EA在資訊系統發展的應用與前瞻

An Overview of Enterprise Architecture in Information System Development

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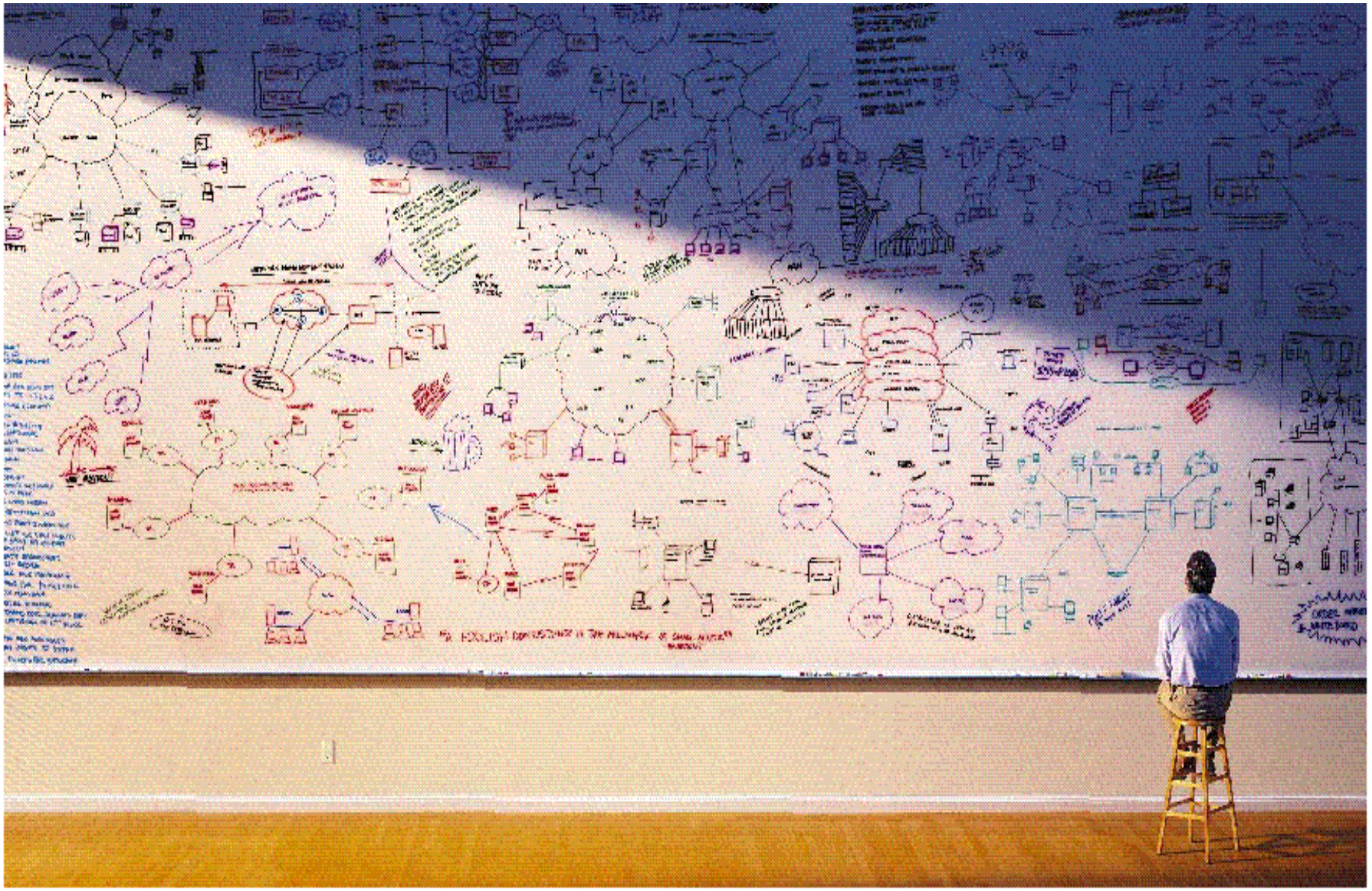
Agenda

- Introduction
- Evolution of EA
- How to build an EA system
- EA systems in Taiwan
- Summary

Existing processes are often difficult, expensive and slow to change



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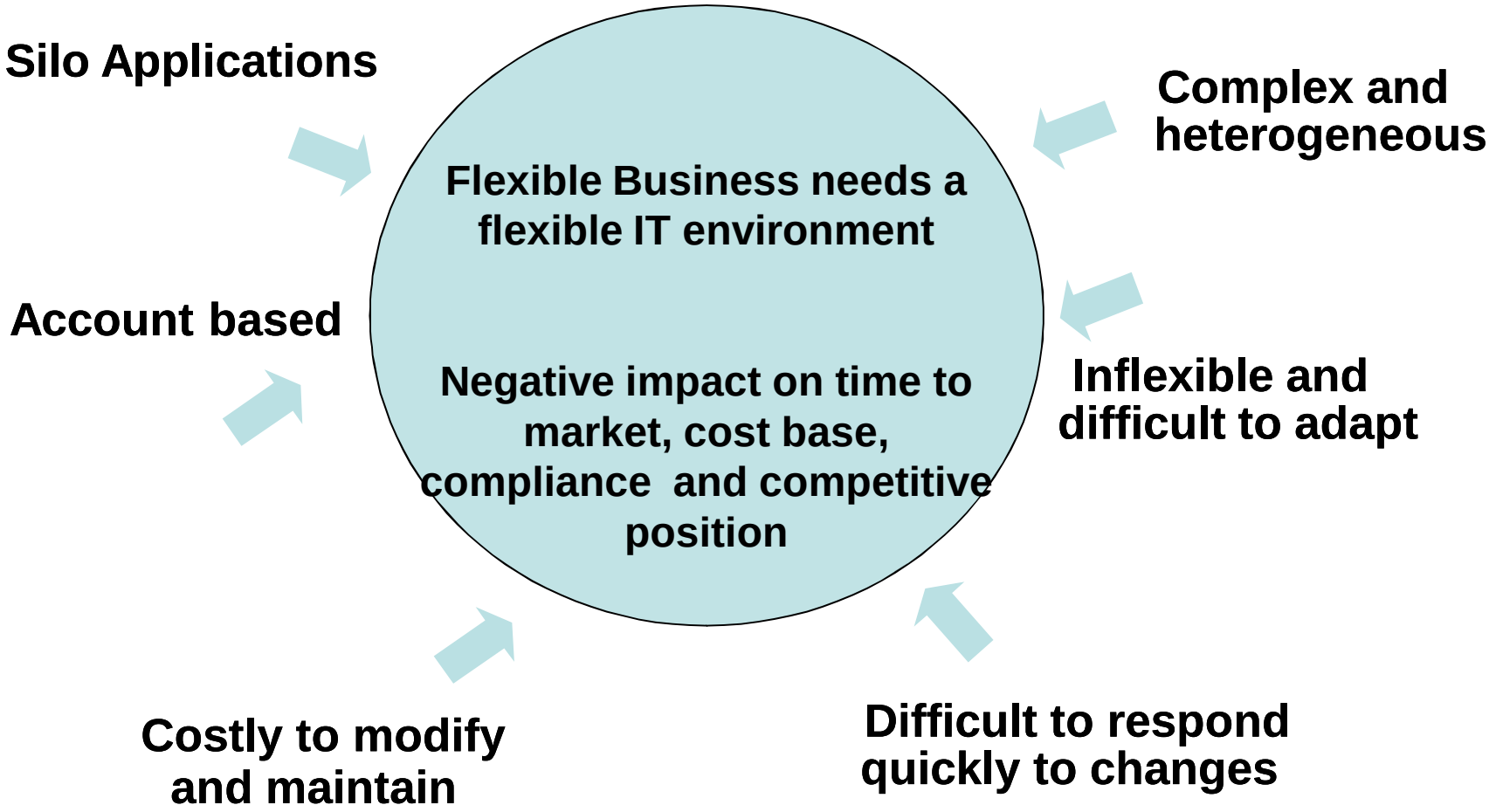
Current IT architectures do not adequately support the achievement of business initiatives



