

What architects should know

The essential middle level in architecture practices in USA, India and around the world

What kind of architect do you aim to become?

- ▶ What is the next step in the career path of a designer?

Architects	What kind of architect?
Designers	Define business processes, data stores and data flows, software architecture, platform technologies in detail
Builders	Use building tools to make working systems

What kind of architecture framework do you need?

- ▶ **The Zachman Framework?**
- ▶ A documentation schema

Question Stakeholder	What	How	Where	Who	When	Why
Planner						
Owner						
Designer						
Builder						
Subcontractor						
Operations						

- ▶ **The Open Group Architecture Framework (TOGAF)?**
- ▶ Centered on the Architecture Development Method (ADM)

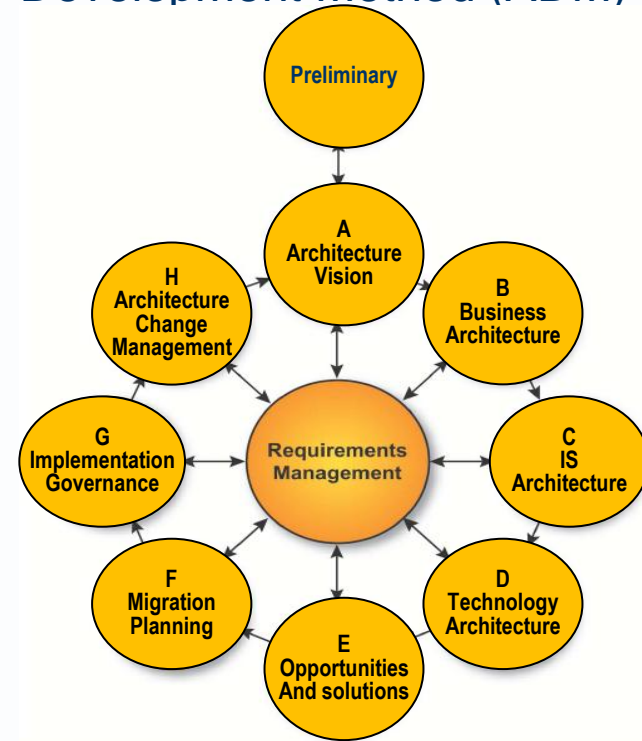


Figure 5-1 Architecture Development Cycle

The Zachman Framework

- ▶ A classification scheme for descriptive artefacts that document an enterprises' business systems

Question Stakeholder	What	How	Where	Who	When	Why
Planner						
Owner						
Designer						
Builder						
Subcontractor						
Operations						

- ▶ Encourages people to document business systems at 5 levels of abstraction from working systems
- ▶ Does not train architects to do architecting
- ▶ Many find it abstract

The Open Group Architecture Framework (TOGAF)

- ▶ Centered on the Architecture Development Method (ADM)
- ▶ A process for directing and governing architects' work
- ▶ A management framework for planning and governing substantial transformational changes
- ▶ Training leads to examinations for TOGAF certificates.
- ▶ Does not train architects to do architecting
- ▶ Many find it abstract

