Avancier Methods
Initiate Phase

Specialising AM for
Solution Architecture

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Reasonable contrasts that you can draw
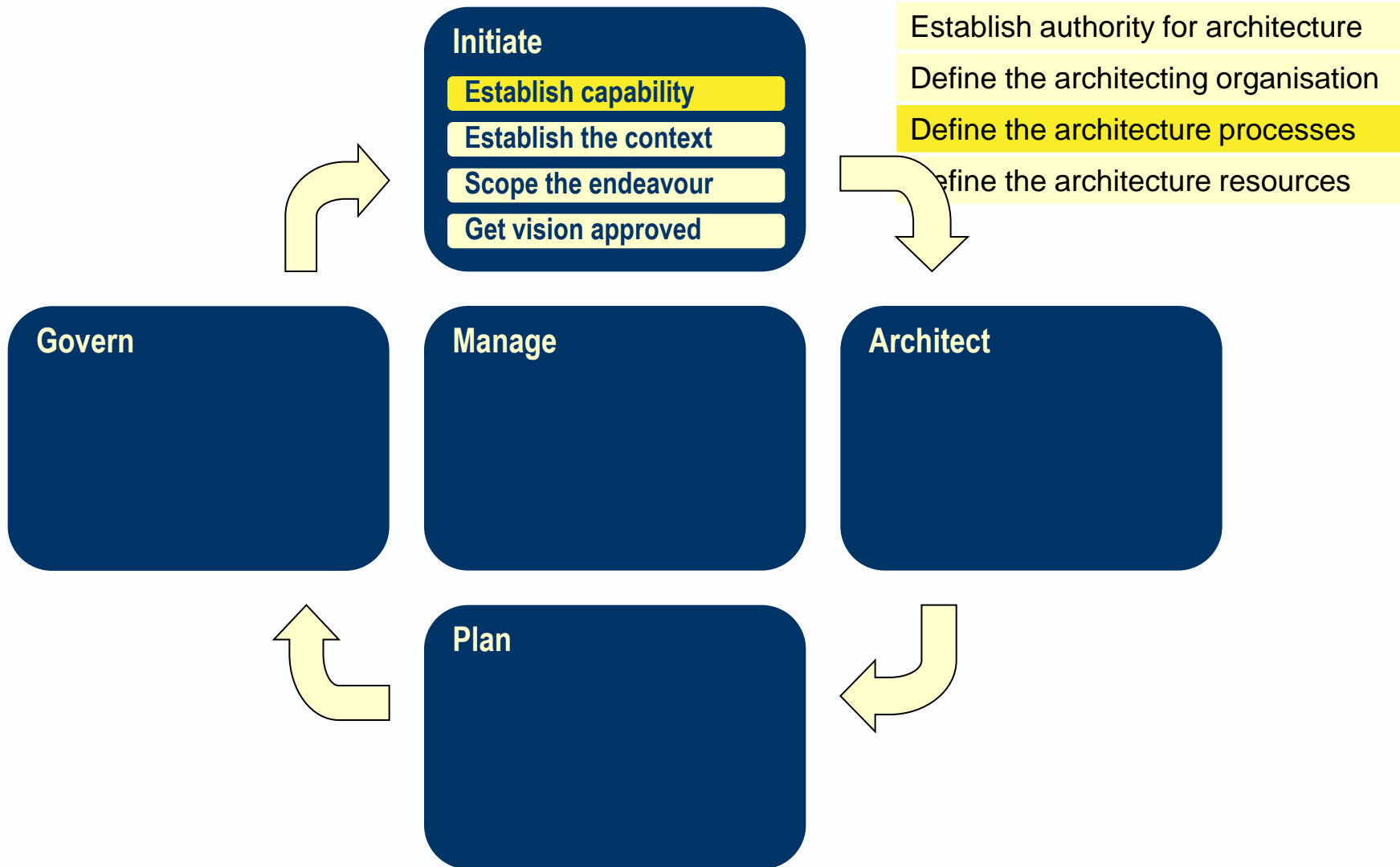
Solution Architecture
- ► Local (function or unit)
- ► Narrow (point solution)
- ► Tactical (short term)
- ► Innovative
- ► Concrete
  - ■ Fine-grained
  - ■ Specific
  - ■ Physical

Enterprise Architecture
- ► Global (whole enterprise)
- ► Broad (cross-organisation optimisation)
- ► Strategic (long-term)
- ► Rationalising
- ► Abstract
  - ■ Coarse-grained
  - ■ Generic
  - ■ Logical

BCS professional certificates cover both, so, Avancier Methods include SA and EA variations

Define the SOLUTION architecture processes

Initiate

Establish capability

Establish the context

Scope the endeavour

Get vision approved

Establish authority for architecture

Define the architecting organisation

Define the architecture processes

Define the architecture resources

Govern

Manage

Architect

Plan

Q) What are SA ends and means?

SA is that high level design needed to

► address given problems and requirements,
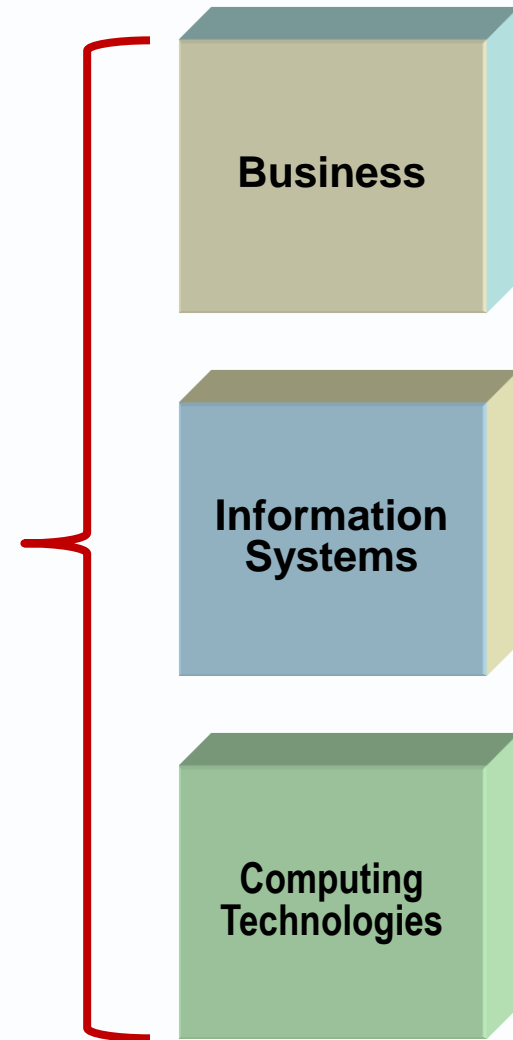
► with an eye on benefits, costs and risks,

To

► support and enable specific business roles or processes
  ■ by use of data, applications and IT infrastructure.

