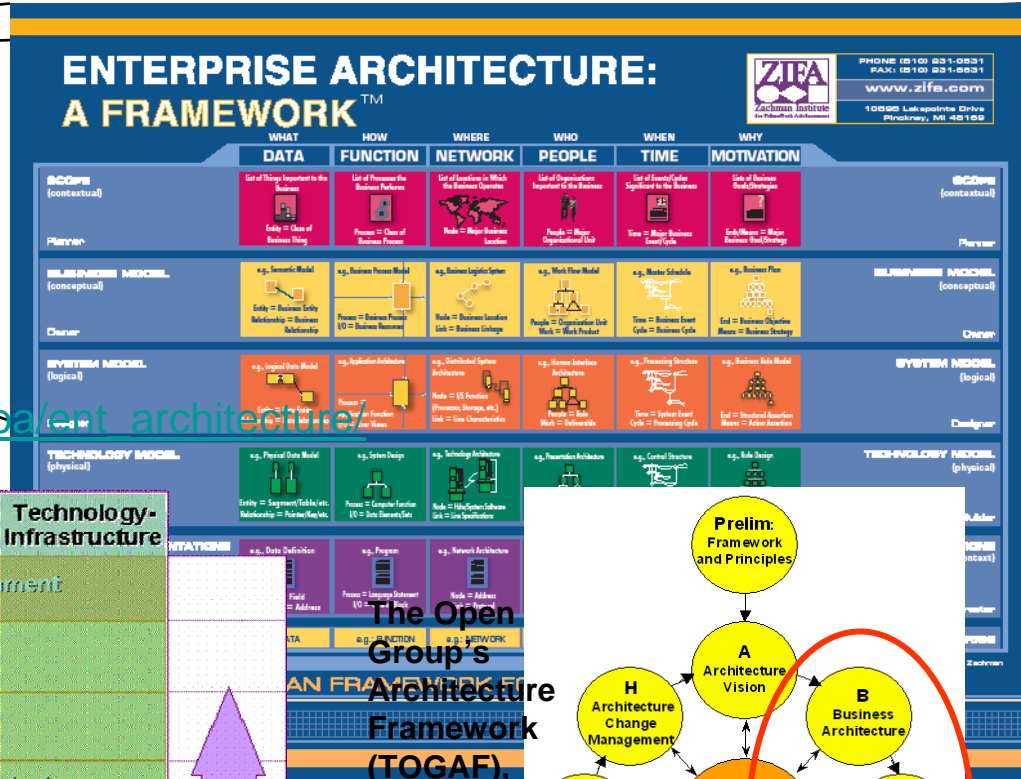
# IBM's Enterprise Architecture (EA) Framework – Best Practice shows that successful EA Management follows an iterative approach of EA Design



# All EAs have a “framework” – a means of organizing, managing and communicating the architecture

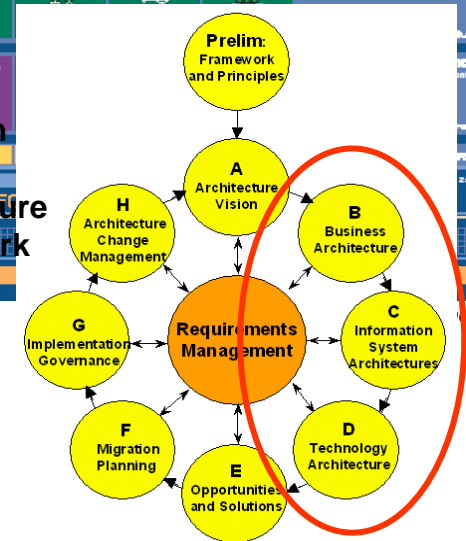


[http://www.capgemini.com/services/soa/ent\\_architecture/](http://www.capgemini.com/services/soa/ent_architecture/)