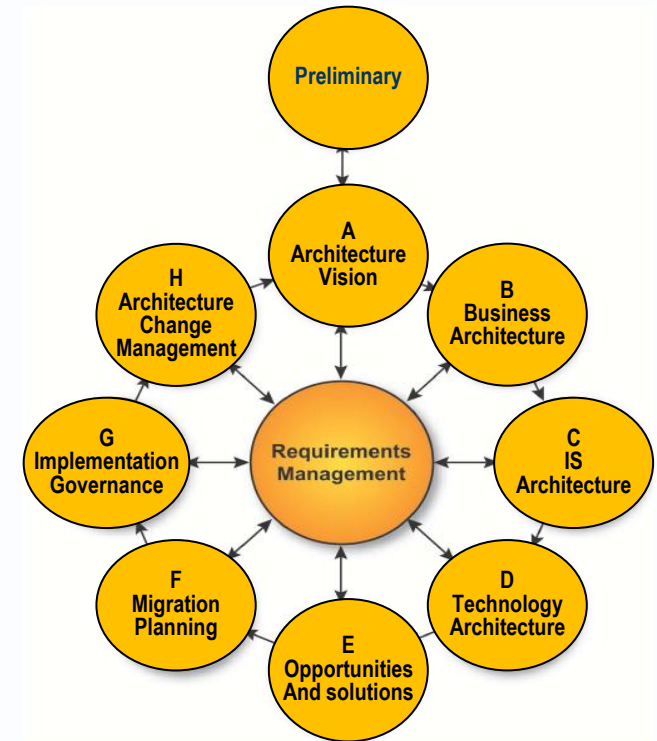


Figure 5-1 Architecture Development Cycle

- ▶ What is the career path from low level designer to enterprise architect?

Enterprise architecture	What TOGAF and Zachman are designed to help
	The missing middle
Detailed design	What many potential architects around the world are employed to do
Building	Using building tools to make working systems

The missing middle – solution architecture

- ▶ Solution architects ensure the success of detailed design and build - and are needed to ensure the success of EA also

Enterprise architecture	EA adds a cross-organisational and strategic perspective over the top of discrete solution architecture efforts.
Solution architecture	Solution architects address specific business problems, requirements and opportunities, produce outline and high-level designs, coordinate detail design efforts
Detailed design	Detailed design of business processes, data stores and data flows, software architecture, platform technologies.
Building	Using building tools to make working systems

The need to learn solution architecture before EA

- ▶ Architects need to know architectural concepts and techniques taken for granted (assumed knowledge) in Zachman and TOGAF

Enterprise architecture	What TOGAF and Zachman are designed to help
Solution architecture	What enterprise and solution architects should understand
Detailed design	What many potential architects are employed to do
Building	Using building tools to make working systems

The importance of solution architecture

▶ Solution architecture

- the engine room of architecture
- needed with or without EA.

▶ A solution architect

- is assigned to a project at the vision or pre-sales stage
- shapes and steers the overall solution
- coordinates domain and technical specialists

**Supports sales,
but not a
salesman**

**Joins up
specialists, but
not a specialist**

▶ Enterprise architects

- act as a governance and design authority
- validate solution outlines against principles, standards etc.
- steer solutions in cross-organisationally optimal directions.

Four domains and three levels of architecture work

▶ Without the middle level, the top and bottom become disconnected

Domain Level	Business	Data/Information	Applications	Infrastructure technology
Enterprise architecture	Business roles & processes, standardisation, integration and road maps	Business data standardisation, integration and road maps	Business application portfolio standardisation, integration and road maps	Platform technology portfolio standardisation, integration and road maps
Solution architecture	Outline design of required processes	Outline design of solution data architecture	Outline design of solution application(s) architecture	Outline design of platform technology solution
Detailed design	Detailed design of processes & use cases	Detailed design of data stores and flows	Detailed design of software architecture	Detailed design of IT production environment

How can we help?

Training to British Computer Society professional certificates in Enterprise and Solution Architecture (ESA)

- ▶ “The ESA course covers the key **length and breadth of solution and enterprise architecture concepts** from foundation to advanced.
- ▶ It elaborates progressively, making it easier to comprehend architecture frameworks and methods.
- ▶ **It suits both novices** wanting progress their career **and experienced professionals** wanting to strengthen their skills and apply their knowledge across the architecture domains.”

- ▶ “The training was very helpful, with lots of experience discussed and mapping the concepts with the real-time use cases.
- ▶ It was nice to meet Graham and have an opportunity to learn from him.
- ▶ Looking forward for the practitioner training next month.”