► steer procurement of packages and/or software development.

► scope one or more applications
  ■ cf. the "inception" phase of an SDLC

► plan application implementation
  ■ cf. the "elaboration" phase of an SDLC

► improve business data quality, integrity and availability
  ■ by designing an applications architecture to integrate apps
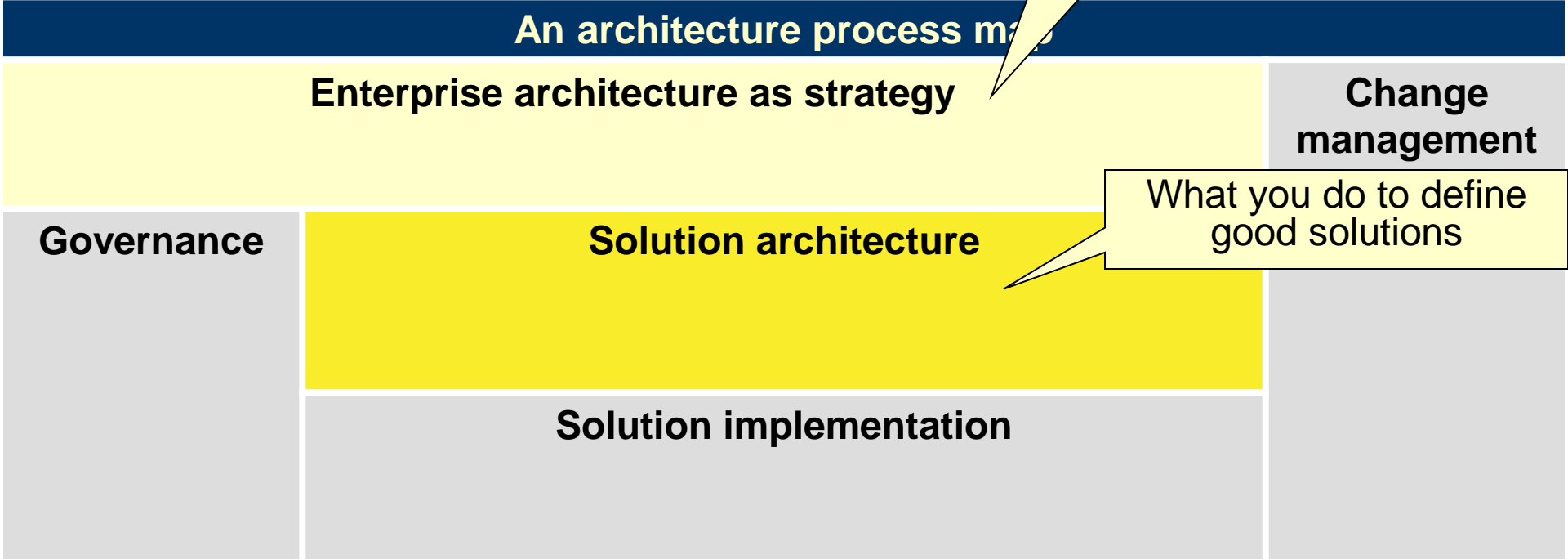
SA domains

▶ SA is about the efficient & effective use of digital **information systems** by **business roles & processes**

> "the effective management & exploitation of information through IT" TOGAF

▶ SA is very much concerned to **manage risks** and ensure a solution will **meet non-functional requirements**, which involves understanding the **technical resources** needed for that.
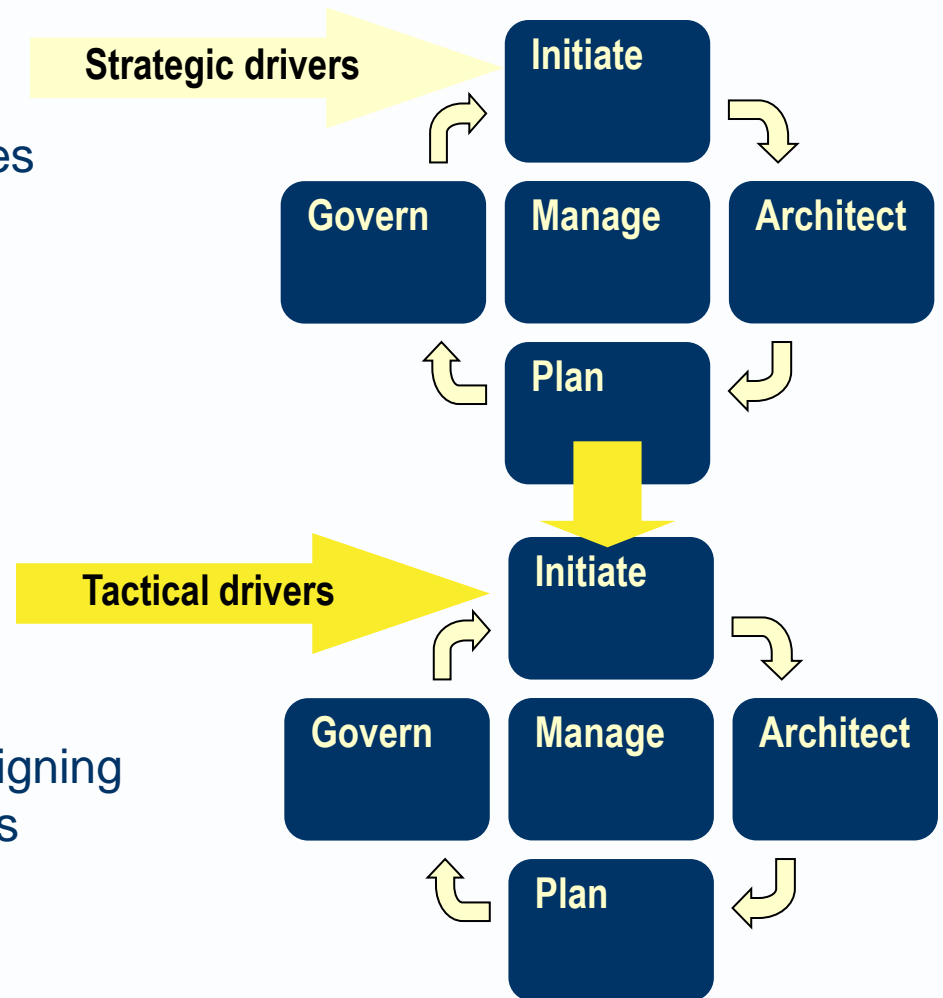
Business