The challenge is to link people, process, and information with flexibility

Courtesy by IBM

Enterprise Architecture Solutions

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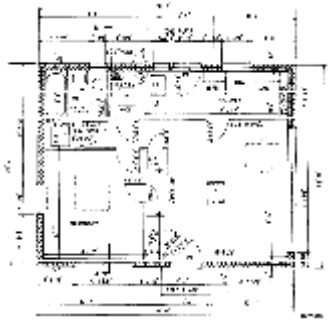
EA 規劃就像市政發展需要先規劃出市政藍圖一樣

The blueprint for a city plan and its various components share a common structure.

市政規劃架構

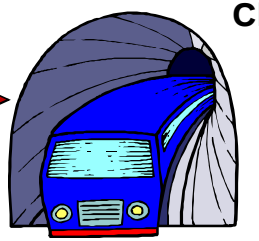
(City Architecture)

School Architecture

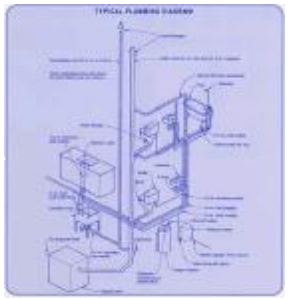


Floor plan

Church Architecture

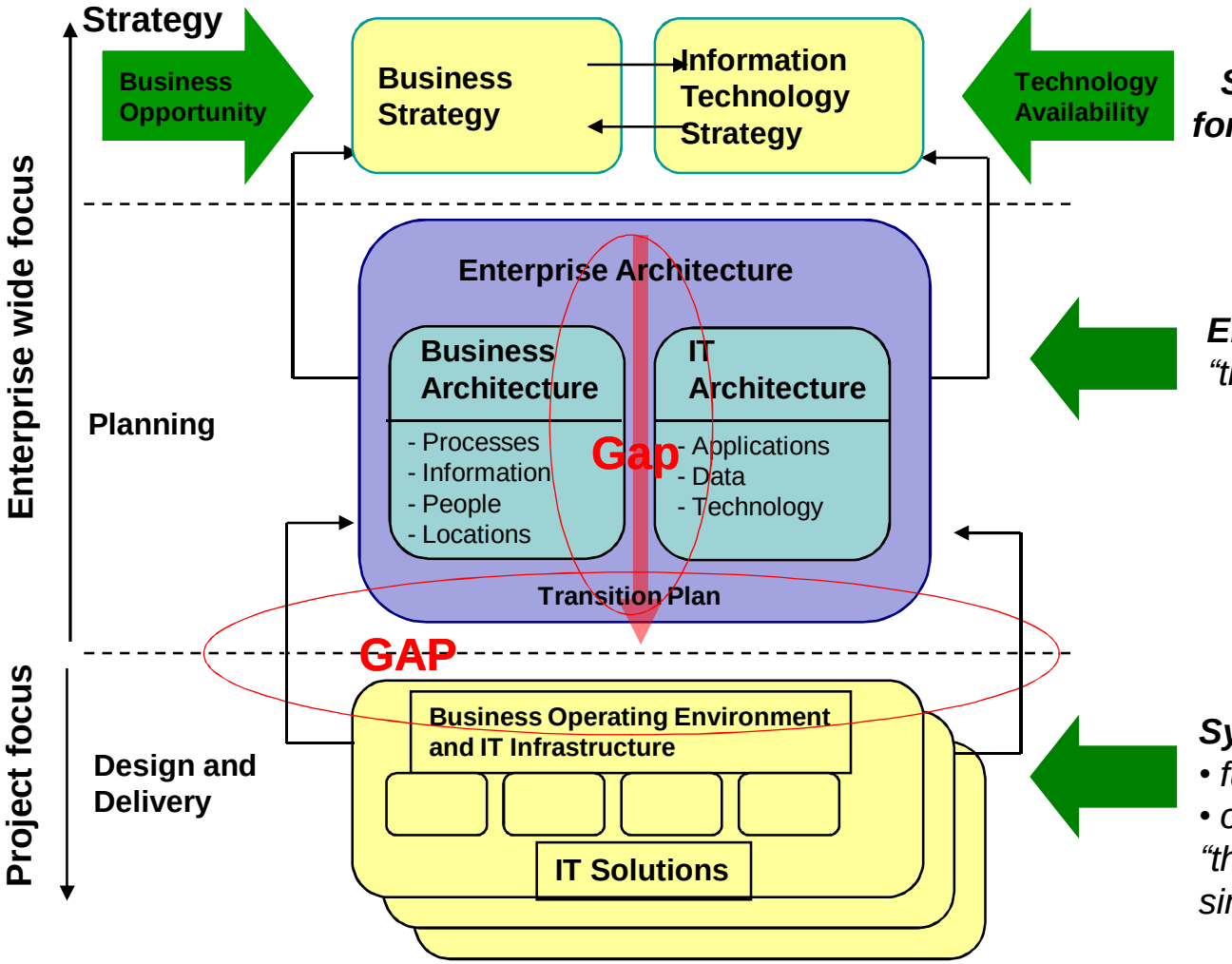


Transportation Architecture



Plumbing Blueprint

Service Oriented Architecture aligns both Business and IT Architectures, providing the “city plan” for “building projects”.



