

# Enterprise Architecture

## Unification of Technology and Business

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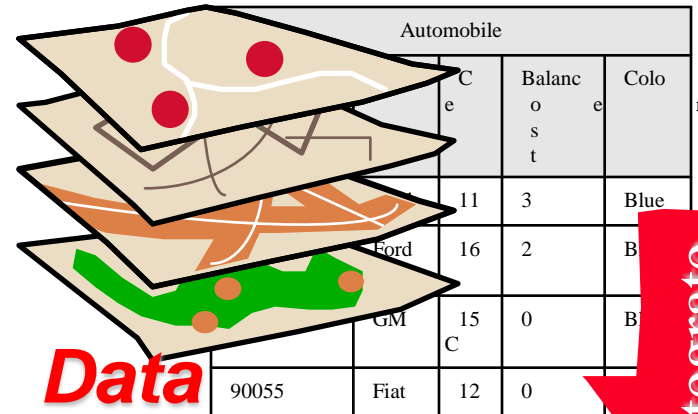
# Business of Geospatial Technology: The Information Lifecycle



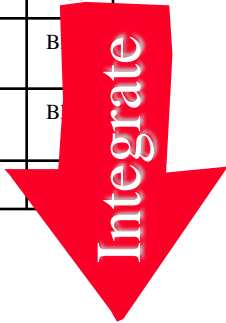
**Real World**



**Abstract**



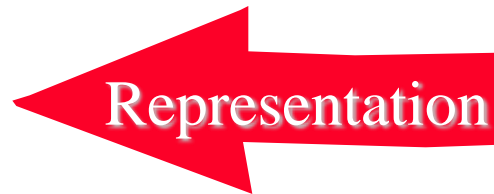
**Data**



**Integrate**



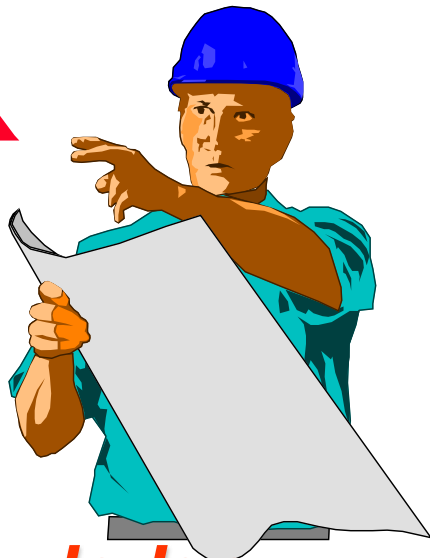
**Information**



**Representation**

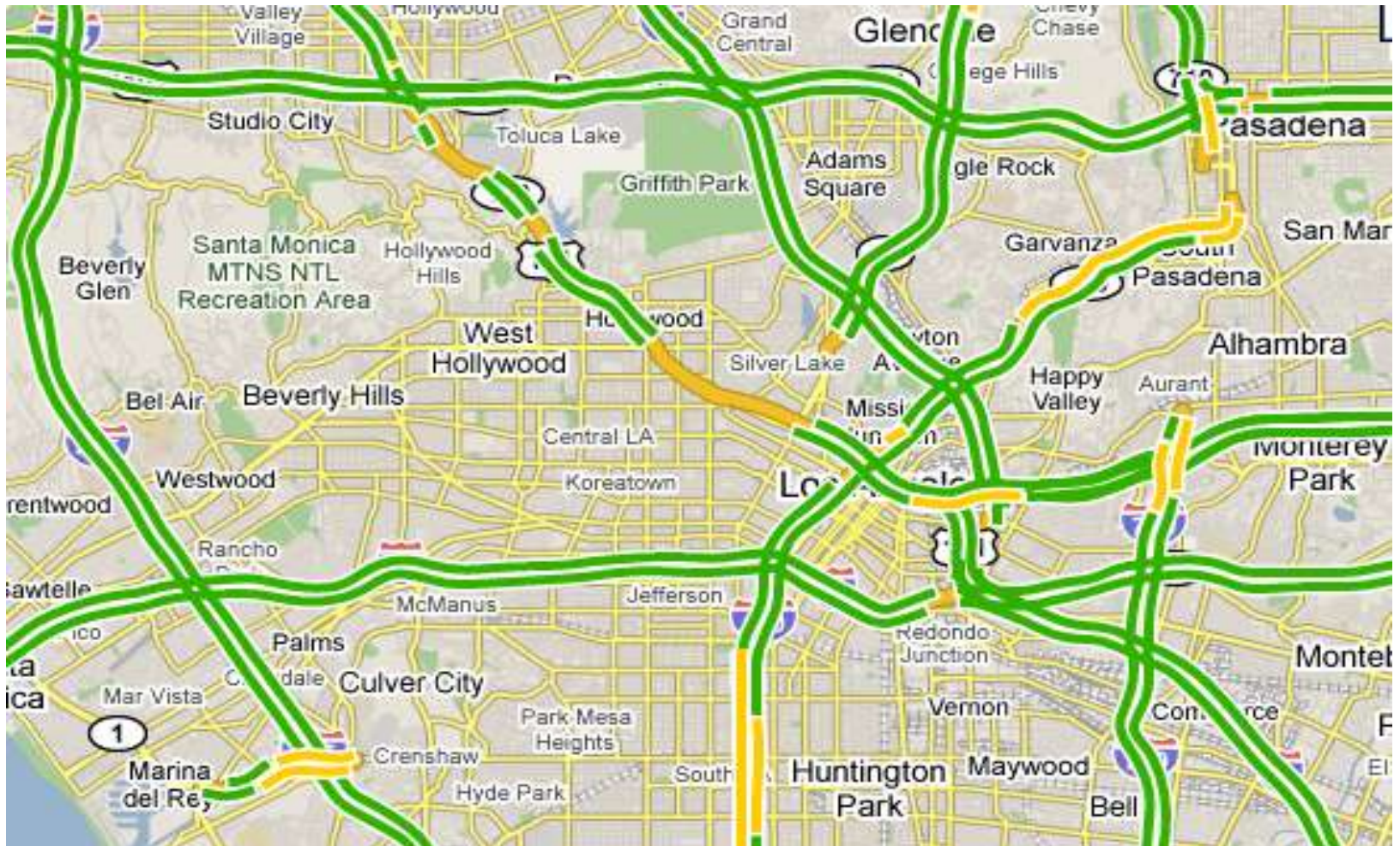


**Action**



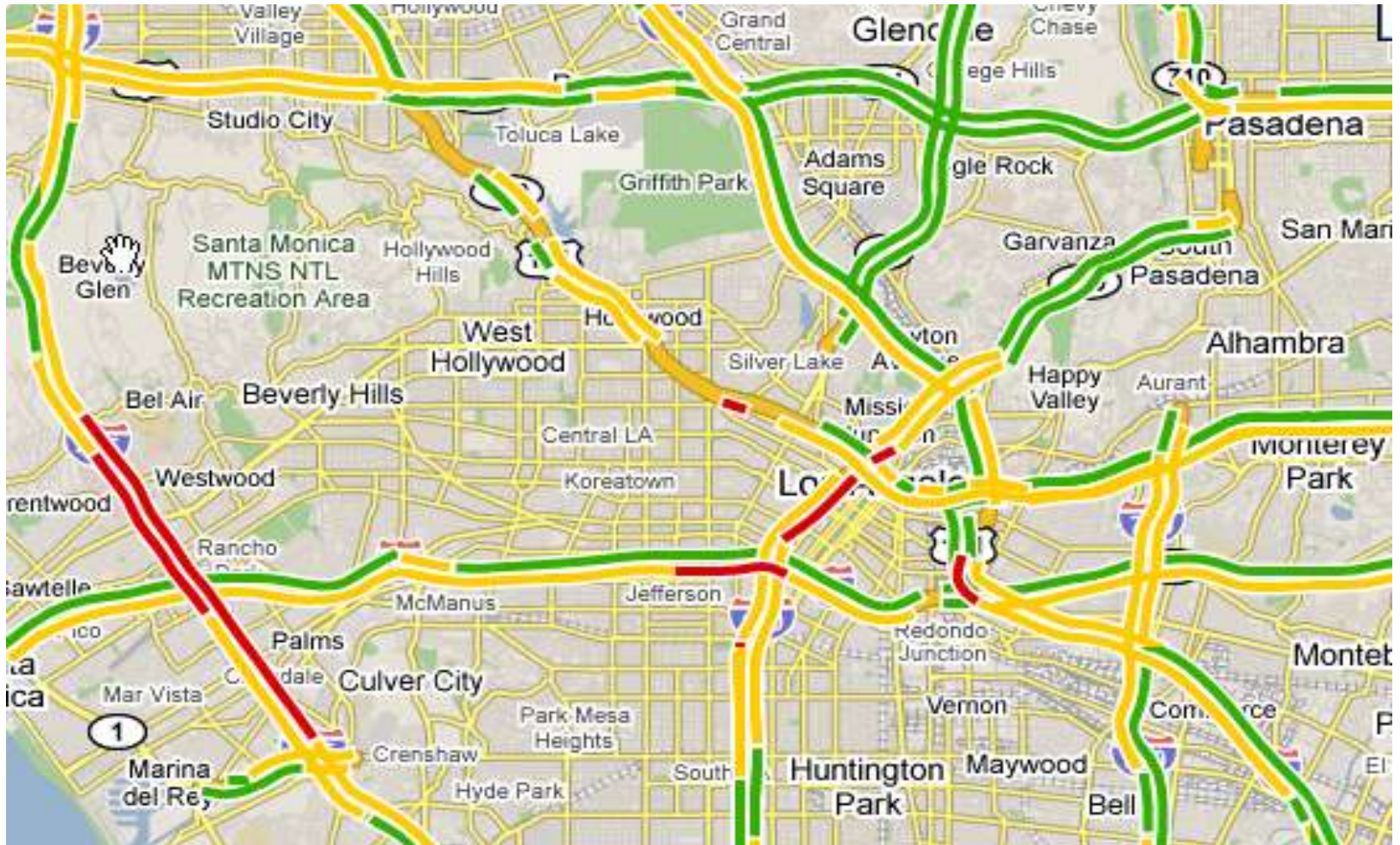
**Knowledge**

# Business of Geospatial Technology: Creating Knowledge





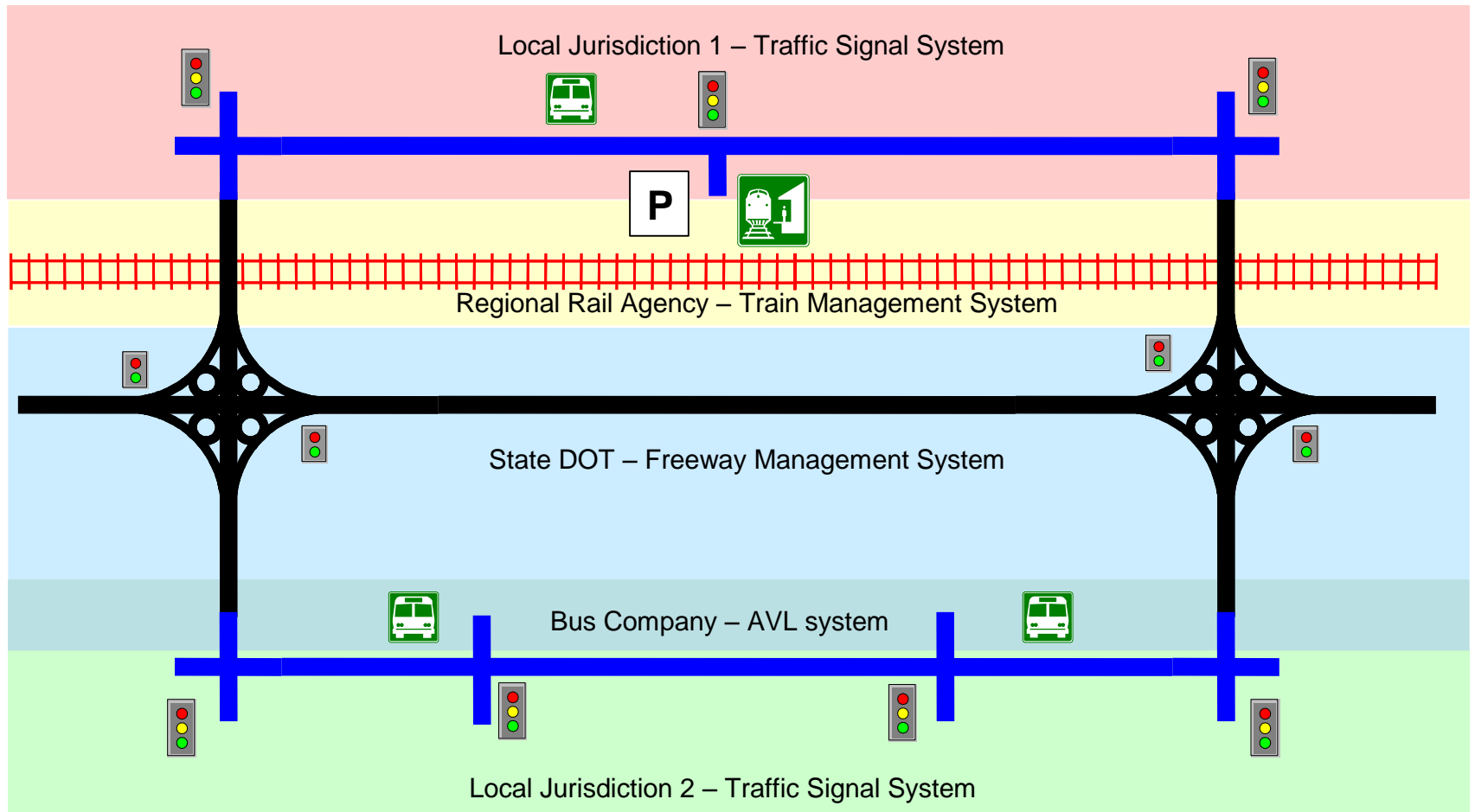
# Business of Geospatial Technology: Creating Knowledge



# How is my GIS program doing?

- How is the Information Technology Program doing?
- How is the core business doing?
- How are we impacting the business?
- What is the core mission of the organization?
- How can we collaborate with IT/GIS/Engineering?
- Can we respond to change/business drivers?