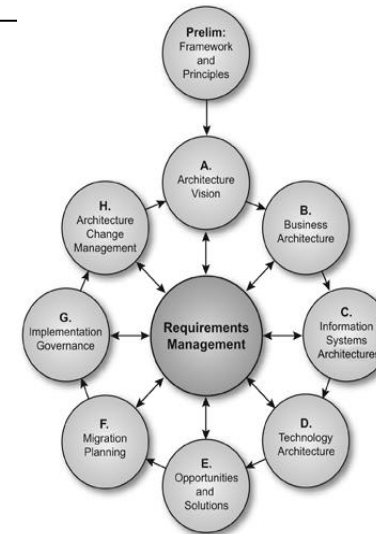
© CapGemini, 2005

The Open Group's Architecture Framework (TOGAF), UK



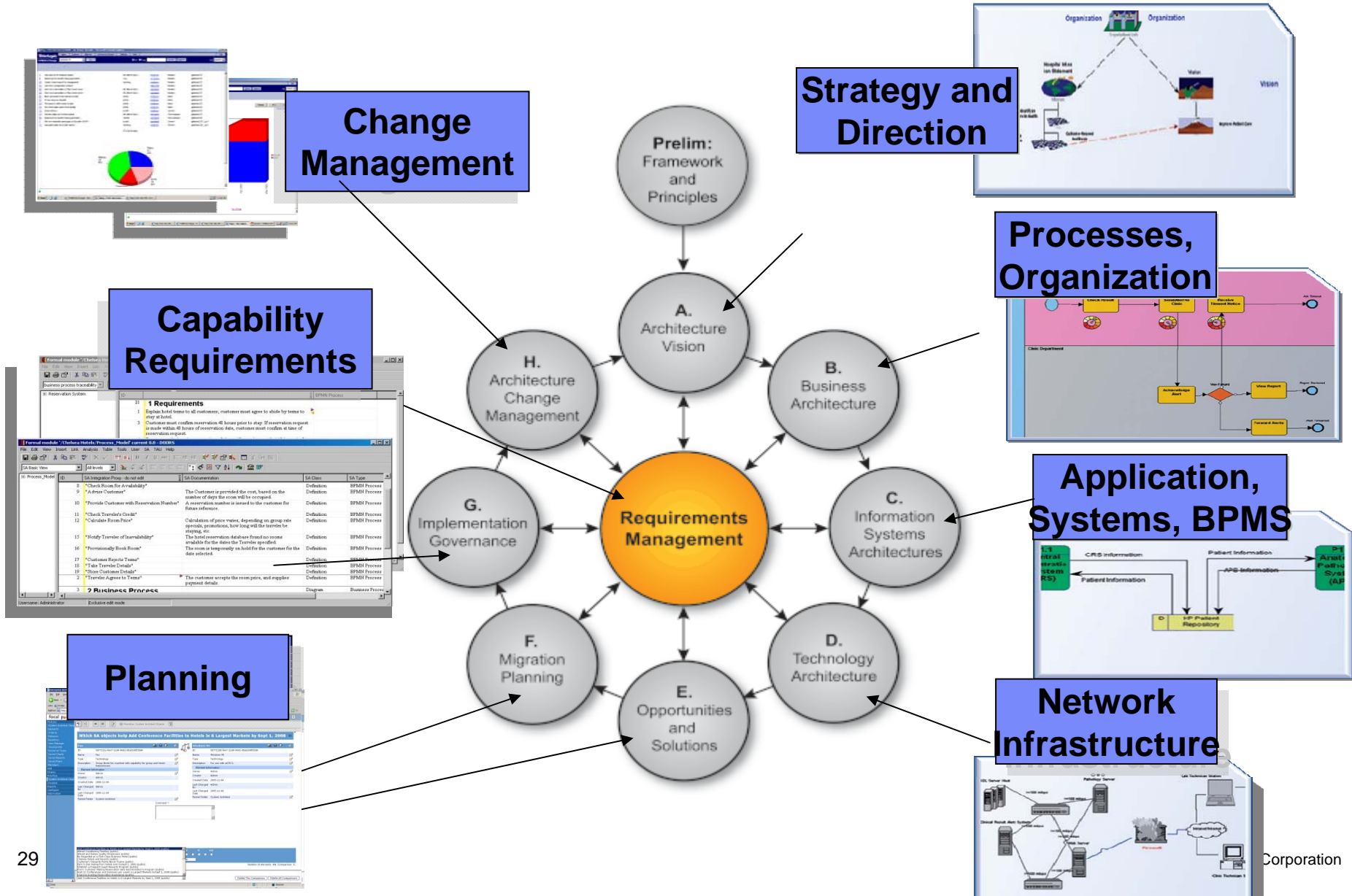
## What is TOGAF

- **TOGAF consists of the following :**
  - **Architecture Development Method (ADM)**
  - **Enterprise Continuum**
  - **Resource Base**
- **The ADM is depicted as the ‘crop-circle’ and represents the core of the TOGAF specification. It is a method for deriving a specific enterprise architecture.**
- **The Enterprise Continuum is a model for structuring a ‘virtual repository’ of architectural assets such as patterns, models, & architecture descriptions.**
- **The Resource Base is a set of ‘good practice’ resources such as guidelines, checklists and templates provided to assist the architect when using TOGAF ADM.**