SOA is the “city plan” for Enterprise IT

- §*Standards*
- §*Guidelines*
- §*Exceptions, etc.*

Enterprise Architecture
“the city plan”

System Architecture
- *functional aspects*
- *operational aspects*

“the infrastructure and single building design”

Enterprise Architecture

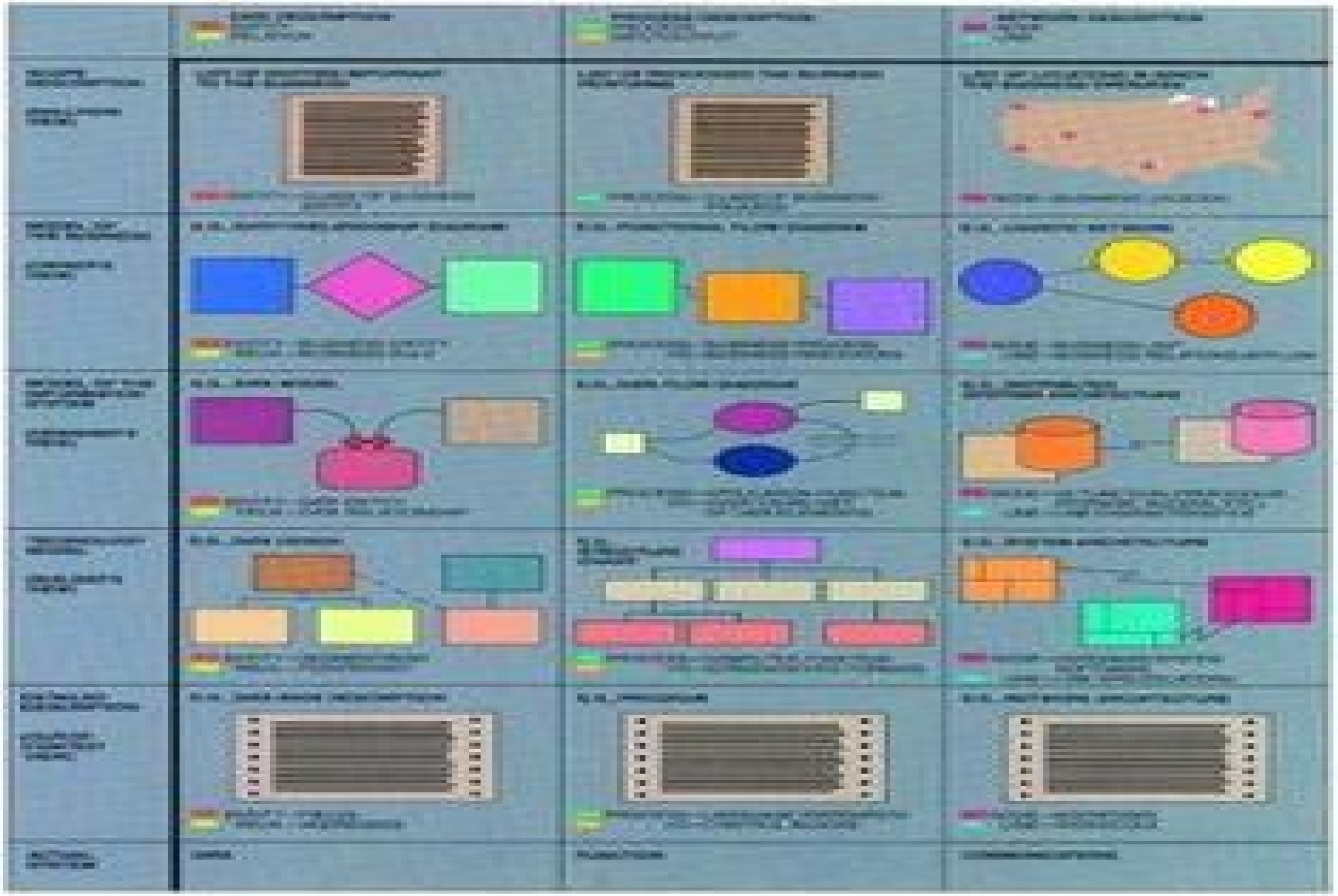
- "enterprise architecture" is a reference to a *business team* that uses EA methods to produce architectural descriptions of the structure of an enterprise.
- **Enterprise Architecture** is the organizing logic for business processes and IT infrastructure reflecting the integration and standardization requirements of the firm’s operating model.[1]
- Enterprise Architecture describes enterprise applications and systems with their relationships to enterprise business goals.

Evolution of Enterprise Architecture

- Enterprise Architecture started with the John Zachman Framework in 1987 which provides a formal and highly structured way of viewing and defining an enterprise.

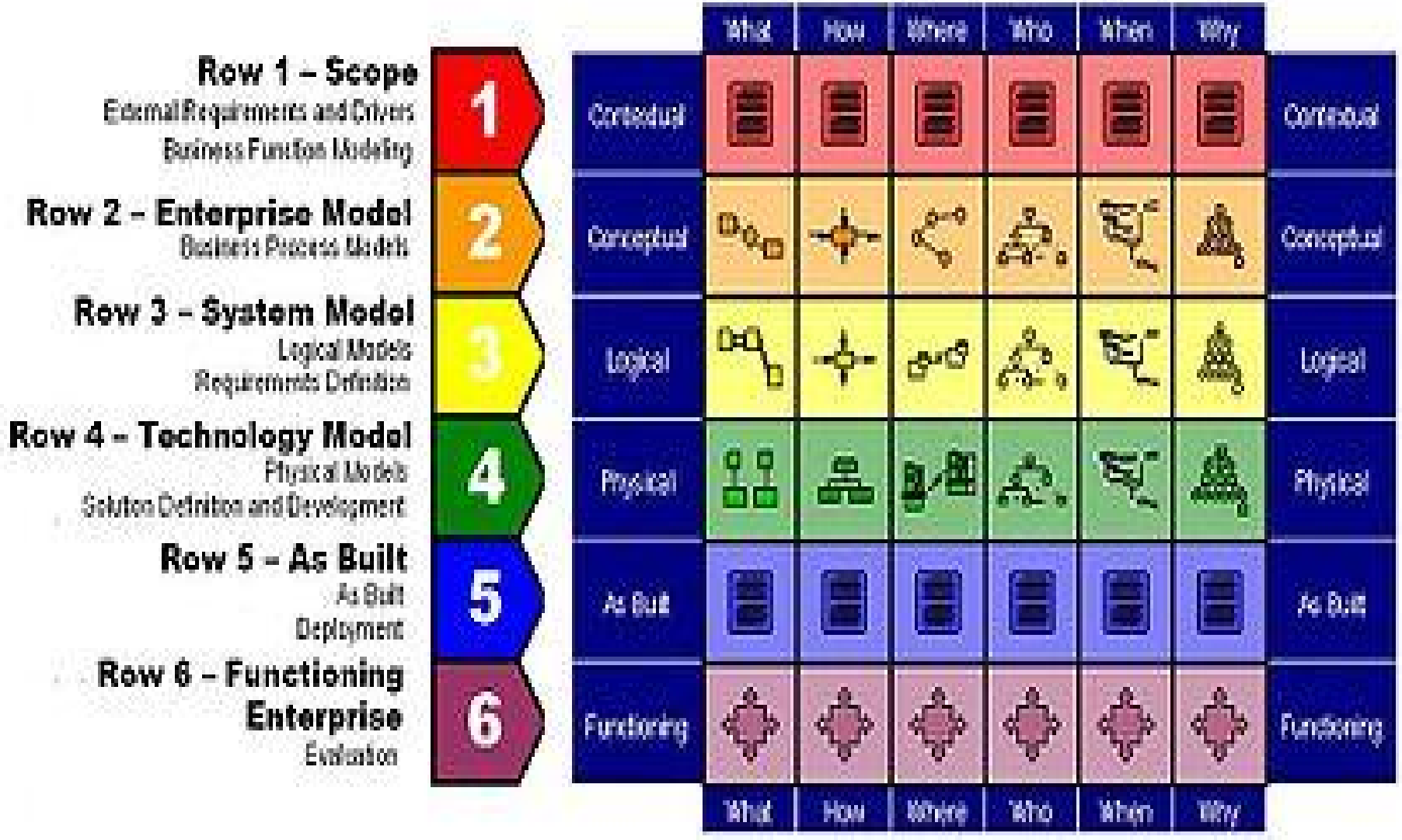
- Earliest implementation of an EA framework was the "Technical Architecture Framework for Information Management" (TAFIM) in 1991 with the TAFIM Technical Reference Model (TAFIM TRM). The TRM model use open systems to develop a DoD-wide application.