Information Systems

Computing Technologies

Enterprise v. Solution Architecture

What you do for cross-organisational benefit

What you do to define good solutions

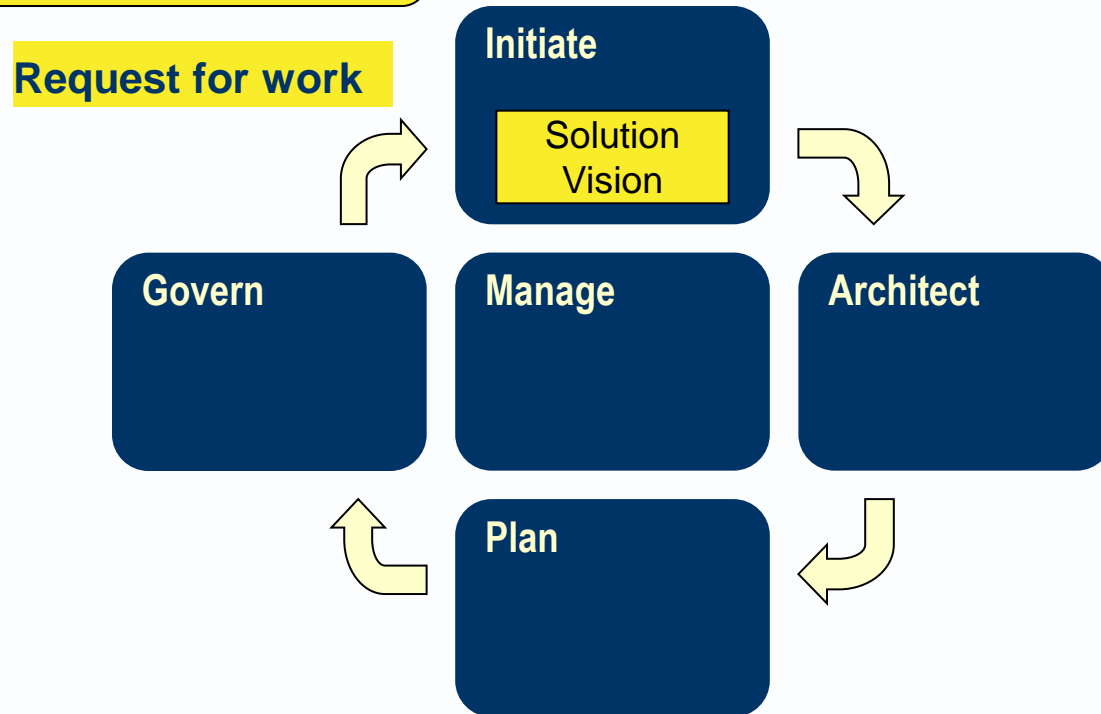| An architecture process map		
Enterprise architecture as strategy		Change management
Governance	Solution architecture	
	Solution implementation	

SA is the "lower" process variation

▶ Enterprise architecture
- ■ common standards and principles
- ■ rationalisation
- ■ high-level road map(s)
- ■ governs solution architecture

▶ Solution architecture
- ■ specific problems
- ■ solution delivery
- ■ wrestles with the realities of designing and developing specific solutions
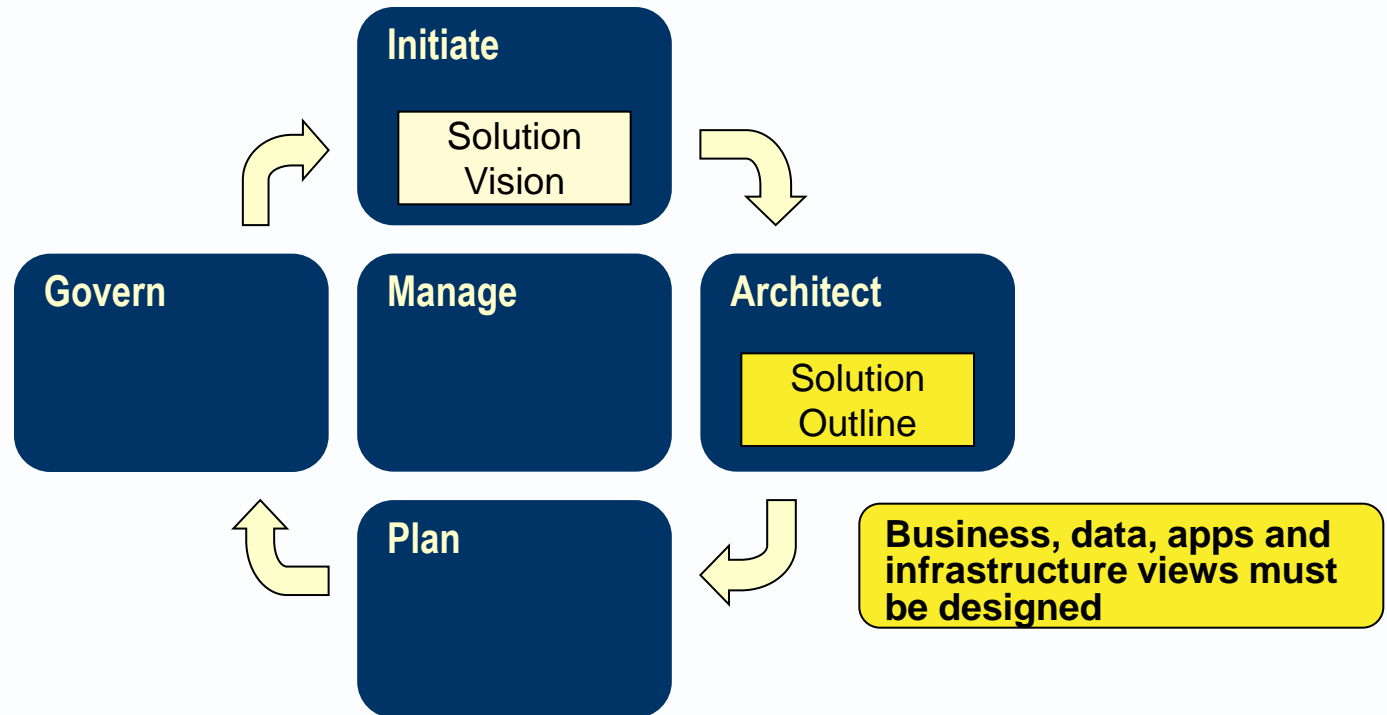
Strategic drivers → Initiate