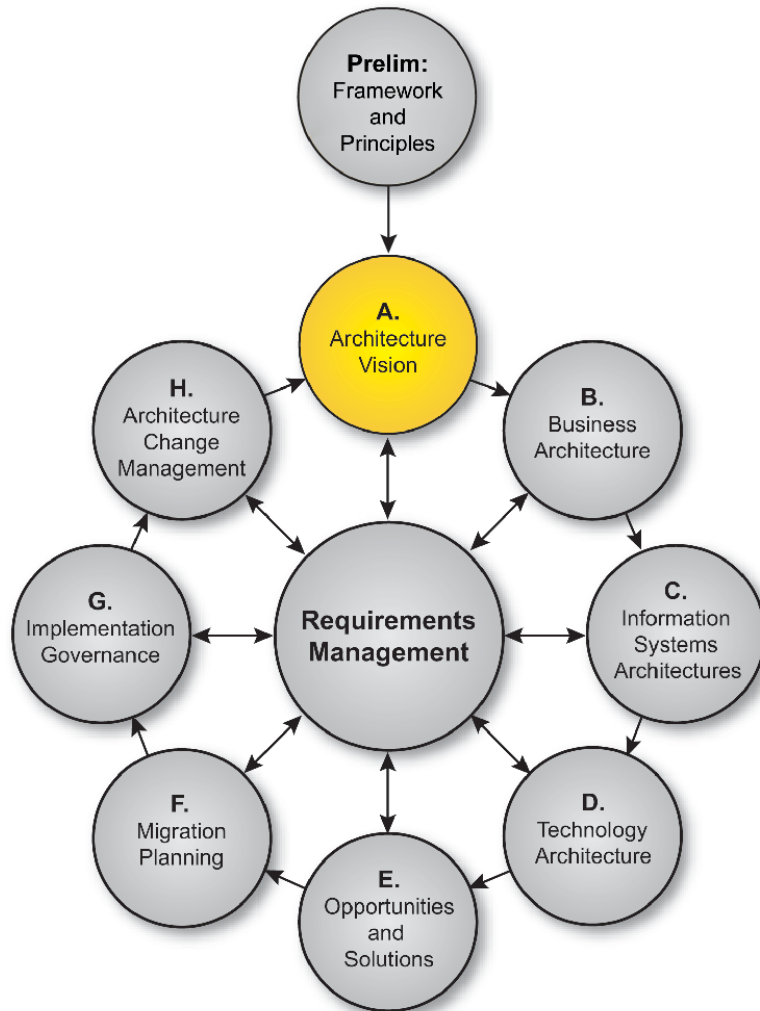




# Standard TOGAF (currently Version 9)



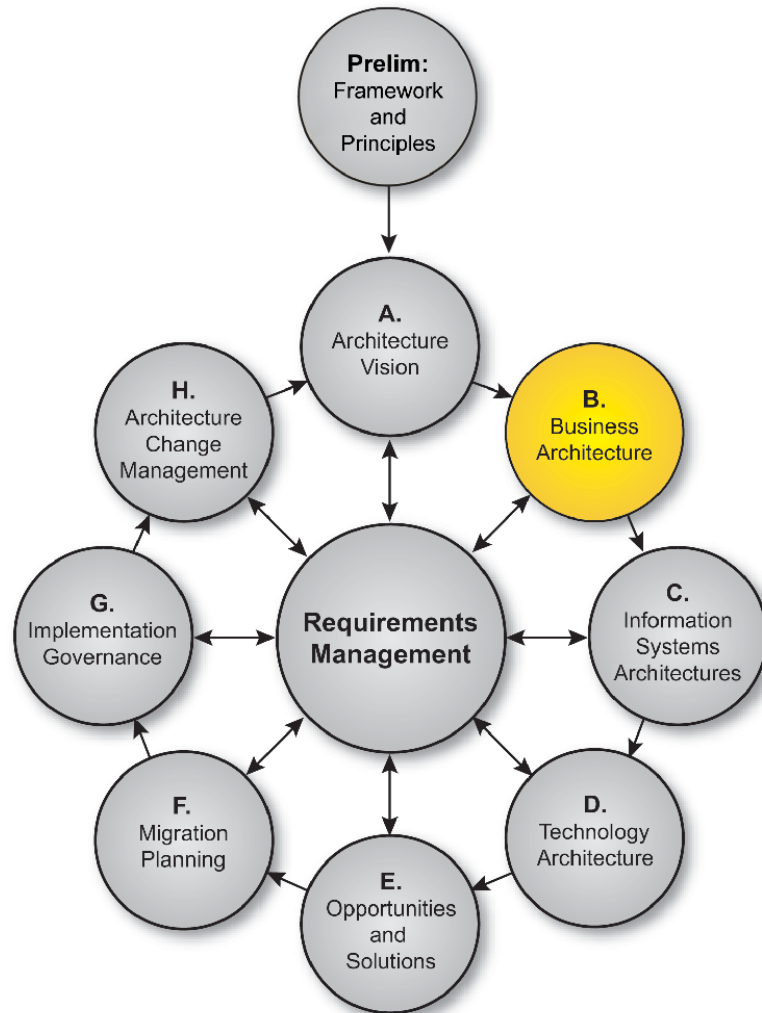
## In more Detail: Capabilities Content (Architecture Vision according to TOGAF - augmented)