- The TOGAF TRM was originally derived from the TAFIM, which uses to construct an information processing system, including consumers, system integrators, application developers, system providers, and procurement agencies.



- The first version of the originally called "Information Systems Architecture Framework" presented by John Zachman in 1987.

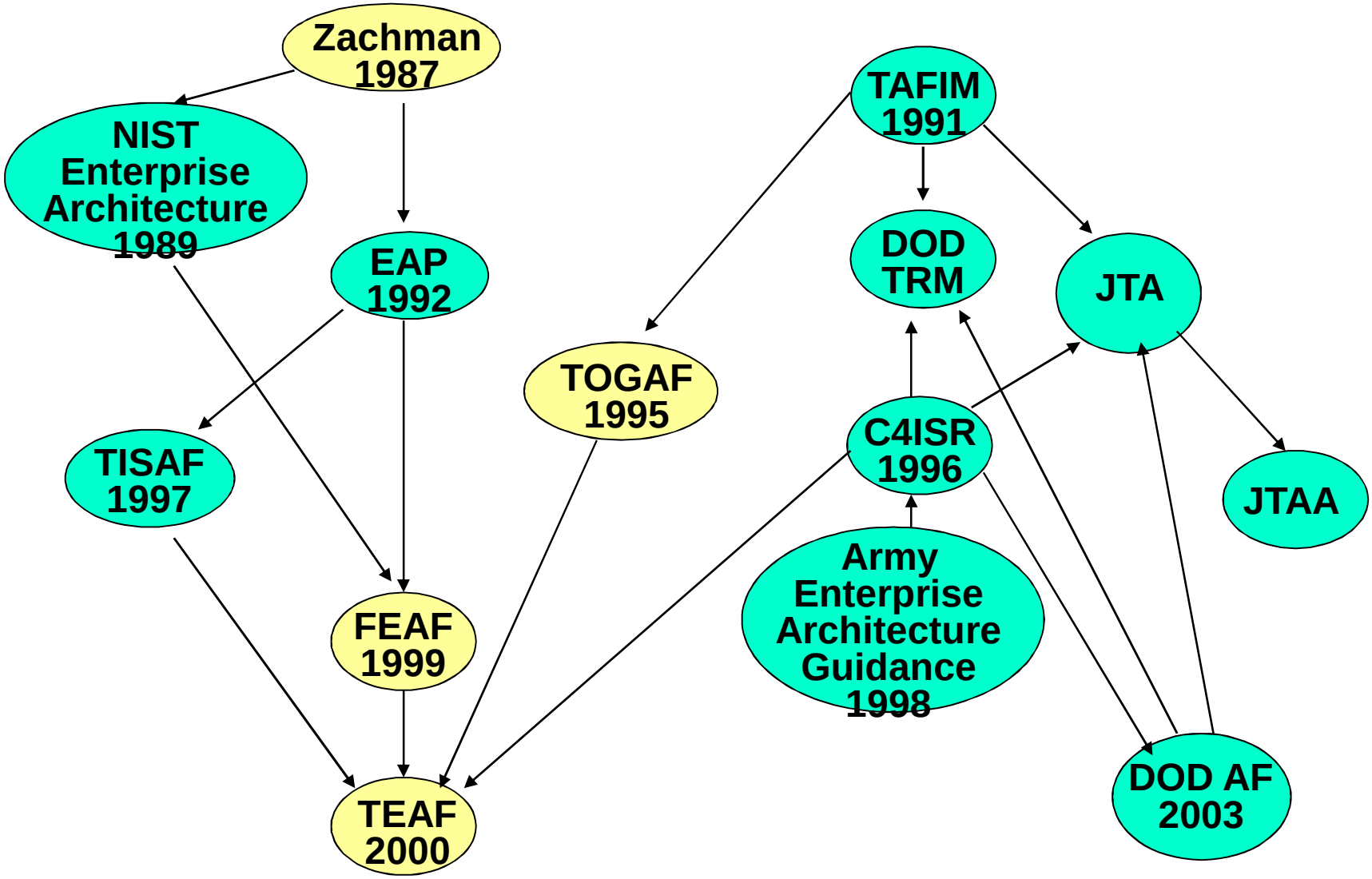
Zachman Framework with an explanation of its row



- In recent years, EA brings together business models (e.g. process models, organizational charts, etc.) and technical models (e.g. systems architectures, data models, state diagrams, etc.) it is possible to trace the impact of organizational change on the systems, and also the business impact of changes to the systems.

- As this benefit has emerged, many frameworks such as DoDAF, MODAF, or AGATE have adopted a standard meta model which defines the critical architectural elements and the dependencies between them.

- Impression of Enterprise Architecture Frameworks evolution (1987-2003).[2] On the left: The Zachman Framework 1987, NIST Enterprise Architecture 1989, EAP 1992, TISAF 1997, FEAF 1999 and TEAF 2000. On the right: POSIX, TAFIM, JTA, JTAA, TOGAF 1995, DoD TRM and C4ISR 1996, and DoDAF 2003.