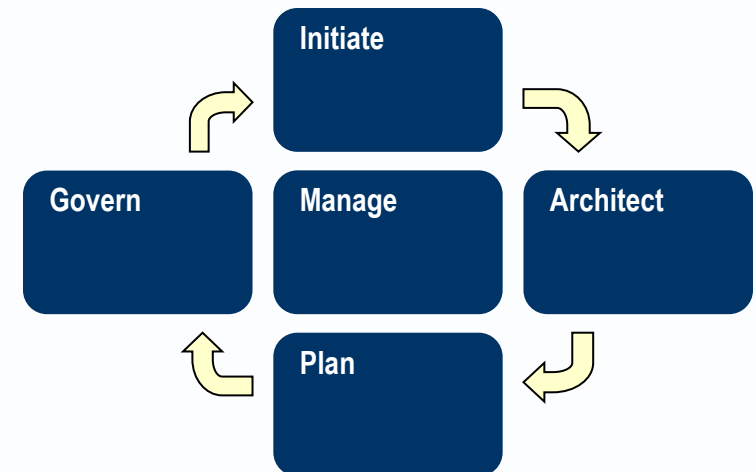
ESA course variations

- ▶ The 3 day **ESA** course includes no examinations - finishes 4 pm on the last day.
- ▶ The 4 day **IC-ESA** course finishes with the BCS Intermediate level exam - finishes 4 pm on the last day.
- ▶ The 5 day Combined **IPC-ESA** course finishes with the BCS Practitioner level exam.
- ▶ If you want to attend the **PC-ESA** course alone, then look at our weekend PCESA dates

IPCESA	ICESA	ESA	Monday	ARCHITECTURE & ARCHITECTS Architects and systems Components and design patters Architecture terms and concepts Enterprise & solution architect roles	CONTEXT & MOTIVATION Principles Scoping Stakeholders and concerns Goals and requirements	FRAMEWORKS & METHODOLOGY Architecture processes Architecture products Architecture reference models
			Tuesday	BUSINESS DOMAIN Human activity systems Functions/Capabilities Processes/Scenarios	DATA DOMAIN Data at rest - in stores Data in motion - in flows Data quality and interoperoperation	SOFTWARE DOMAIN Modularity and decoupling Service-Oriented Architecture Interoperation & comm. styles
			Wednesday	APPLICATIONS DOMAIN Application services Applications architecture Integration tools and patterns	DESIGN FOR QUALITIES Performance, availability, recoverability, integrity, security, etc.	INFRASTRUCTURE TECHNOLOGY Cloud computing Network concepts Solution technology definition
			Thursday	Intermediate exam preparation	Intermediate examination	Practitioner exam preparation
			Friday	MIGRATION PLANNING Migration path Business case The agile mindset	IMPLEMENTATION & GOVERNANCE Waterfall / Iterative / Agile delivery Change management Governance	Practitioner examination

ESA training is supported by Avancier Methods (AM)

- ▶ ESA training focuses on knowledge and skills relevant to architect roles.
- ▶ It introduces the broad sweep of architecture terms and concepts, outlines architecture frameworks and includes practical exercises.
- ▶ It is supported by AM, a methodology that grew out of answering questions asked on TOGAF and related courses
- ▶ It provides insights and guidance we haven't seen in other architecture frameworks.