- How agile are we? / Can we evolve to meet new challenges?

# California Department of Transportation Business Driver - Partnerships



# Cross Roads of an Organization



- How do we change the culture?
- How can we manage risk?
- How can we partner with local agencies and private companies?
- How can we inspire innovation?

# Department Technology Challenges

- Is geospatial technology a core IT service.
- IT focus should be in delivering services not solutions.
- Empowering customers to build their own solutions.
- IT infrastructure growth should be decoupled from IT projects.
- Plan future technology capability to develop solutions and infrastructure with business partners.
- Implementation of SOA/Cloud services.



# Enterprise Architecture

Align business and IT strategies

Increase business and IT agility

Establish and refine future  
architecture vision

Govern technology decisions and  
direction

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

# Why use an EA Framework?

- Organizational design
- One organizational process
- Project portfolio management
- Project management
- Requirements Engineering
- System development IT management and decision making
- IT value quantification
- IT complexity reduction
- IT openness and transparency
- Up front IT risk management

# Benefits of Enterprise Architecture

- A more efficient business operation:
  - ▣ Lower business operation costs
  - ▣ More agile organization
  - ▣ Business capabilities shared across the organization
  - ▣ Lower change management costs
  - ▣ More flexible workforce
  - ▣ Improved business productivity

# Benefits of Enterprise Architecture

- A more efficient IT operation:
  - ▣ Lower software development, support, and maintenance costs
  - ▣ Increased portability of applications
  - ▣ Improved interoperability and easier system and network management
  - ▣ Improved ability to address critical enterprise-wide issues like security
  - ▣ Easier upgrade and exchange of system components