Govern | Manage | Architect

Plan

Tactical drivers → Initiate

Govern | Manage | Architect

Plan

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Initiate Phase

A sponsor has a problem or requirement, there is a need for a change, a solution must be delivered

Request for work

Initiate

Solution Vision

Govern

Manage

Architect

Plan

Architect Phase

Initiate
- Solution Vision

Govern

Manage

Architect
- Solution Outline

Plan

Business, data, apps and infrastructure views must be designed

SA involves all architecture domains

► The role name is widely used in Systems Integrators thus:

► "Solution Architecture is an umbrella term covering a solution deliverable, which is likely to include one or more of:

- Business Architecture,
- IS Architecture (Apps & Data)
- IT Architecture (Server/Storage/Network/etc.)

► This is reflected in a Career Development Framework that we developed to support Architects."

Head of Architect Practice & Technical Assurance.

AM features processes for business, data, apps and infrastructure solution design
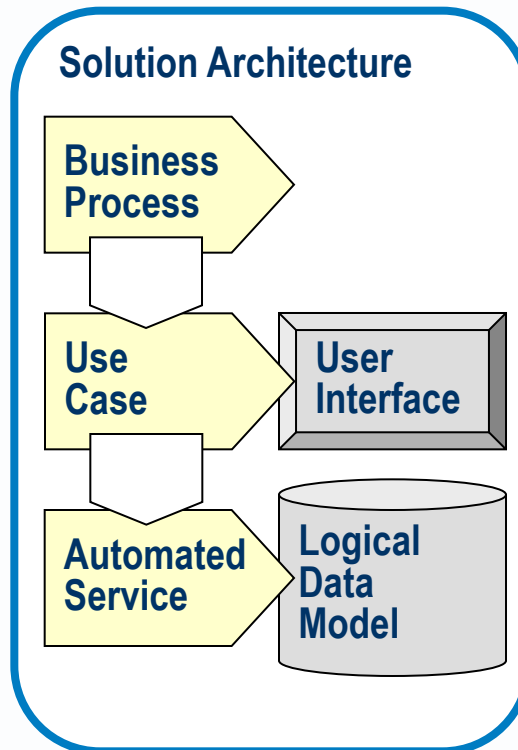
Business-scenario driven solution architecture

► Start with business roles and processes

► Identifies and defines the systems and technologies they need

► Business architecture

Top down process decomposition to identify required services

► Applications architecture

Solution Architecture

- Business Process
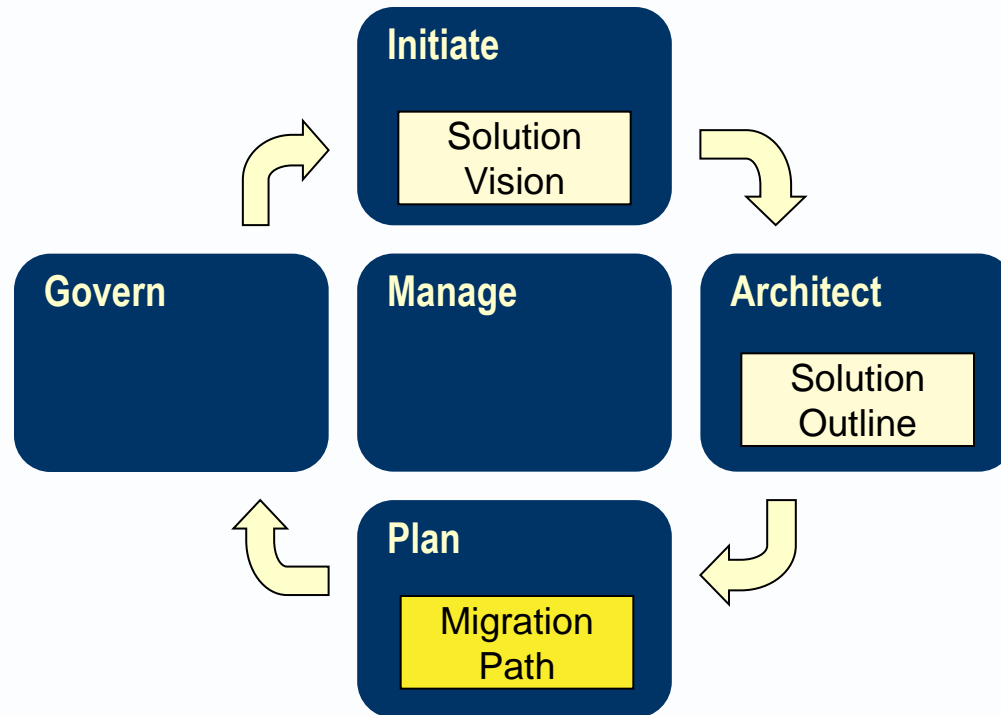- Use Case → User Interface
- Automated Service → Logical Data Model