- **Initiates one iteration of the architecture process**
  - Sets scope, constraints, expectations
  - Required at the start of every architecture cycle
- **Validates business context**
- **Creates Statement of Architecture work**
- **Guiding Principles**  
(according to IBM EA Methodology)
- **Architectural Decisions**  
(according to IBM EA Methodology)

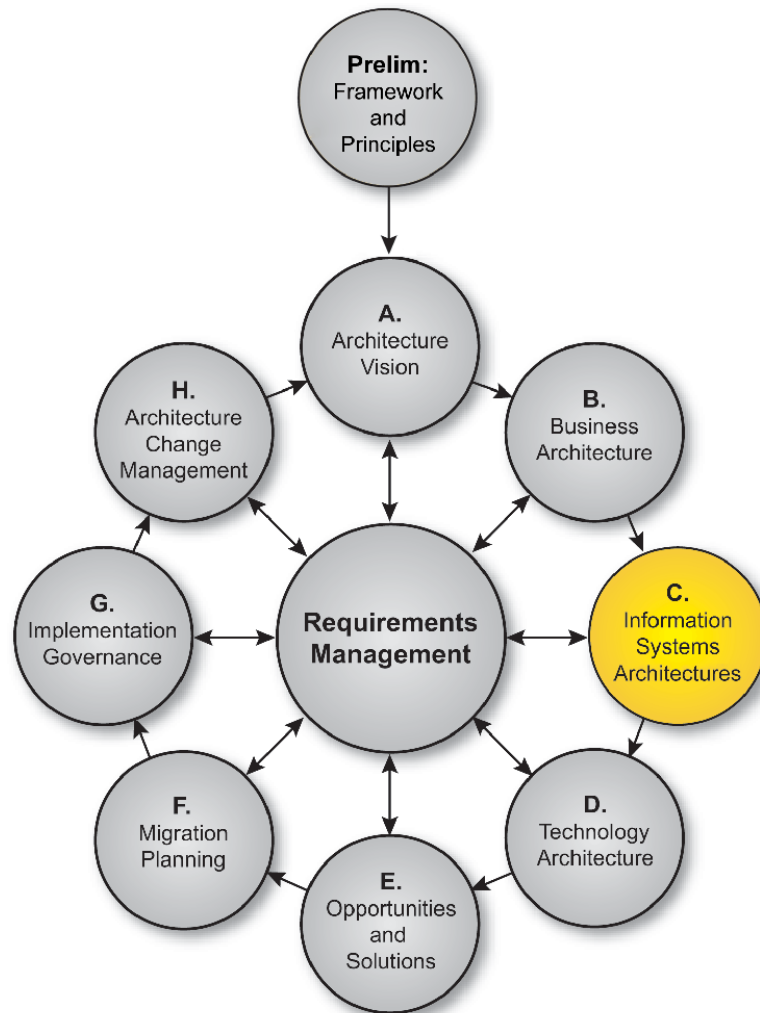


## In more Detail: Business Architecture Content (according to TOGAF augmented)



- **Organization structure**
- **Business Goals and Objectives**
- **Business Functions**
- **Business Services**
- **Business Processes**
- **Business Roles**
- **Correlation of organization and functions.**
- **Enterprise Information Model (according to IBM EA Methodology)**