# Benefits of Enterprise Architecture

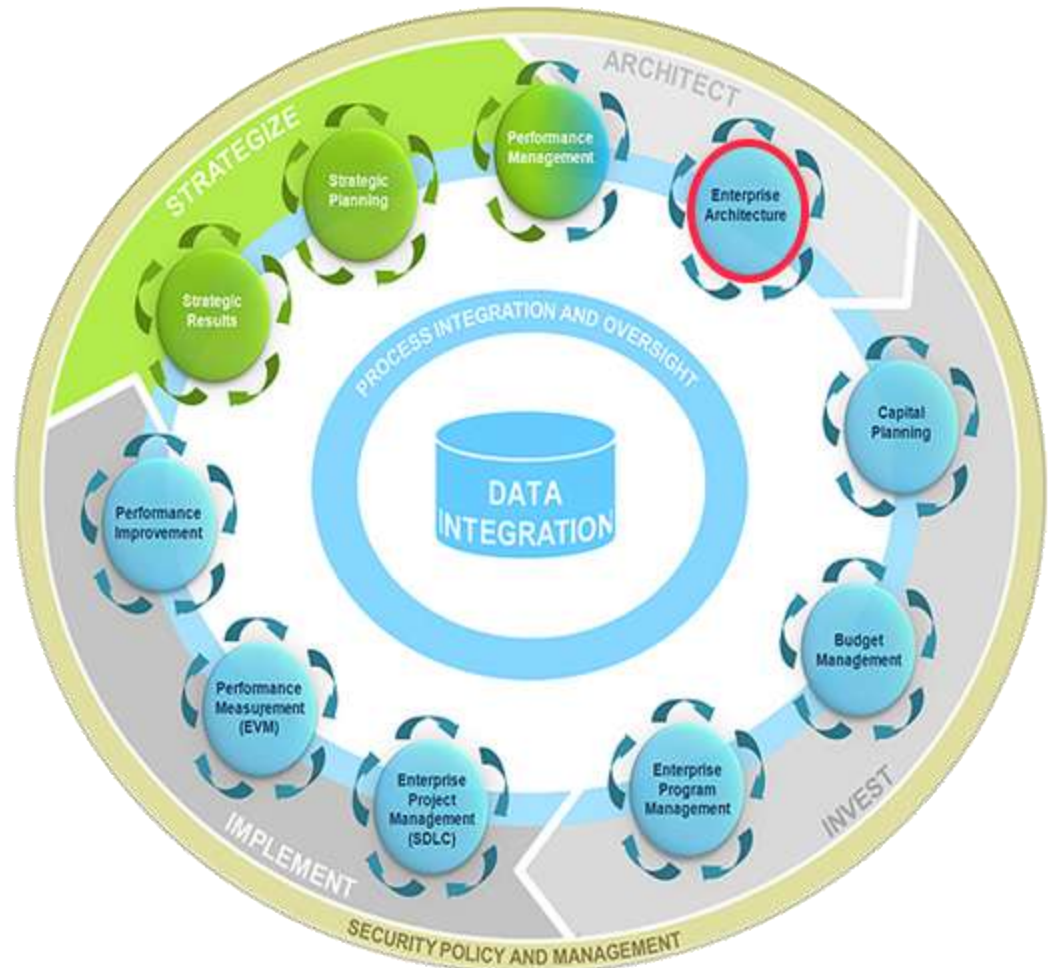
- Better return on existing investment, reduced risk for future investment:
  - ▣ Reduced complexity in the business and IT
  - ▣ Maximum return on investment in existing business and IT infrastructure
  - ▣ The flexibility to make, buy, or out-source business and IT solutions
  - ▣ Reduced risk overall in new investments and their cost of ownership

# Benefits of Enterprise Architecture

- Faster, simpler, and cheaper procurement:
  - Buying decisions are simpler, because the information governing procurement is readily available in a coherent plan
  - The procurement process is faster - maximizing procurement speed and flexibility without sacrificing architectural coherence
  - The ability to procure heterogeneous, multi-vendor open systems
  - The ability to secure more economic capabilities

# EA Basics - Federal EA Framework

- Domains
  - ▣ Business
  - ▣ Data/Information
  - ▣ Application
  - ▣ Technology
- Current State
- Future State
- Road map