► Data architecture

Reuse of existing services

► The required services are defined by top-down analysis
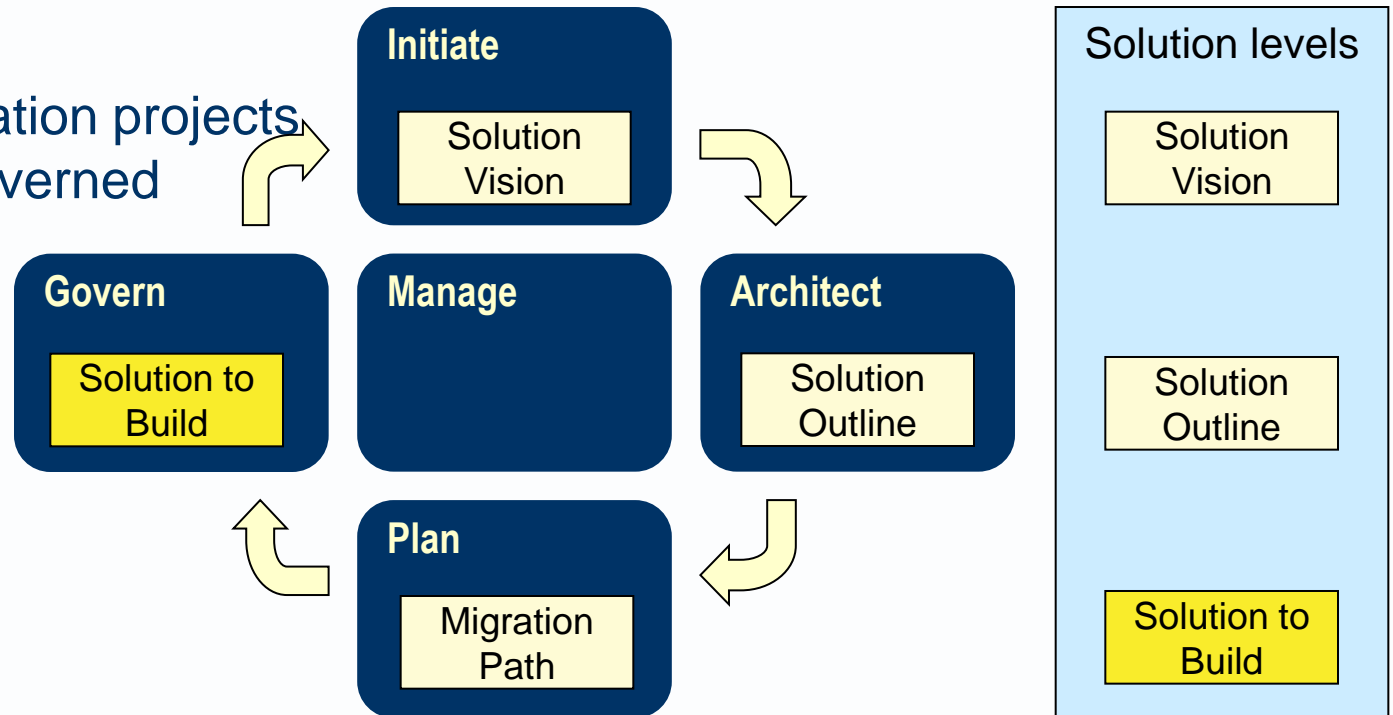► And mapped to the already-provided services
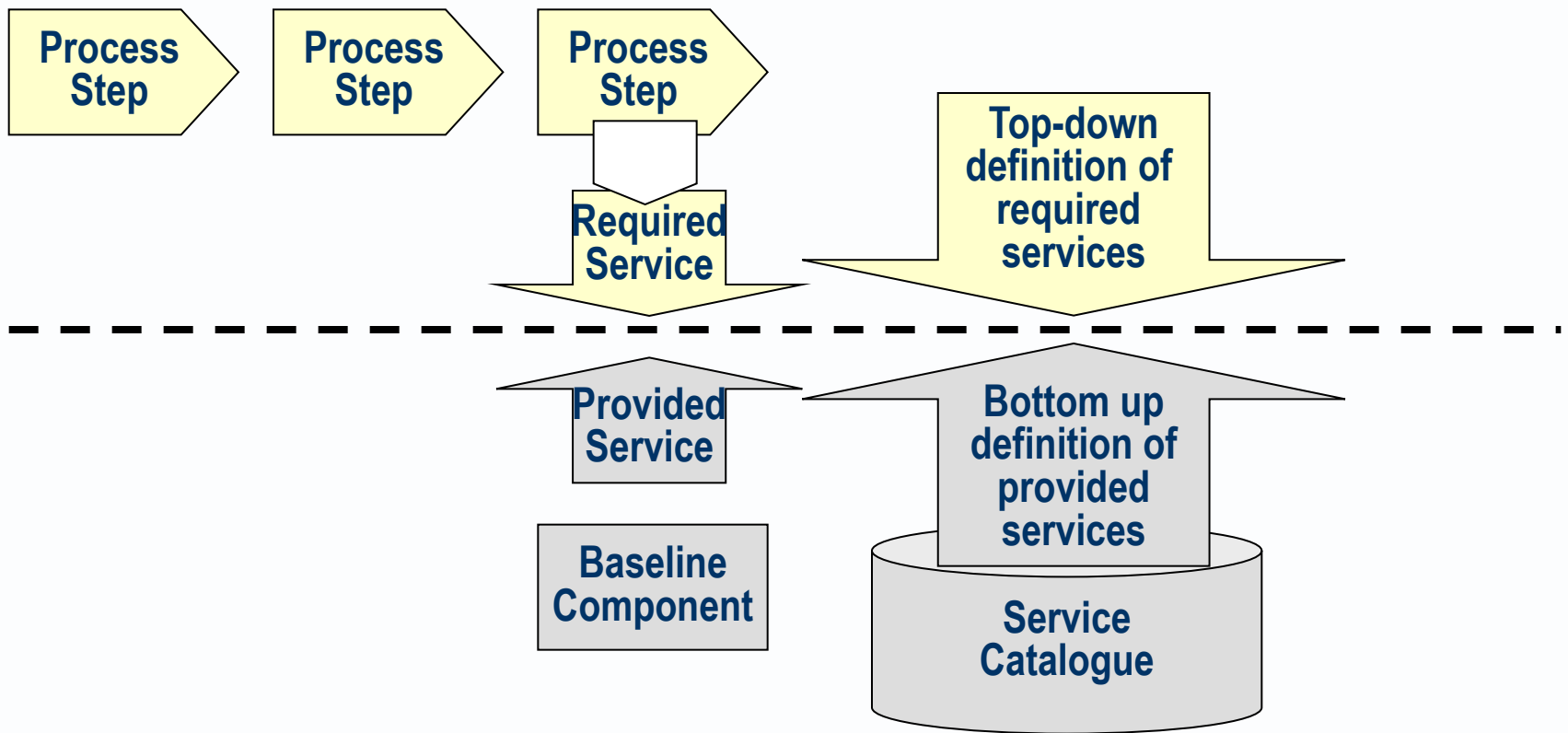
Plan Phase
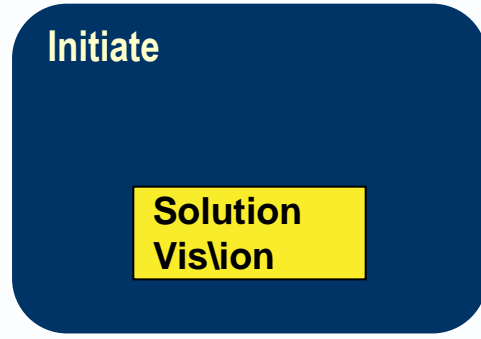
► Planning the move from Baseline to Target