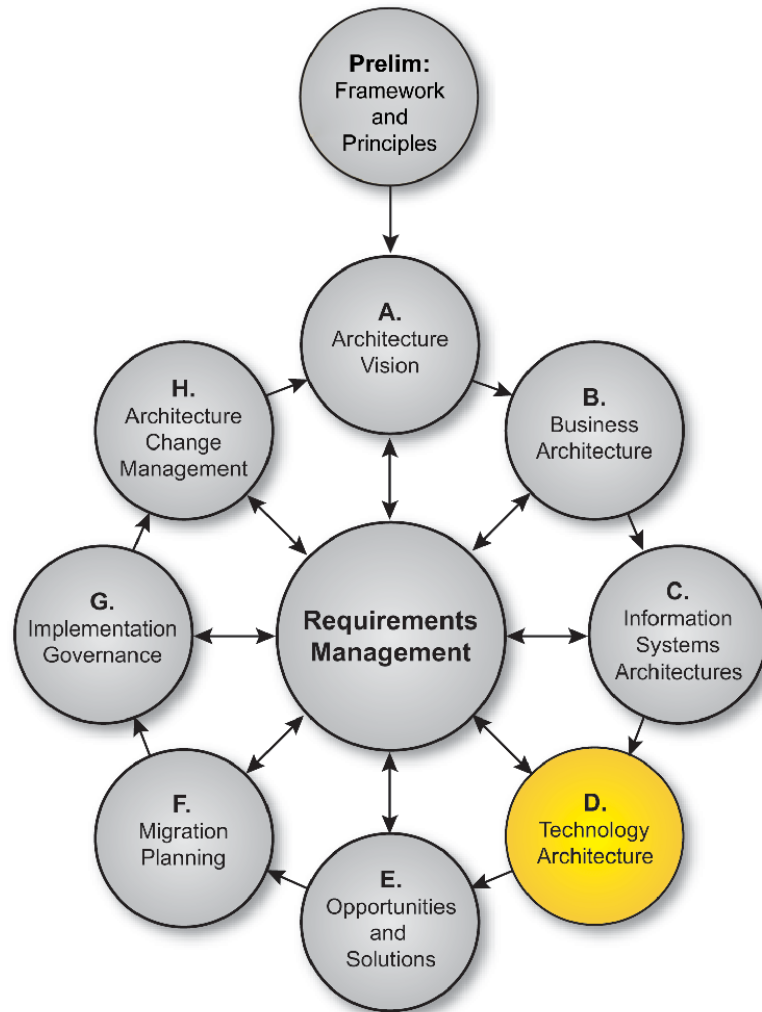
## In more Detail: IS Architecture Content (according to TOGAF)



- The fundamental organization of an IT system, embodied in
  - relationships to each other and the environment, and the principles governing its design and evolution
- Shows how the IT systems meets the business goals of the enterprise

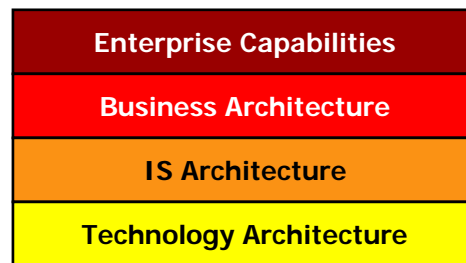
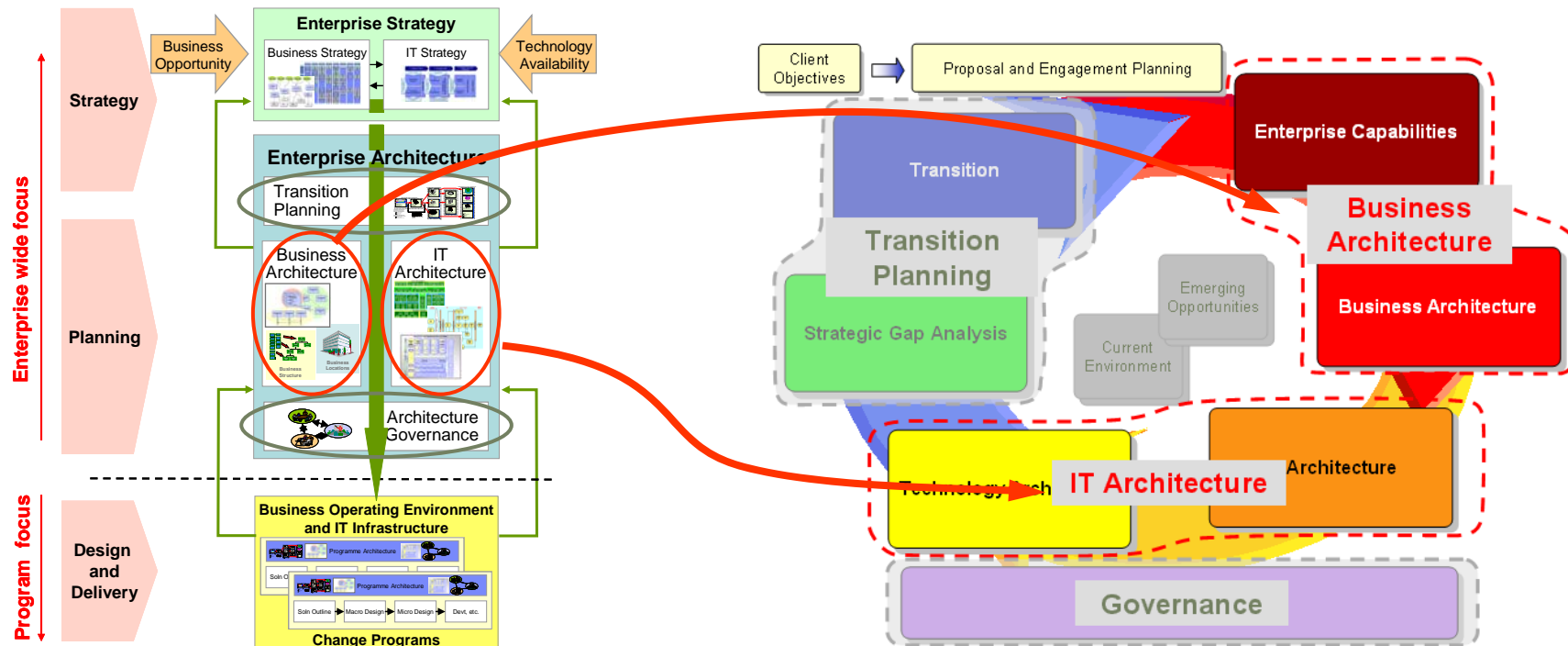