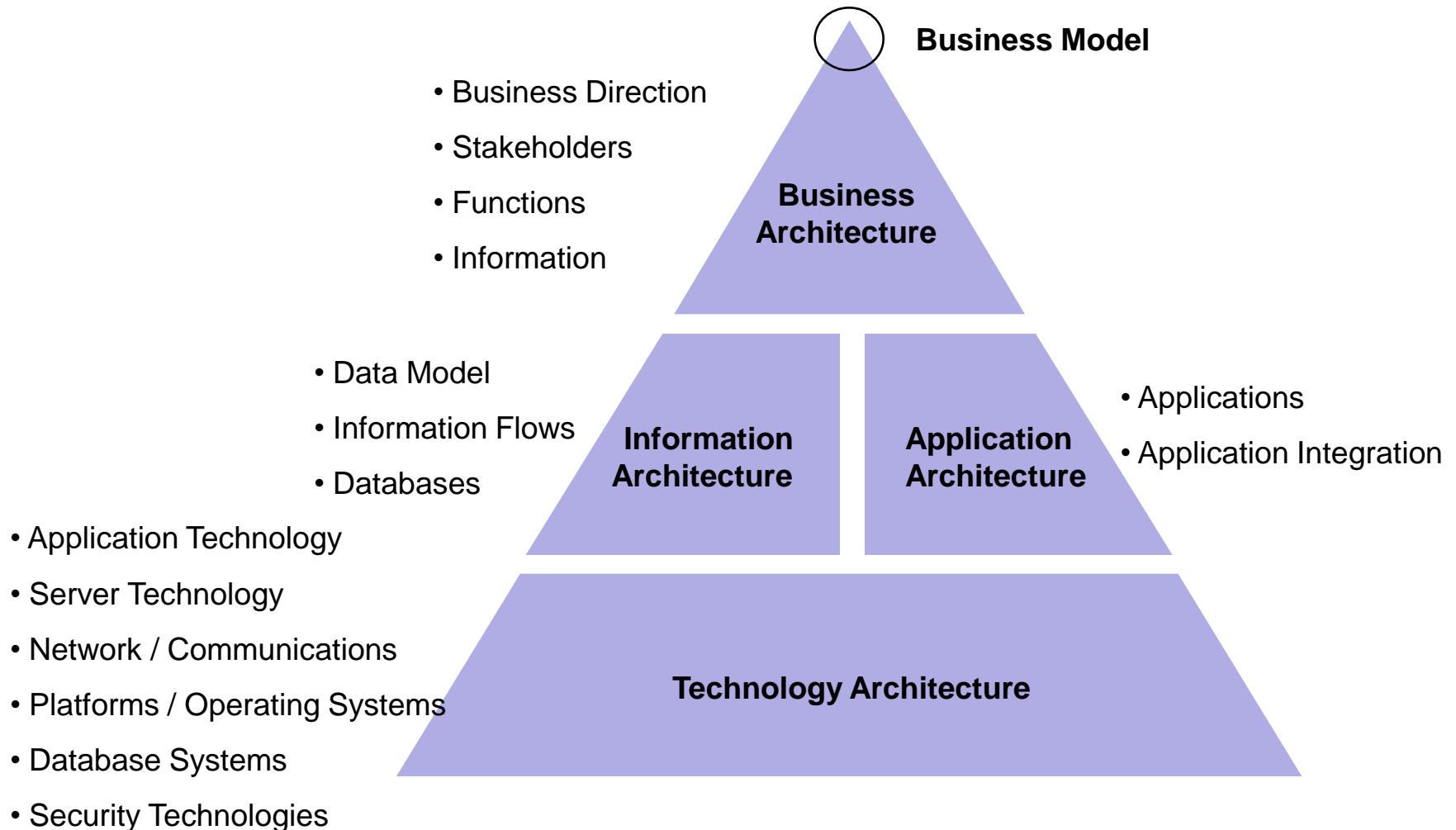
# Enterprise Architecture Frameworks

- Federal EA Framework (FEAF)
- The Open Group Architecture Framework (TOGAF)
- Zachman Framework
- Gartner EA Framework
- Oracle EA Framework
- California EA Framework
- **Key Point: Learn 2-3**