Govern phase

► A Solution Outline must be elaborated until it is build-ready

► Implementation projects must be governed

Initiate

Solution Vision

Govern

Solution to Build

Manage

Architect

Solution Outline

Plan

Migration Path

Solution levels

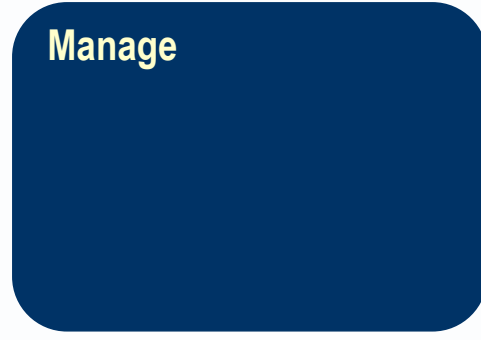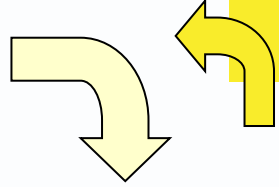Solution Vision

Solution Outline

Solution to Build

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Iterate where necessary to correct or improve

► Be as agile as the business case and deadlines allow

Initiate
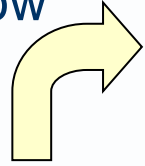
Solution Vis\ion

Revise solution vision

Revise built systems

Govern

Solution to Build

Manage

Architect

Solution Outline

Plan

Migration Path

Revise plans
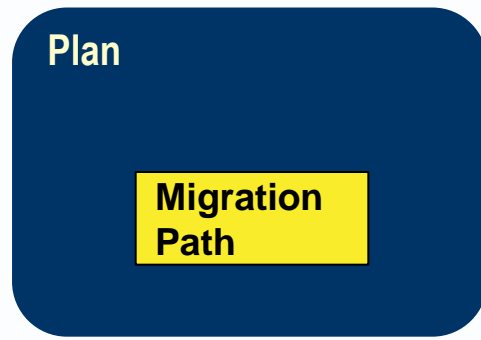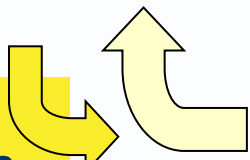
Revise solution outline

Relating Solution Architecture to other processes

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Governance is needed to align SA with EA
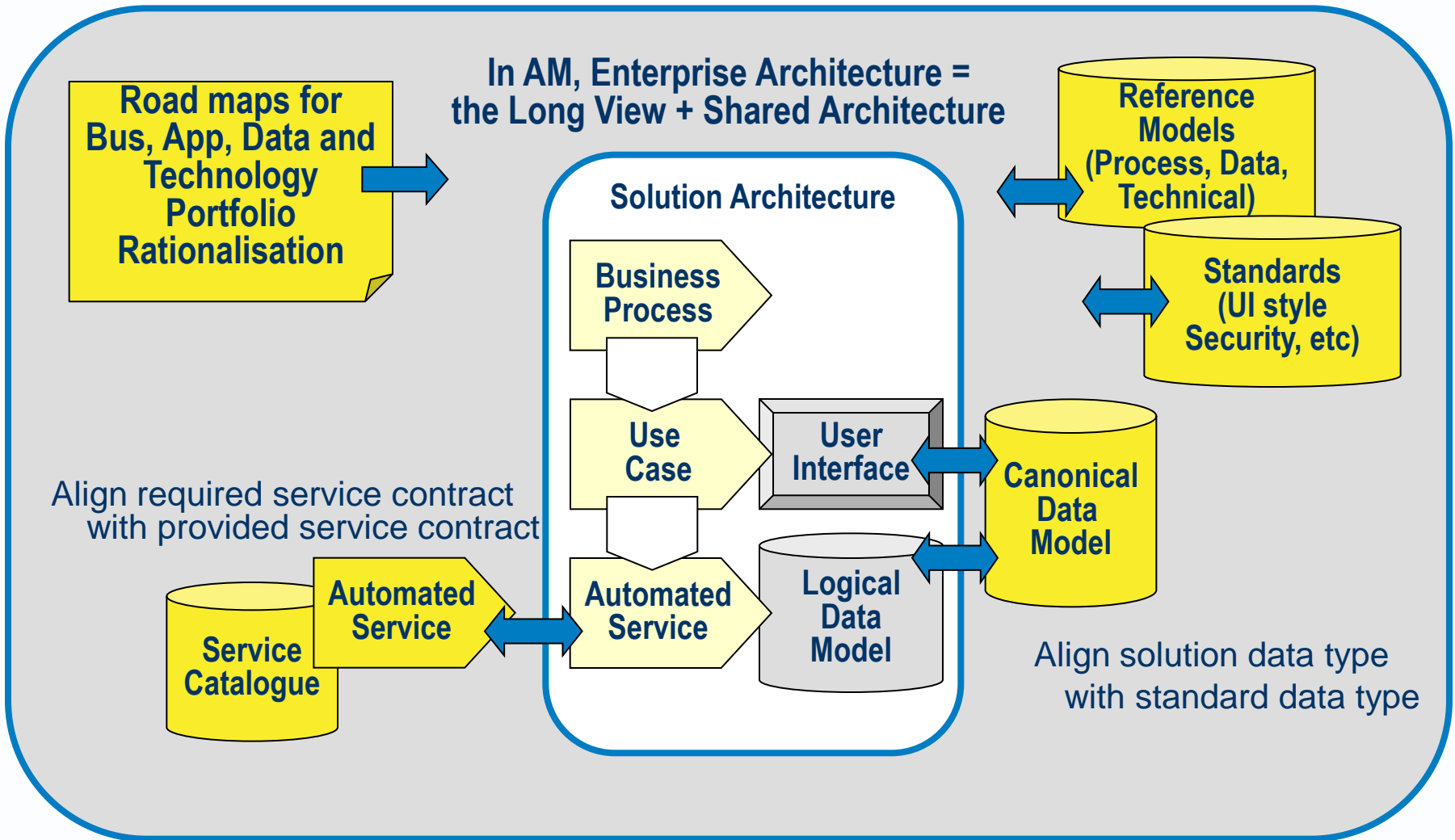
Road maps for Bus, App, Data and Technology Portfolio Rationalisation