## In more Detail: Technology Architecture Content (according to TOGAF)



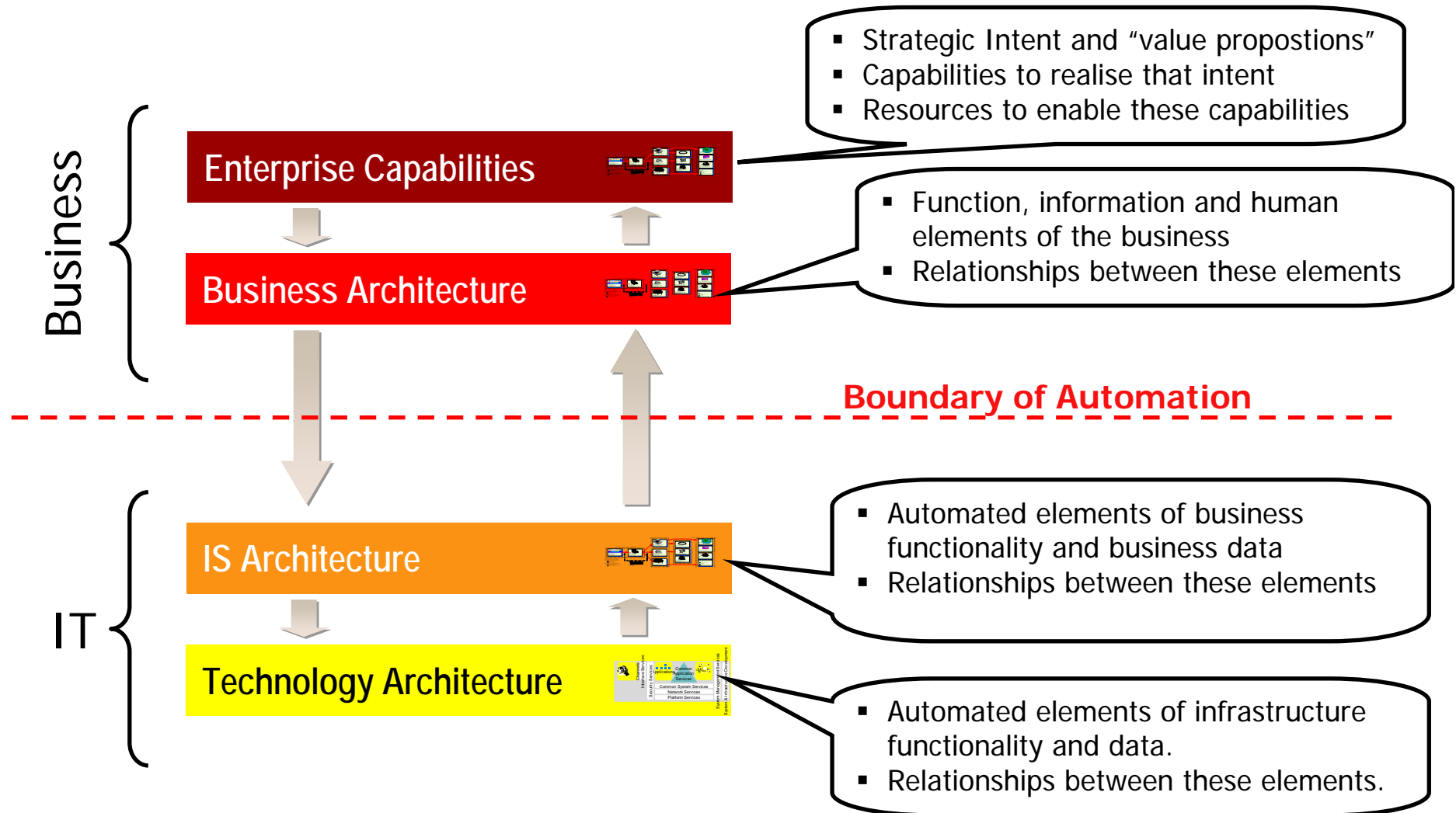
- The fundamental organization of an IT system, embodied in
  - its hardware, software and communications technology
  - their relationships to each other and the environment,
  - and the principles governing its design and evolution