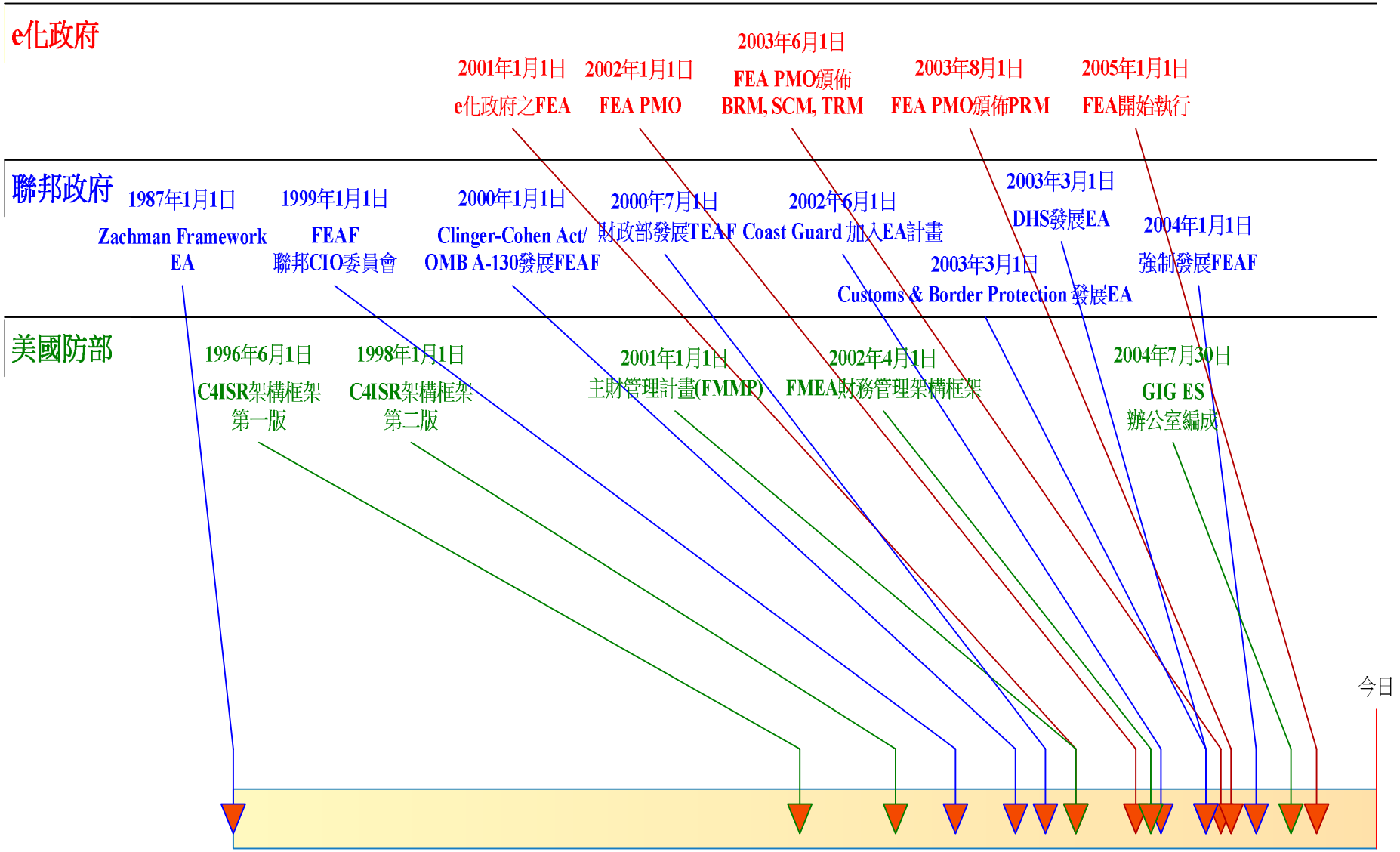


TOGAF: The Open Group Architecture Framework

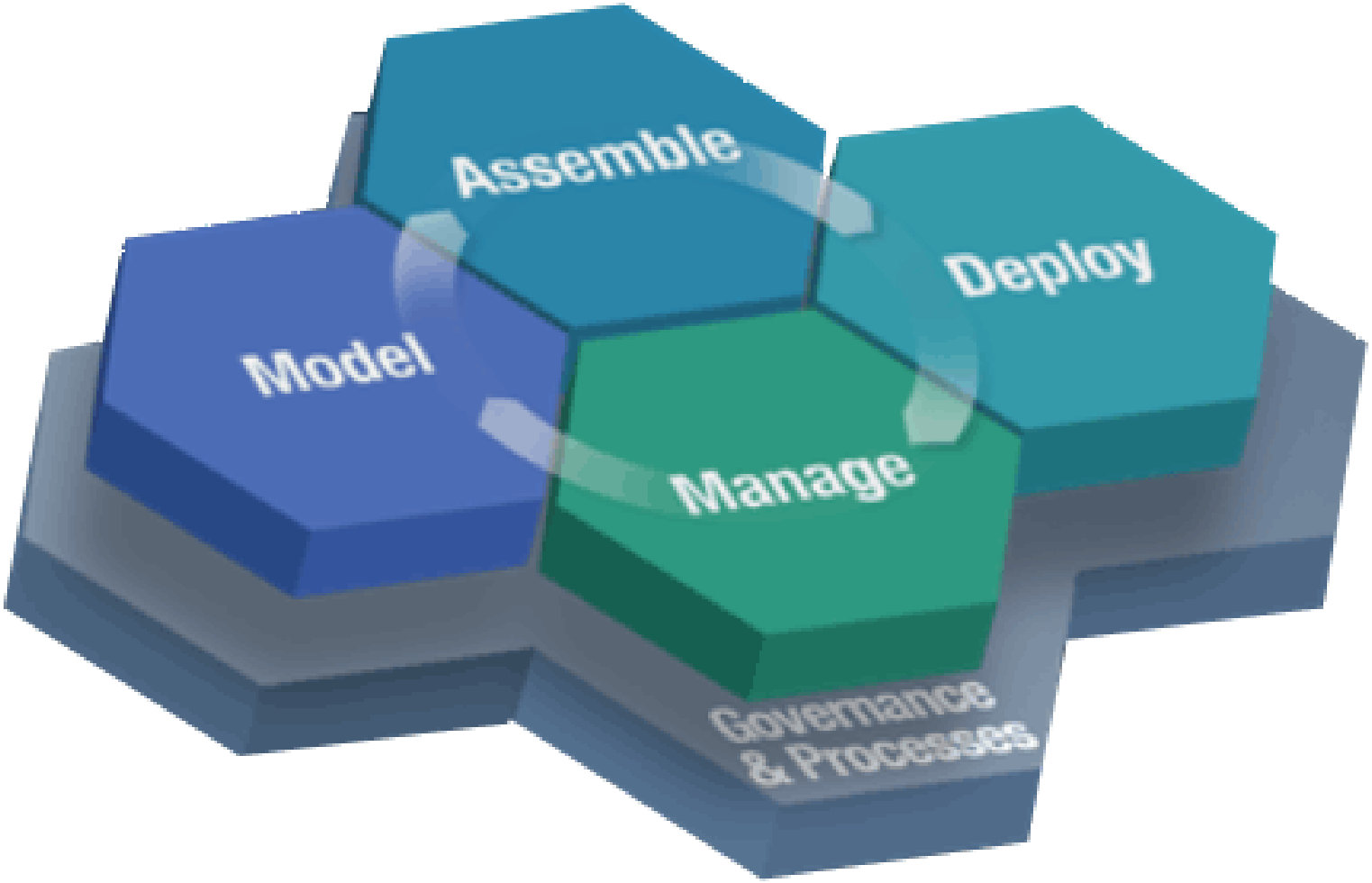
FEAF: Federal Enterprise Architecture Framework

TEAF: Treasury Enterprise Architecture Framework

Evolution of EA



How can we build a SOA system?