In AM, Enterprise Architecture = the Long View + Shared Architecture

Reference Models (Process, Data, Technical)
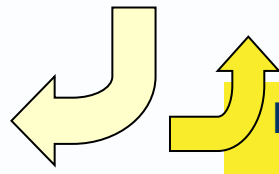
Standards (UI style Security, etc)

Solution Architecture

Business Process

Use Case

User Interface

Canonical Data Model

Automated Service

Logical Data Model

Align required service contract with provided service contract

Automated Service

Service Catalogue

Align solution data type with standard data type

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From Solution to Software Architecture

An architecture process map

Governance	Enterprise architecture as strategy	Change management
	Solution architecture	
	Solution implementation The likes of RUP and SCRUM	

What you do to define good solutions

What you have to do to deliver solutions

How does SA lead to a SDLC project?

► SA may lead to
- package implementations
- system configurations
- systems integrations
- a classic SDLC.

► You can use AM to support UP or RUP
- The Inception phase
- The first half of the Elaboration phase of UP or RUP.

► And hand over to UP or RUP before the "executable architecture" in the second half of Elaboration.

► **SEE AM + UP PRESENTATION**

Architect-led procurement of software development

▶ A solution outline may lead to business, data, and technology change, and package deployment projects

▶ If it leads to software development, then the hand over point may be illustrated as below.

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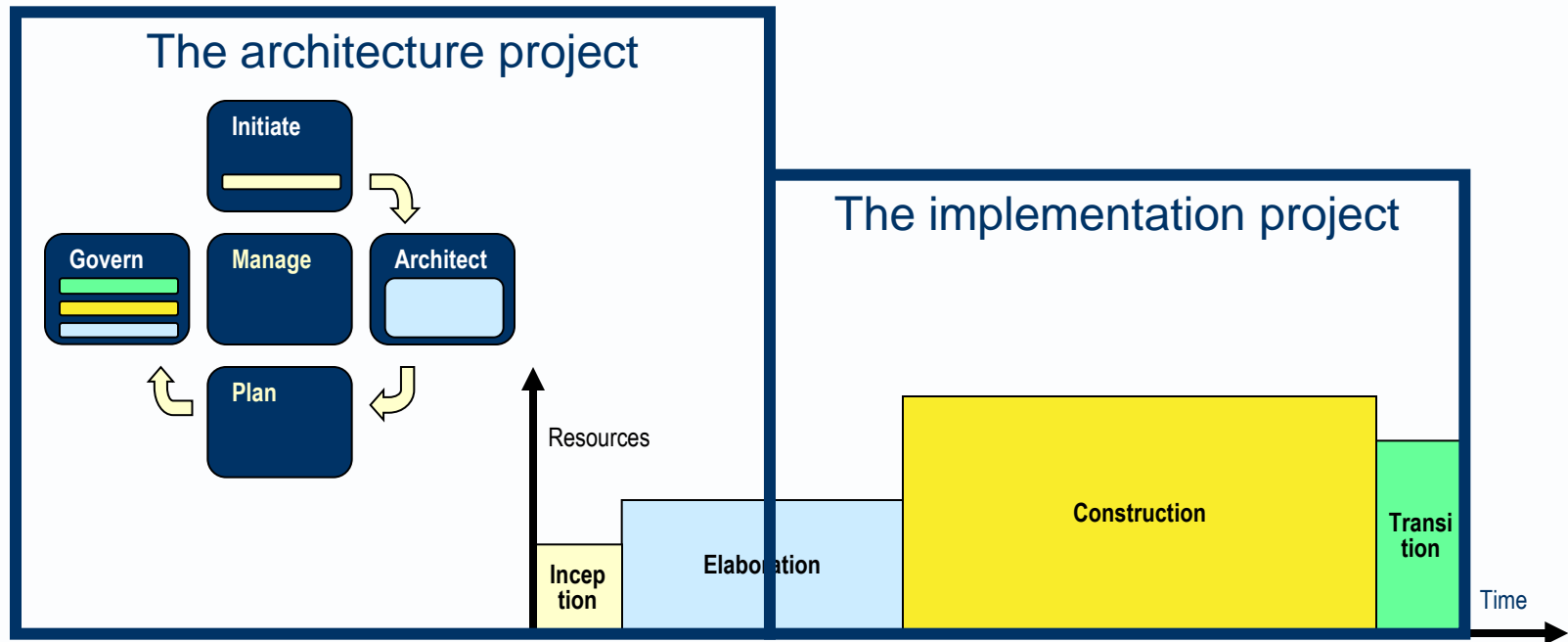
How does SA relate to an "implementation project"?