# All EAs have a “framework” – a means of organizing, managing and communicating the architecture

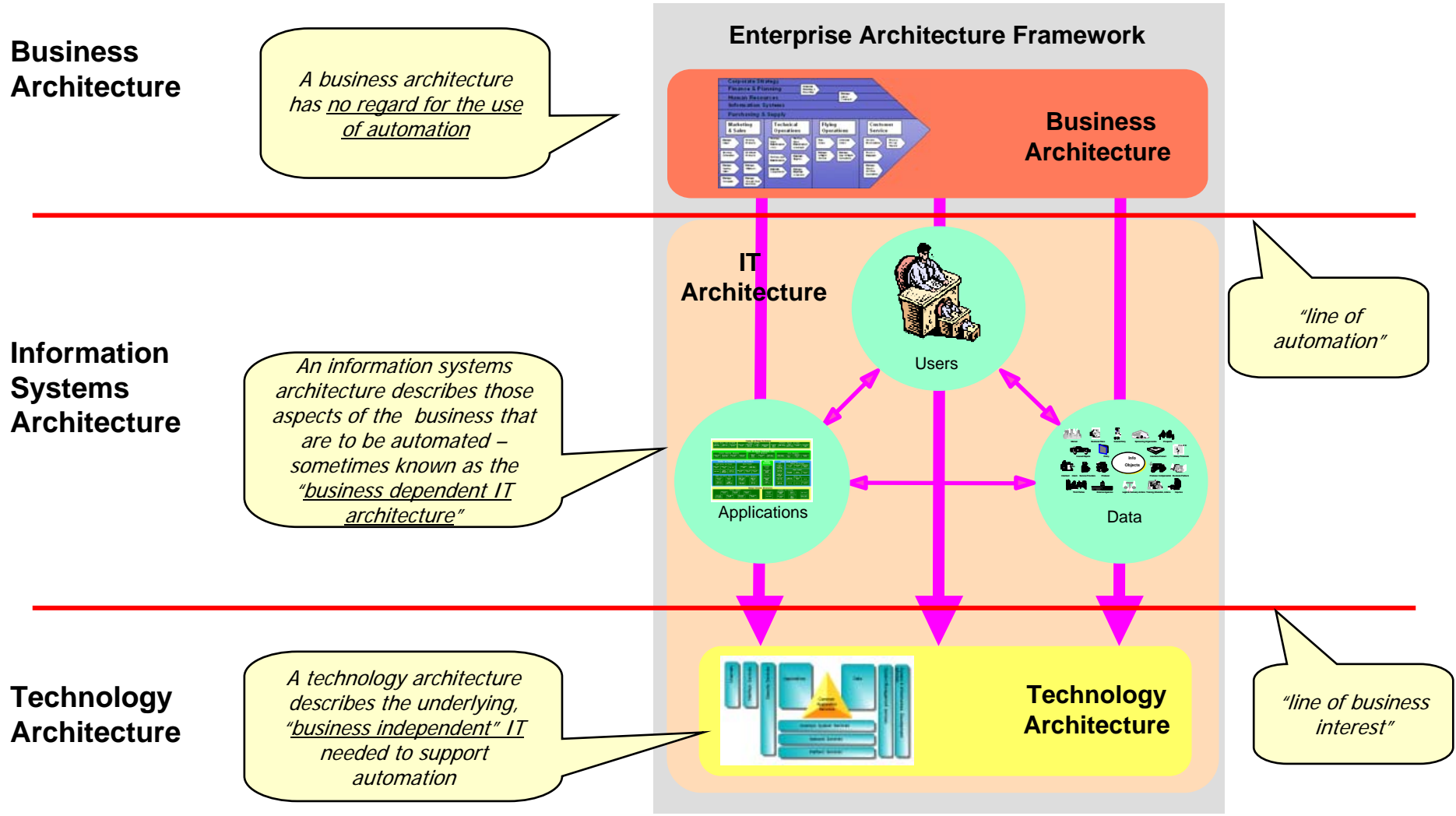


*The EA Consulting Method's architectural layers*

# Along with the Technology Architecture, the IS Architecture represents the “digitised” elements of the EA

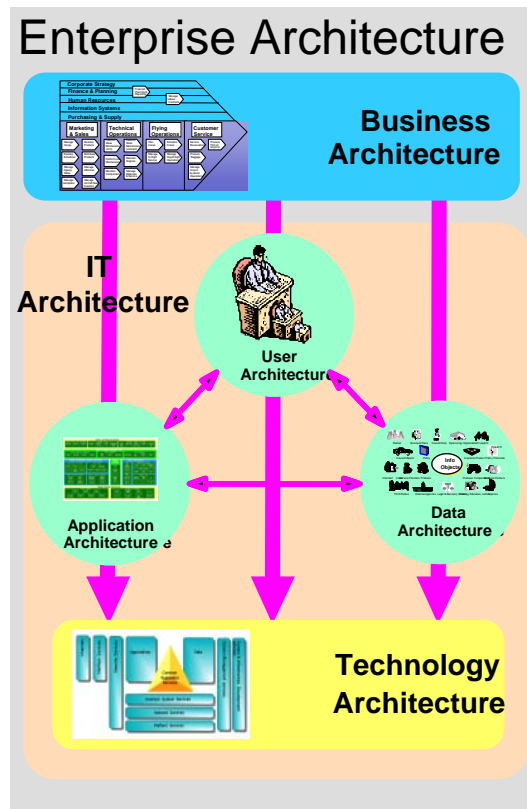


We can develop this way of thinking about an EA architecture