TOGAF's ADM is a management framework that promotes the role of architects

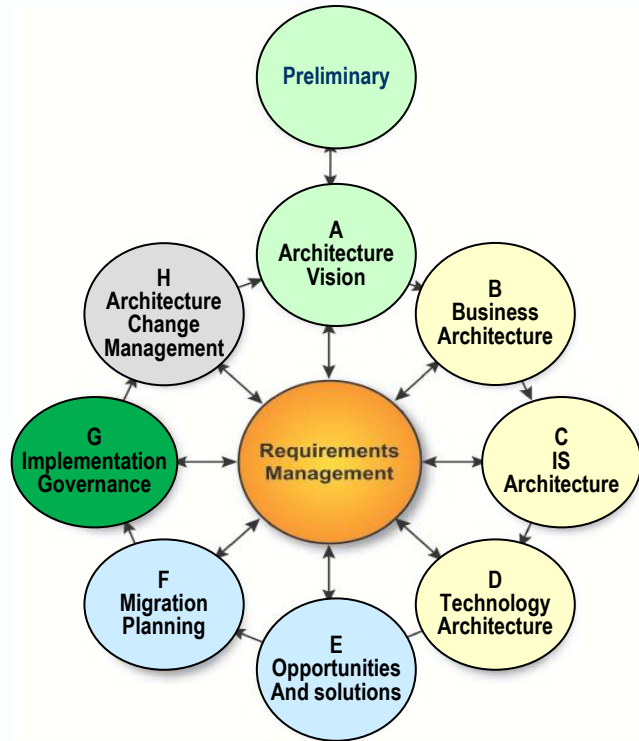
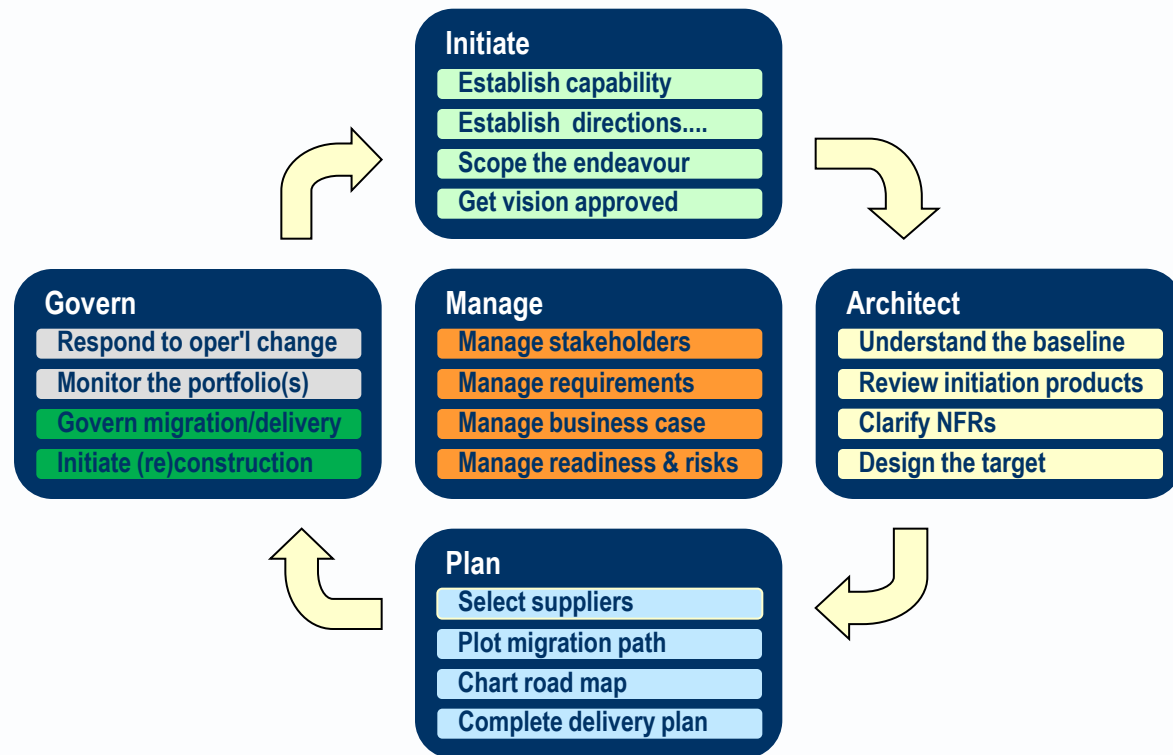
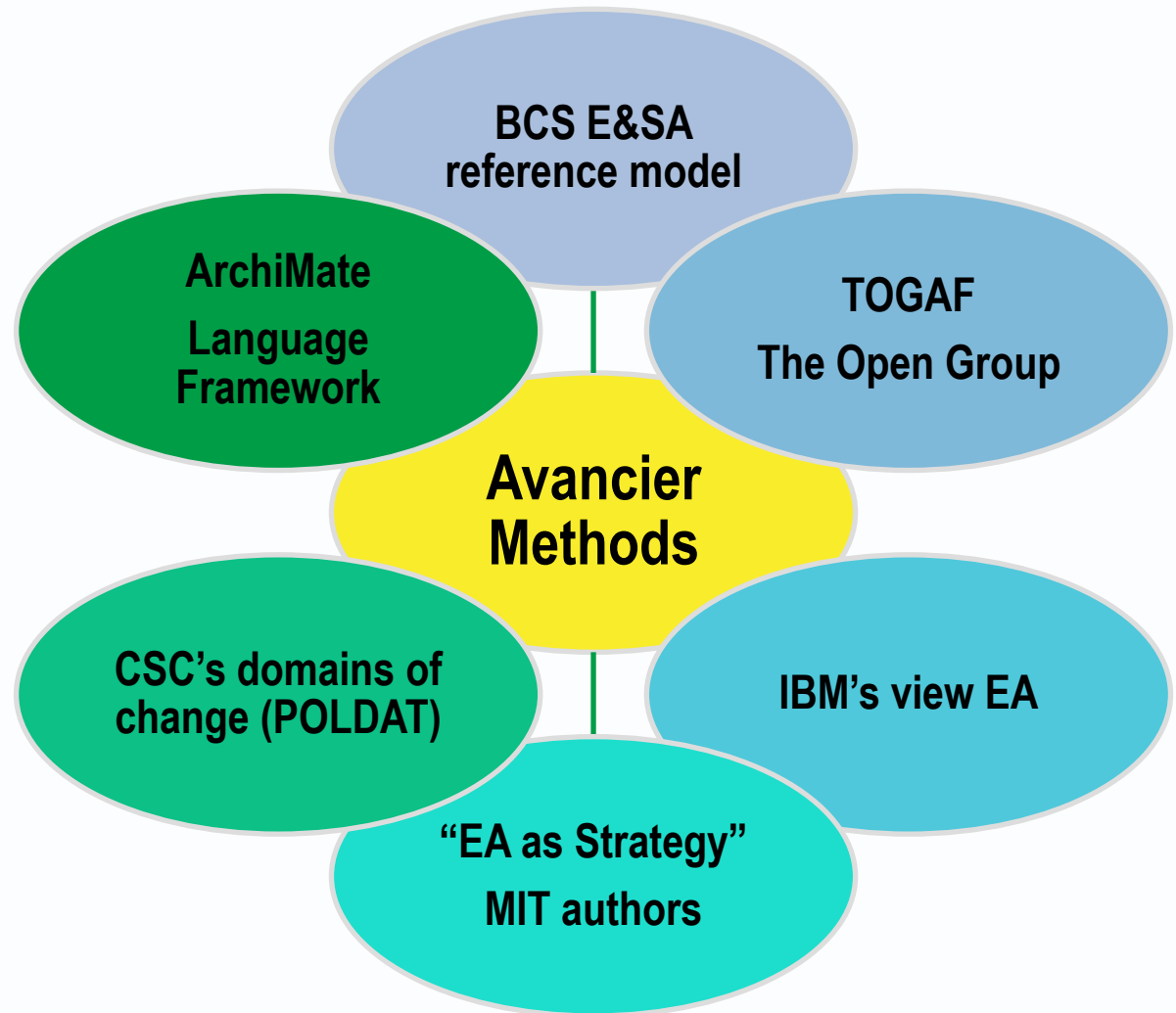


Figure 5-1 Architecture Development Cycle

AM gives architects more concrete guidance on architecting itself



- ▶ **Avancier Methods** are useful with all architecture frameworks that share similar ends and means
- ▶ <http://avancier.website>



Would deeper education in architecture concepts help you?

- ▶ ESA training (3, 4, 5 and 6 day course variations)
 - more general, broader and deeper than Zachman and TOGAF
 - leads to exams for British Computer Society professional certificates.

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In the USA, EA Principals supply ESA training developed by Avancier, and are accredited to run associated professional certification examinations.

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