Scope of work in a "Project"	Project model A	Project model B	Project model C
Initiation (inc. solution vision)	Enterprise pays consultancy (supplier 1)	Enterprise forms vision	Supplier pays for everything up to operation as an "R&D" project.
Architecting (inc. solution outline)		Suppliers pay solution architects at bid time	
Planning (inc. migration path)		Enterprise pays the winning supplier for the remainder	
Implementation (inc. solution to build)	Enterprise pays software house (supplier 2)		
Operation of hosted solution (managed service)	Enterprise pays managed operations (supplier 3)		Enterprise pays a fee for each transaction completed

Integration with management processes

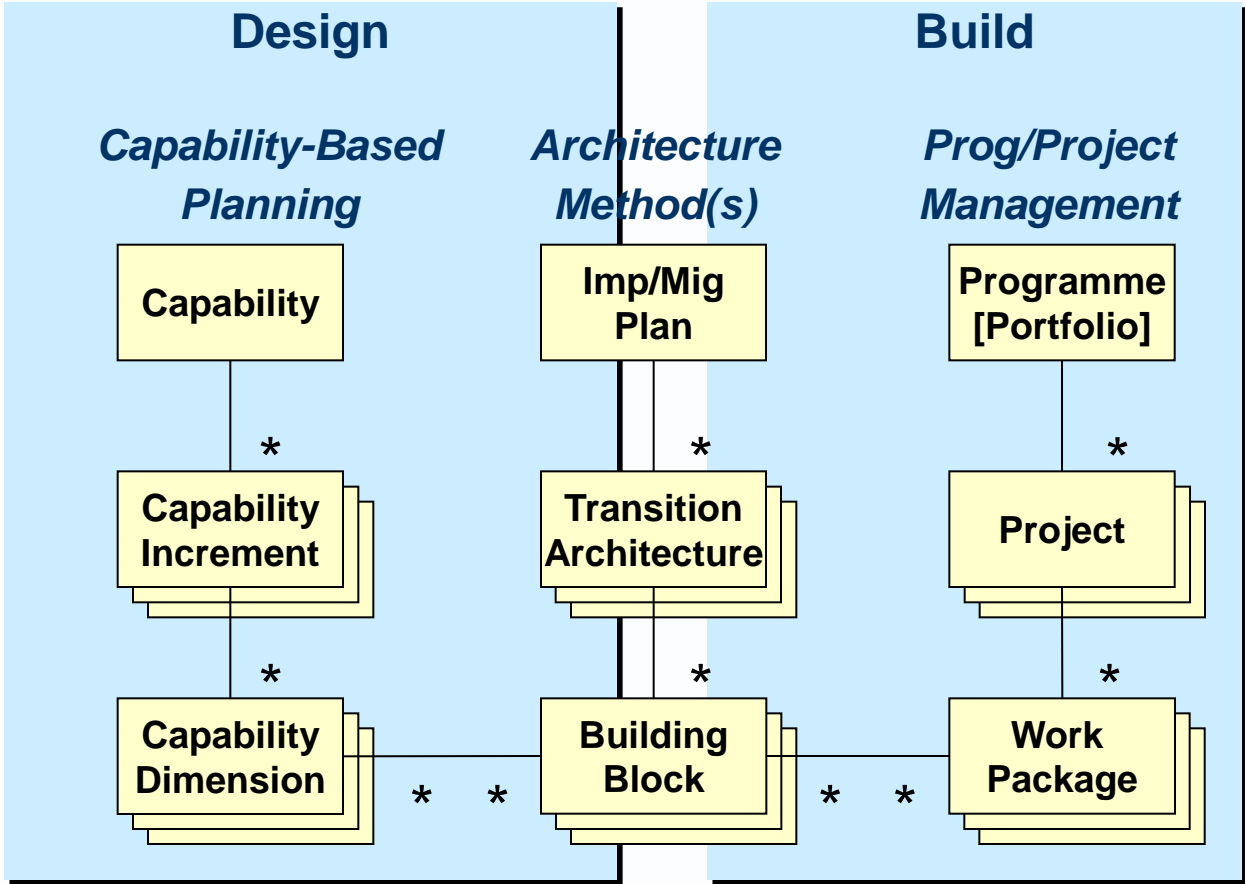| An architecture process map	
Enterprise architecture as strategy	**Change management**
Governance **Solution architecture** **Solution implementation** The likes of RUP and SCRUM	

Monitor compliance

React to change

YOU have to stitch methods together e.g.

Design

Capability-Based Planning

Capability

*

Capability Increment

*

Capability Dimension

Architecture Method(s)

Imp/Mig Plan

*

Transition Architecture

*

Building Block

* *

Build

Prog/Project Management

Programme [Portfolio]

*

Project

*

Work Package

* *

Operate

ITSM

ITSM Processes

The ITIL (IT Infrastructure Library) is the largest
(http://www.itil.co.uk)
Microsoft Operations Framework, or MOF
(www.microsoft.com)
COBIT (Control Objectives for Information Technology;
www.isaca.org/cobit), and
Business Information Services Library, or BISL
(www.bita-center.com/bisl2)

Roles in the management triumvirate

▶ For every significant change programme or project related to IS or IT

▶ AM proposes a management triumvirate composed of three roles
   - Manager
   - Lead architect
   - Lead analyst

▶ These roles must work closely together.
▶ On a small project an "architect" may play two of those roles.

Architect as leader

► Architecture methods position the architect as a leader (not manager)

► They promote:
- Architecture-led management
- Architecture-led planning
- Architecture-led supplier selection
- Architecture-led procurement of software delivery and other services

AM Solution Architecture process: 10 selling points

1. Focus on solution architecture and delivery
2. Developed with/for application, data, software & infrastructure architects
3. Useful/practical processes and documentation
4. Step-by-step processes at several levels of abstraction
5. Templates and guidance on scores of industry-recognised documentation artefact types
6. More readable and immediately useful than competitors
7. Mapped to (but not dependent on) industry-accepted professional certifications of the British Computer Society
8. Mapped to (but not dependent on) EA methods like TOGAF and software project lifecycles like UP.
9. Generally applicable; modules useful within other methods
10. Based on a coherent reference model of c400 terms and concepts that was designed with/for practitioners rather than academics

Define the SOLUTION architecture processes

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