Courtesy by IBM

The heart of IBM SOA is business agility. Business process re-engineering and business process management is the first step

Assemble

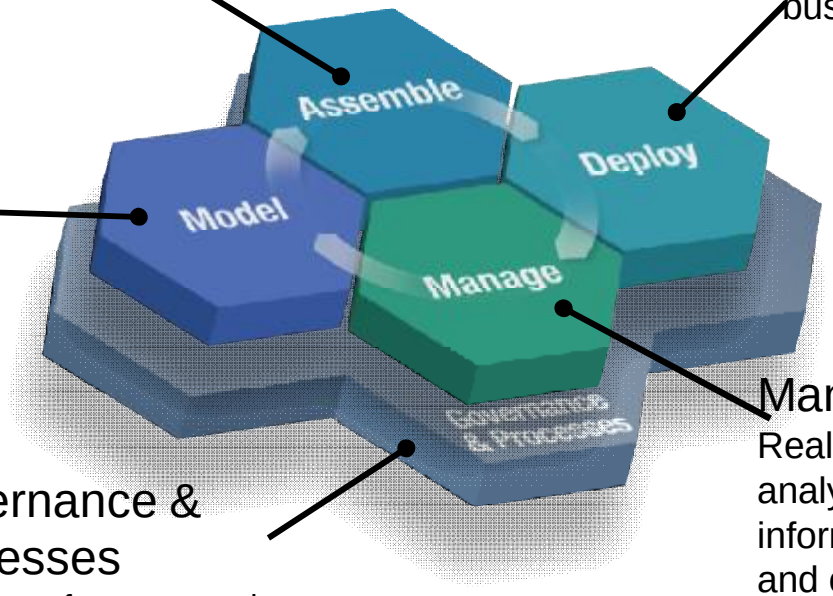
Assemble existing and new assets to execute and manage business processes

Deploy

Deployment of models, policies and assemblies to realize business intent

Model

Capture, simulate, analyze, and optimize business processes to reduce risk and increase flexibility



Manage

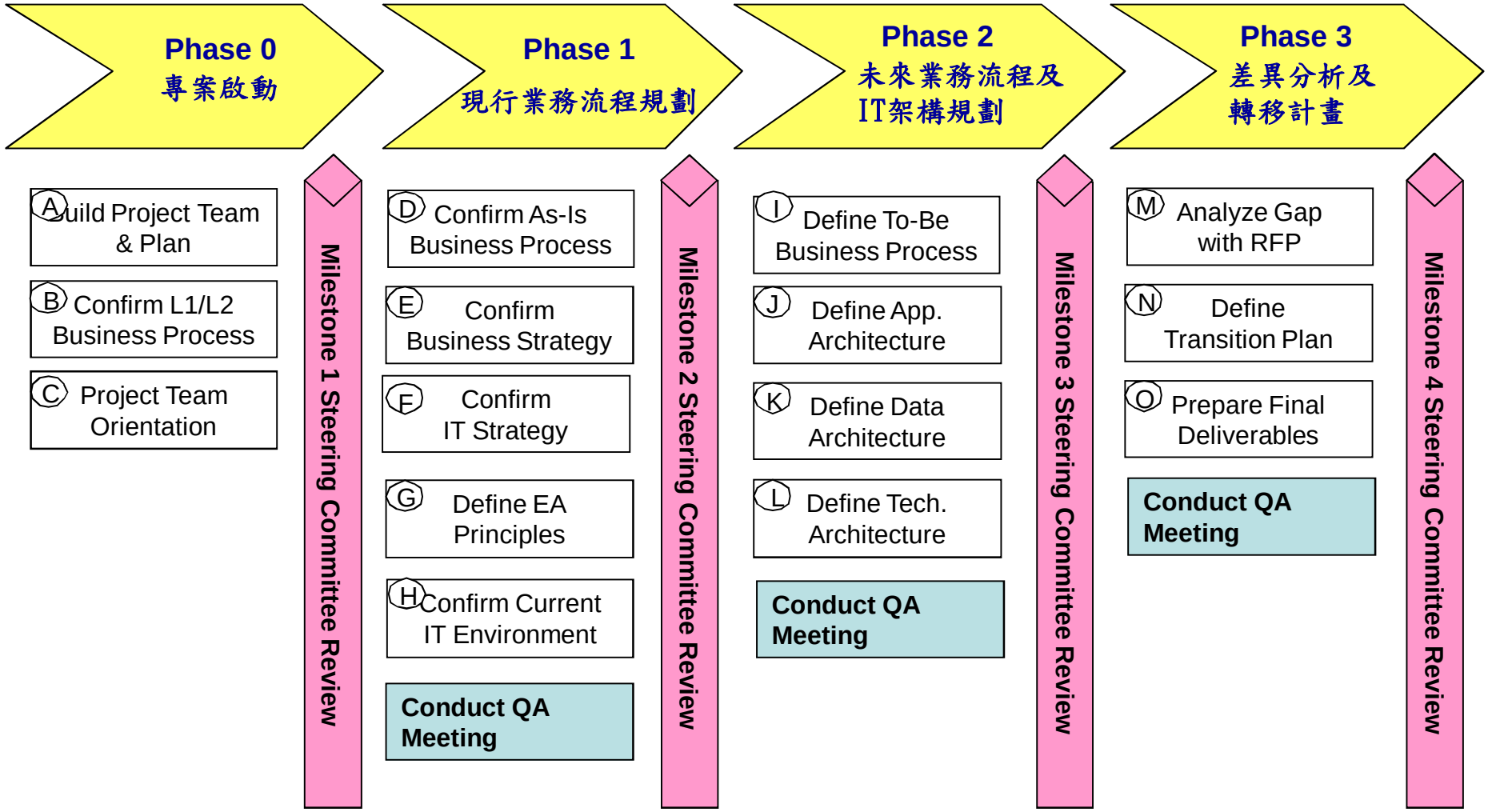
Real-time visibility and analysis of business information for timely and coordinated action