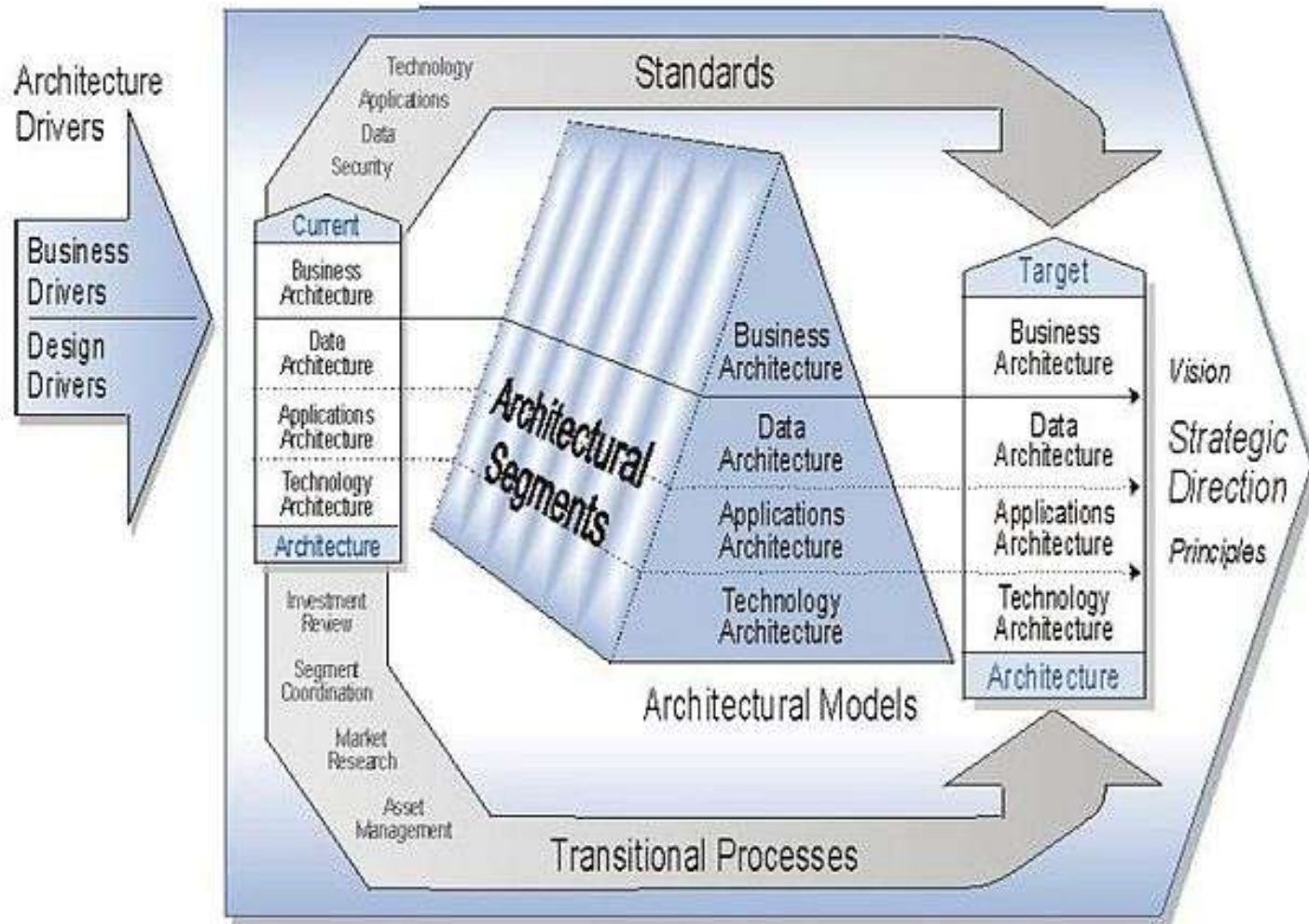




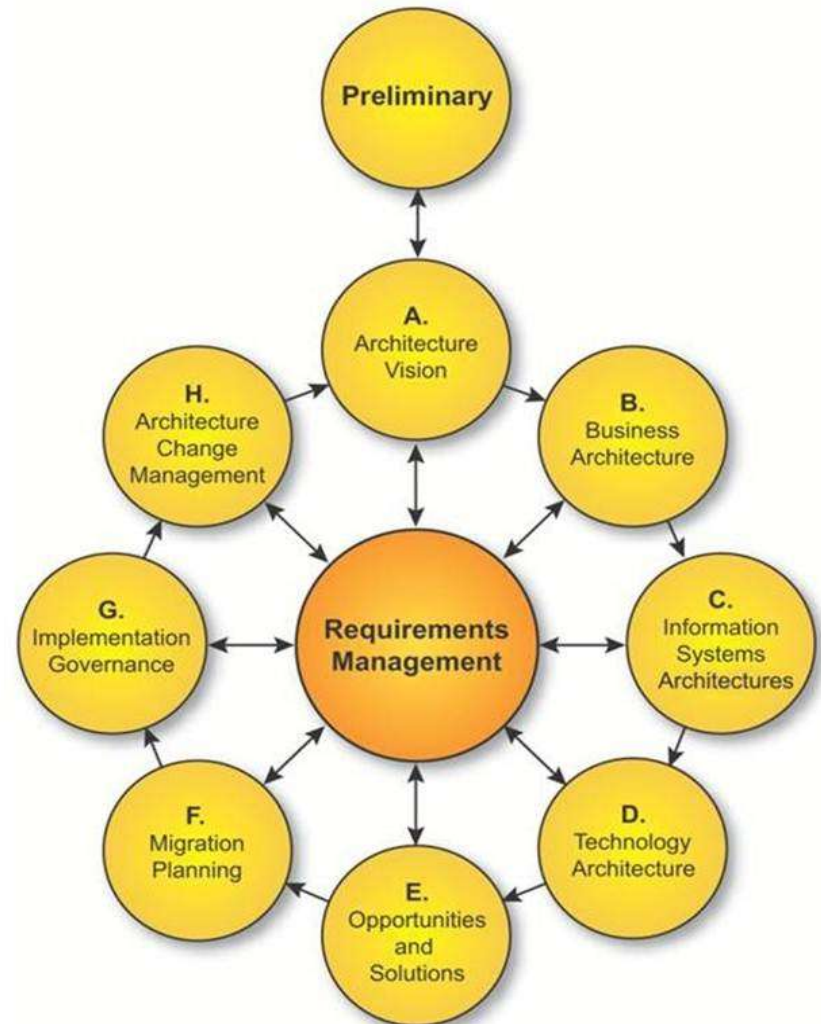
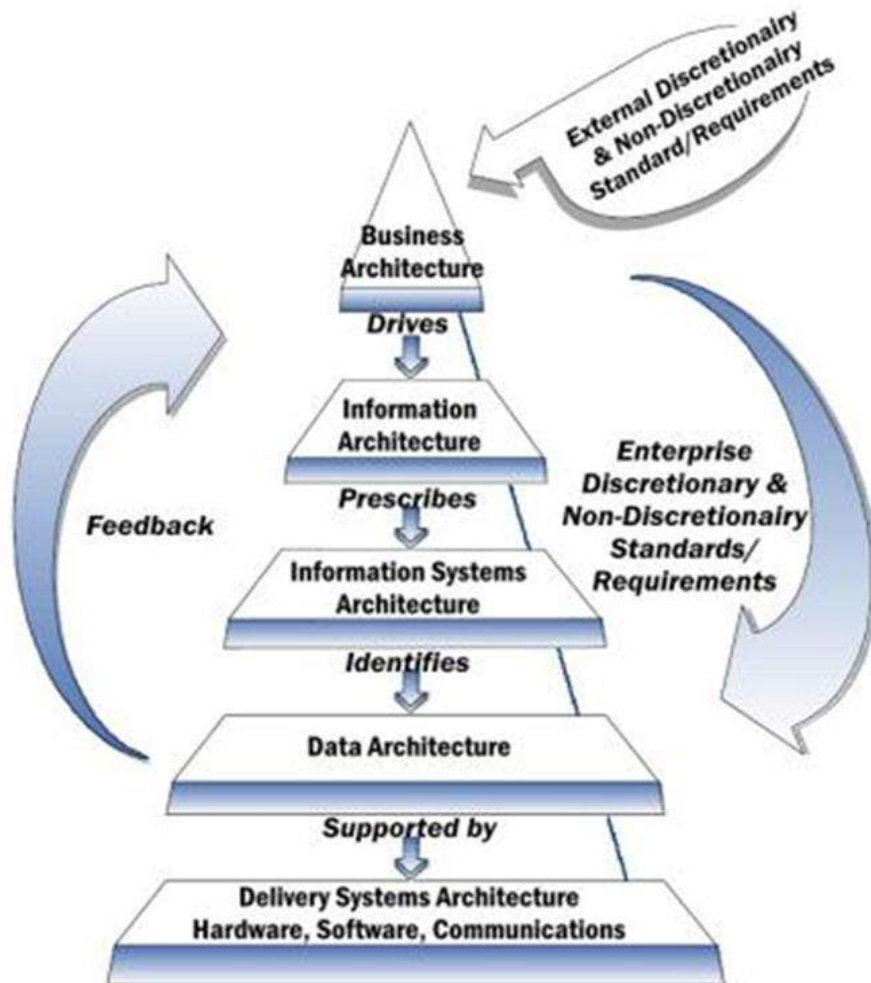
# Enterprise Architecture Framework