framework a little more. First, let us highlight the nature of its layers...

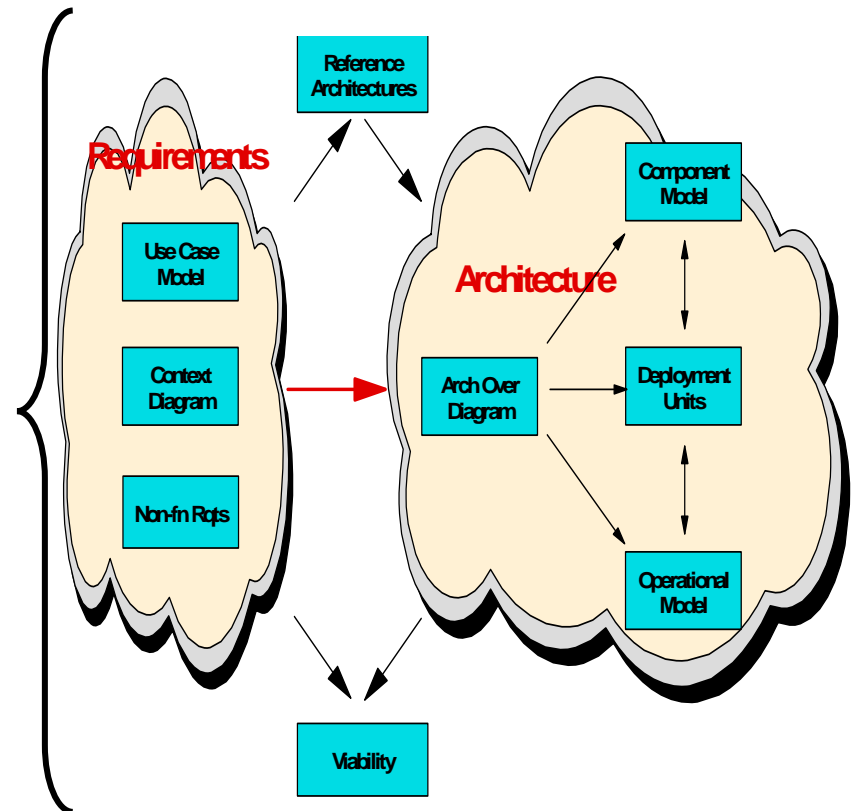




# EA Work Products guide and govern how Solution Work Products are constructed (Same Types of Work Products)



“EA  
constrains and  
co-  
ordinates  
the  
construction  
of IT based  
business  
systems”



# Enterprise Architecture and Governance

(see *Architecture Management*)