Governance & Processes

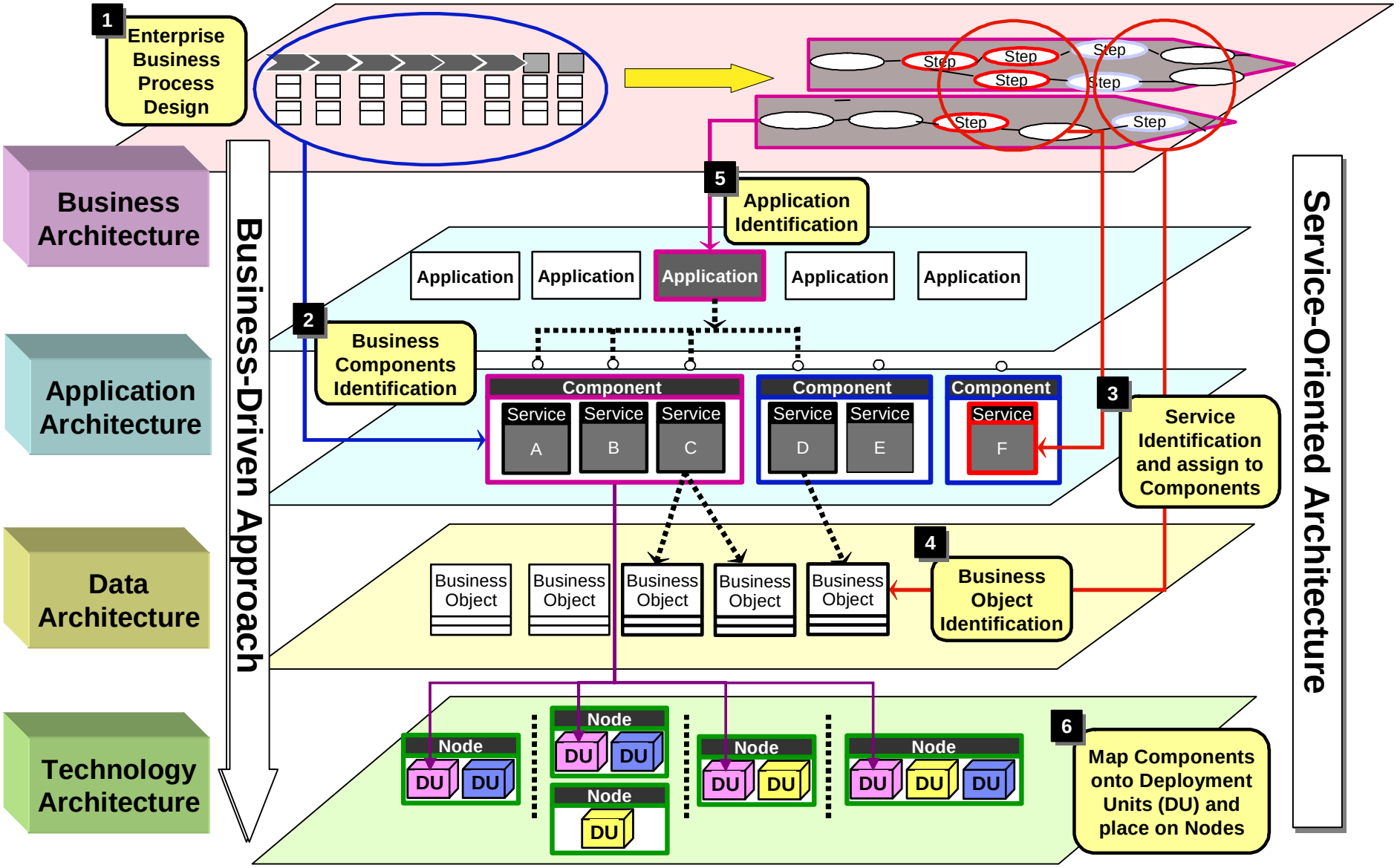
Alignment of strategy and operations across business and IT in support of business objectives

Courtesy by IBM

Design and Implementation a SOA system



SOA以業務導向的規劃方法,逐步設計以服務為導向的企業架構



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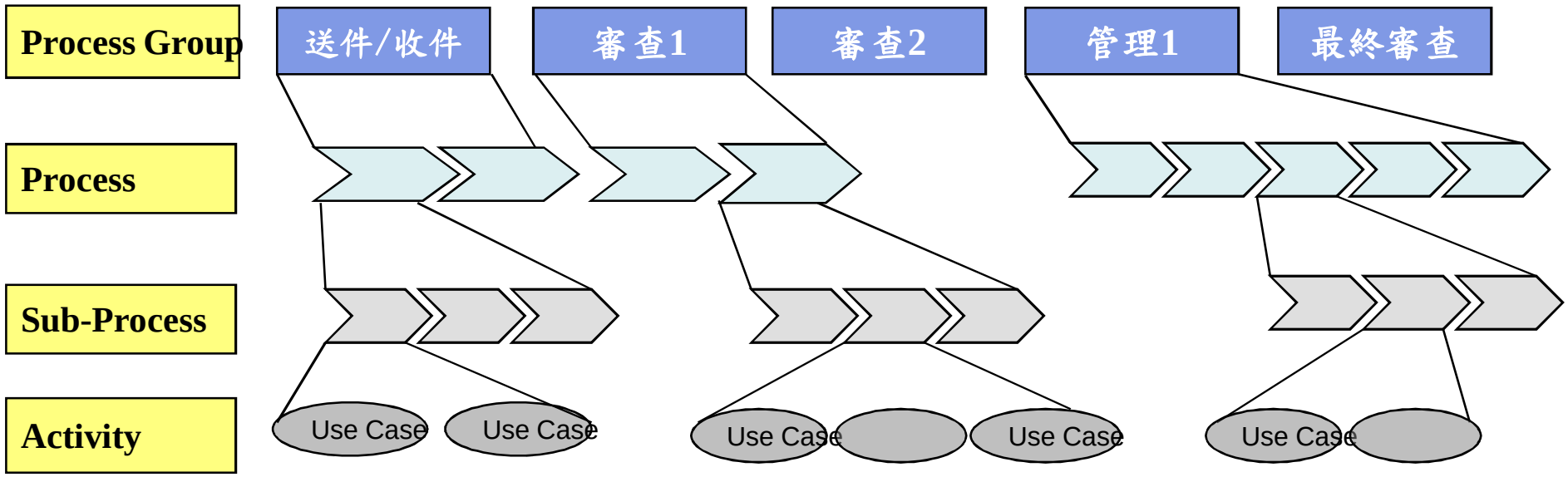
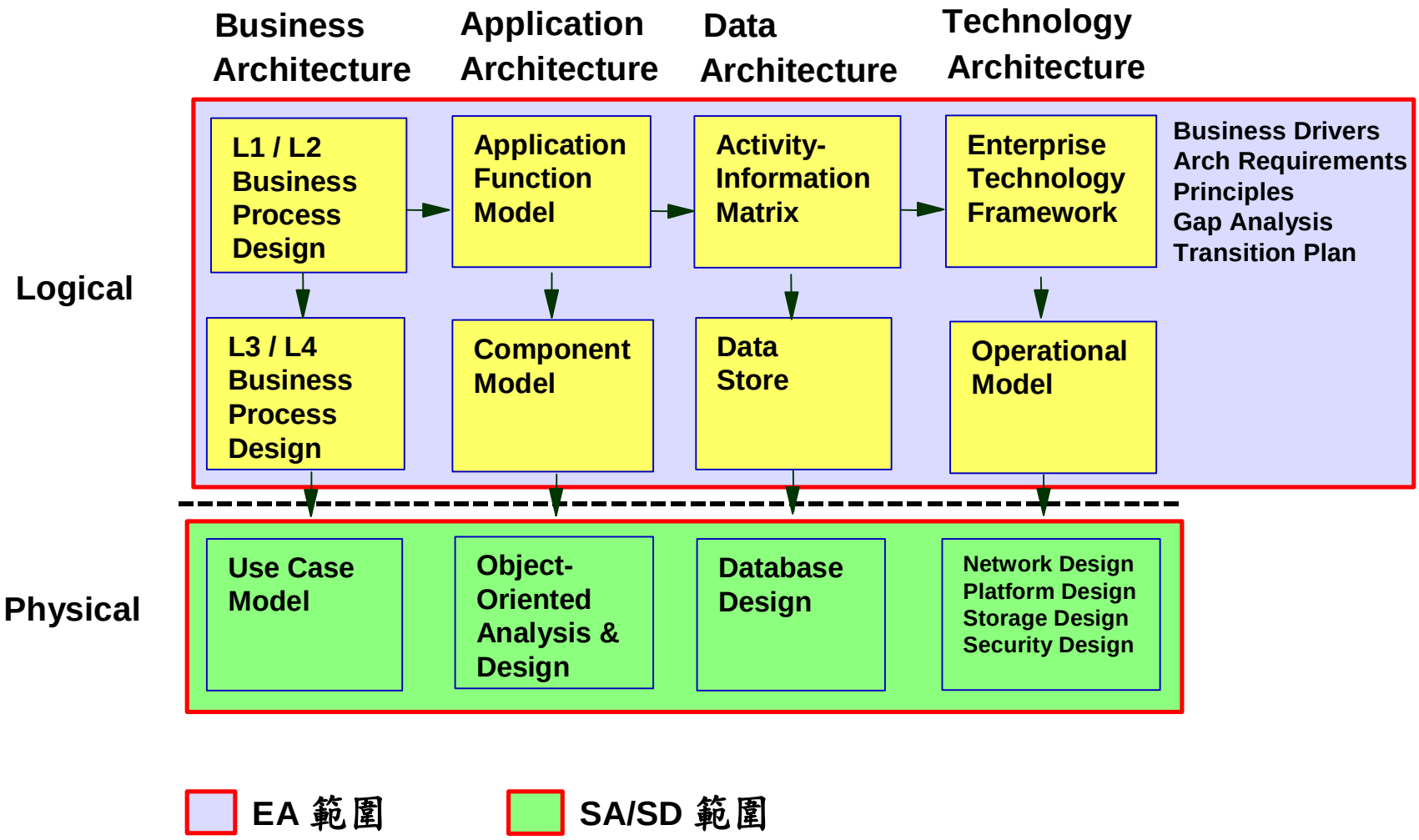
業務流程規劃之結果,產出使用者案例(Use Case)清單,以便作為後續之系統分析與設計工作(System analysis & design)基礎