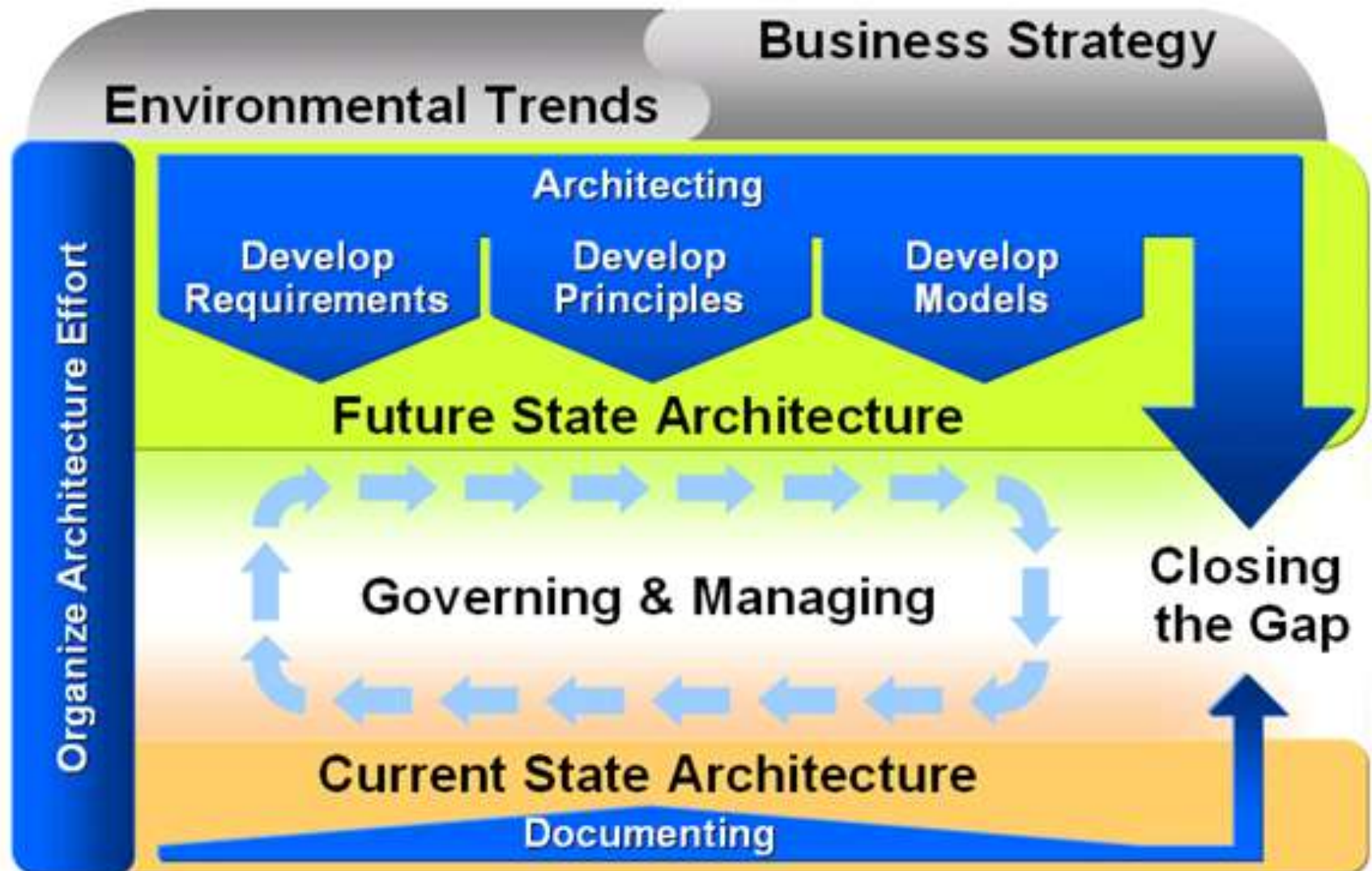
# Federal EA Framework (FEAF)



# More EA Frameworks



# Gartner EA Framework





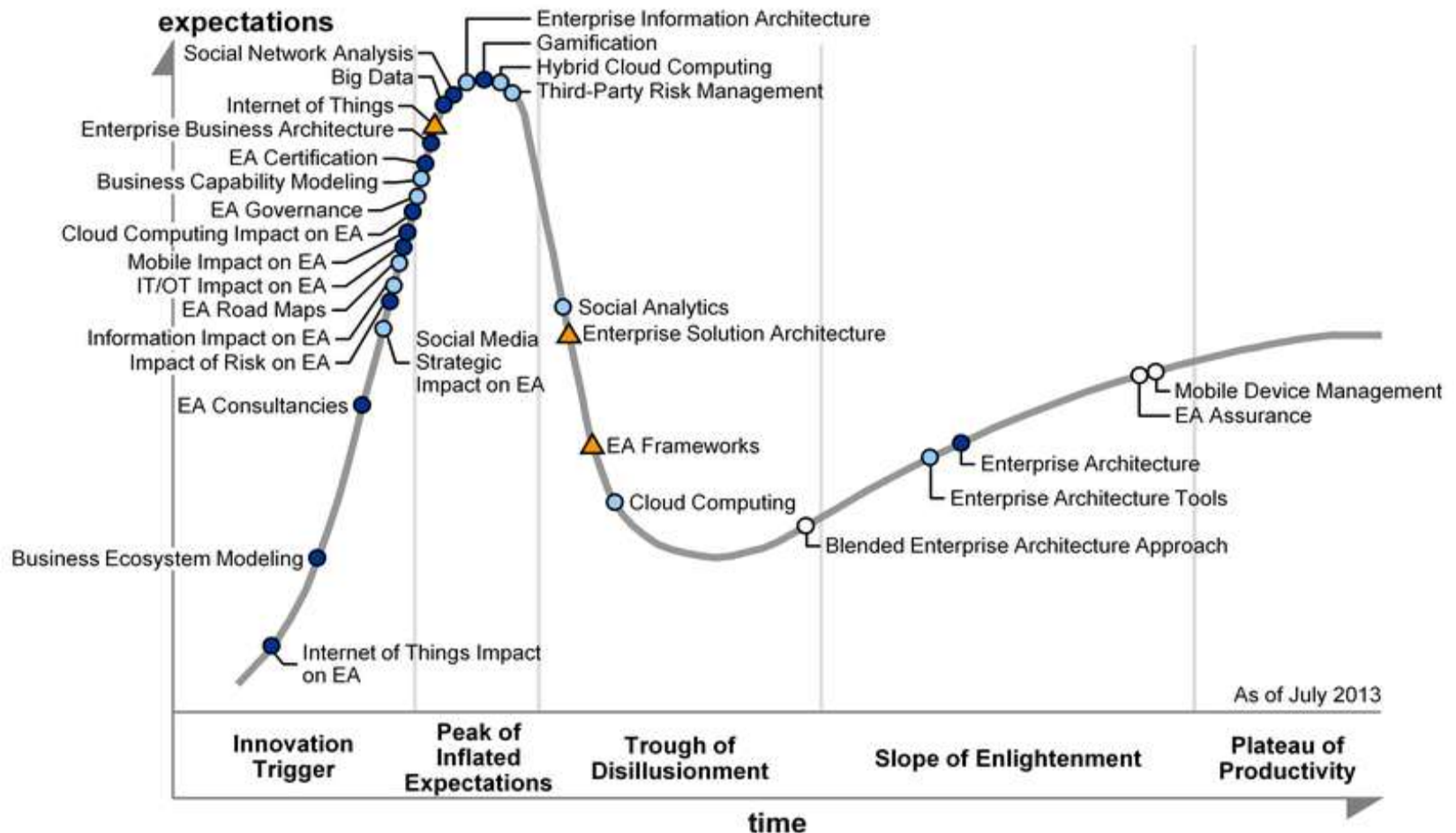
# Existing EA Components

- Business Domain
  - ▣ Strategic Planning
  - ▣ Organizational Performance
  - ▣ Risk Management Office
  
- Data/Information Domain
  - ▣ Geospatial Data Governance Committee
  - ▣ Data Management Office
  - ▣ Technology Office

# Existing EA Components

- Application Domain
  - ▣ IT Solutions Division
  
- Technology Domain
  - ▣ IT Infrastructure Division
  
- Guiding Principles
- IT Governance
- IT Change Management

# Enterprise Architecture Hype Cycle



As of July 2013

Plateau will be reached in:

○ less than 2 years

● 2 to 5 years

● 5 to 10 years

▲ more than 10 years

○ obsolete

⊗ before plateau

# EA Performance Metrics

- Capability Maturity Model
  - ▣ Customer Satisfaction
  - ▣ Risk Management and Regulatory Compliance
  - ▣ Innovation
  - ▣ IT Value Quantification
  - ▣ Agility
- **IT control and influence of technology investments.**
  - ▣ **IT budget ÷ Money spent on technology.**

# Enterprise Architecture

Questions?

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