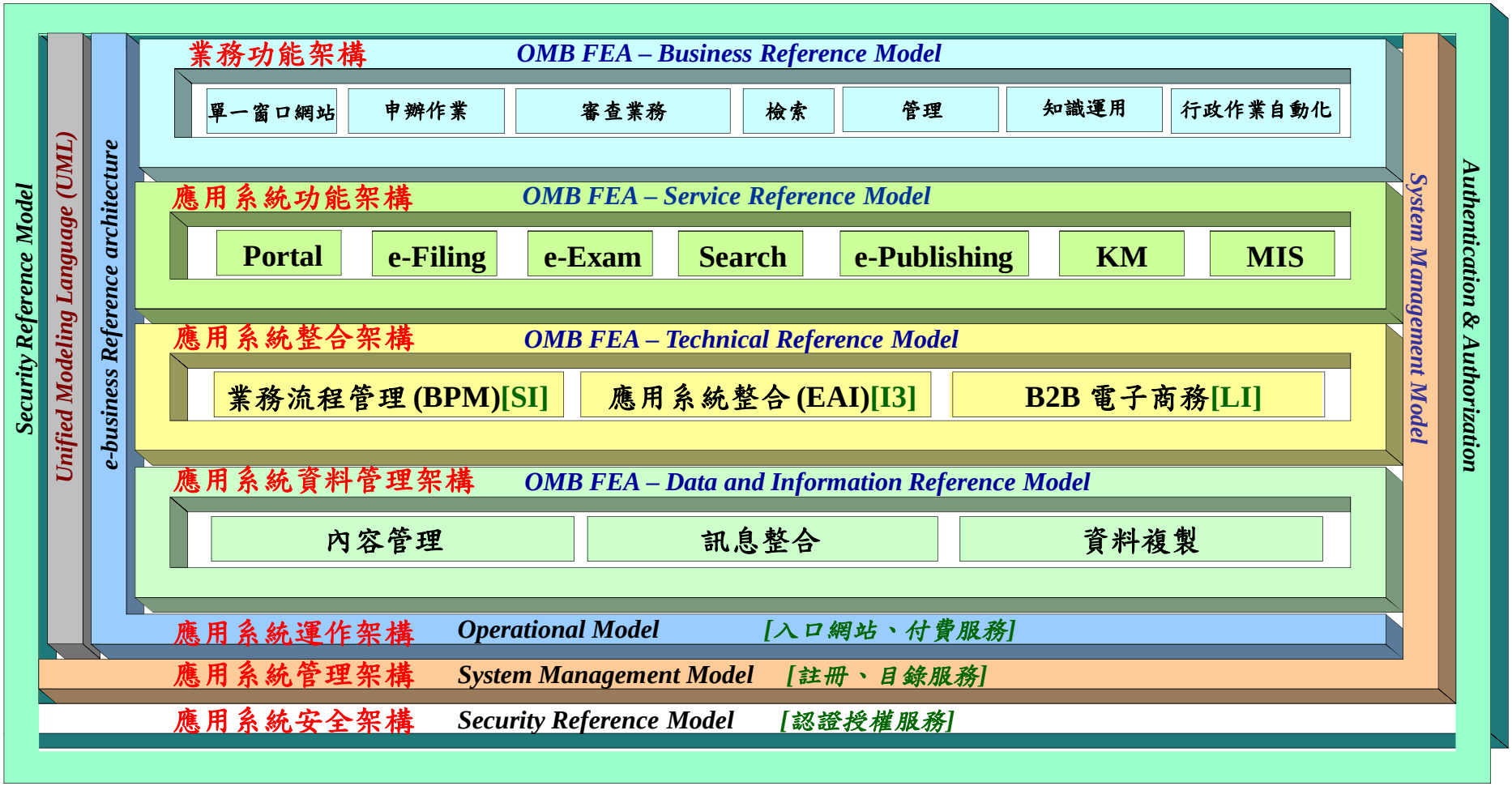


- 分析 Sub-Process 中所包含之 Activity, 定義出 Business Use Case
- 可進一步由 Business Use Case 中分析出一至多個 System Use Case

SOA 規劃之交付成果，將作為各應用系統分析設計之基準以及統一的規範



EA systems in Taiwan



- 參考美國「管理暨預算局」（Office of Management and Budget，OMB）所規範之「電子化政府軟體架構」（Federal Enterprise Architecture，FEA）


Thank
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