

Avancier Methods

Parts of which are used in certified architect training

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- ▶ “Great content and methods.”
- ▶ “The most comprehensive and coherent resources I have found.”
- ▶ “I have never seen such a thorough, all encompassing, accessible and SENSIBLE statement of what it's about and how to do it.”

- ▶ Comprehensive: > 100 papers and slide shows
- ▶ Coherent: coordinated, cohesive and consistent

- ▶ The most comprehensive and coherent architecture framework in the public domain?
- ▶ For terms and conditions see “[access and usage rights](http://avancier/webste)” at <http://avancier/webste>

Finding AM on the web site

Enterprise and Solution Architecture training & certification, methods & resources

"The most comprehensive and coherent resources I have found" "A first-class site... the wealth of information is unsurpassed".
"I read and regularly refer to [your web site]... it's way beyond any other EA/system engineering/human factors/systems theory resource."

A content-rich site, more than 20 years' work, 300 documents and slide shows.

[Contact the owner](#) [Access and usage rights](#)

Architect training and certification

"best and most relevant all round architect courses"
"help you use TOGAF and other frameworks."

[Training calendar, prices and dates](#)

[Why choose Avancier training? BCS and/or TOGAF?](#)

[Global operations via EAP](#)

[Email for vouchers, preferred supplier bookings etc.](#)

ON AVANCIER TRAINING

"Your course is brilliant I would recommend it to anyone." Solution Architect

"I really enjoyed your course and [have since] found the material you presented very useful." Solutions Architect
"explains what others (TOGAF, CMU...) leave obscure."

"Really good and provided me with new views on EA and SA – one of the best trainings I attended."
Enterprise Architect

"Your exam preparation really useful (a key objective for me)." Consultant

"One of the few people I know who can articulate this area and subject in an understandable format."
Consultant

"It is amazing how my conversations have changed! On Monday I had three conversations that [made me] realise the positive effect the course has had... many things I now understand that I had only the smallest glimpse of before." Infrastructure architect.

"An intensive course, covering the end-to-end of enterprise and solution architecture, from a tutor with a clear in depth knowledge and experience of his subject

Avancier Methods (AM)

"More sensible, realistic, and practical than anything else out there – so much more understandable and conceptually consistent!"

"In a word, actionable [cf. other frameworks]"

"AM is end-to-end useful."

AM extra

[Introducing Avancier Methods](#)

[AM process framework overview](#)

[AM products and techniques](#)

[AM architecture reference model](#)

[Architect roles – introductory slide show](#)

[Enterprise architecture roles and realities](#)

[Software architecture principles and patterns](#)

TOGAF with ArchiMate

[TOGAF Conceptual Framework with ArchiMate](#)

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Process overview – the management framework

- ▶ Conventional structure
- ▶ Four broad phases



Products and techniques – extensive library

Avancier Methods Products and Techniques

[Process overview](#) [Products and techniques](#) [Reference model](#)

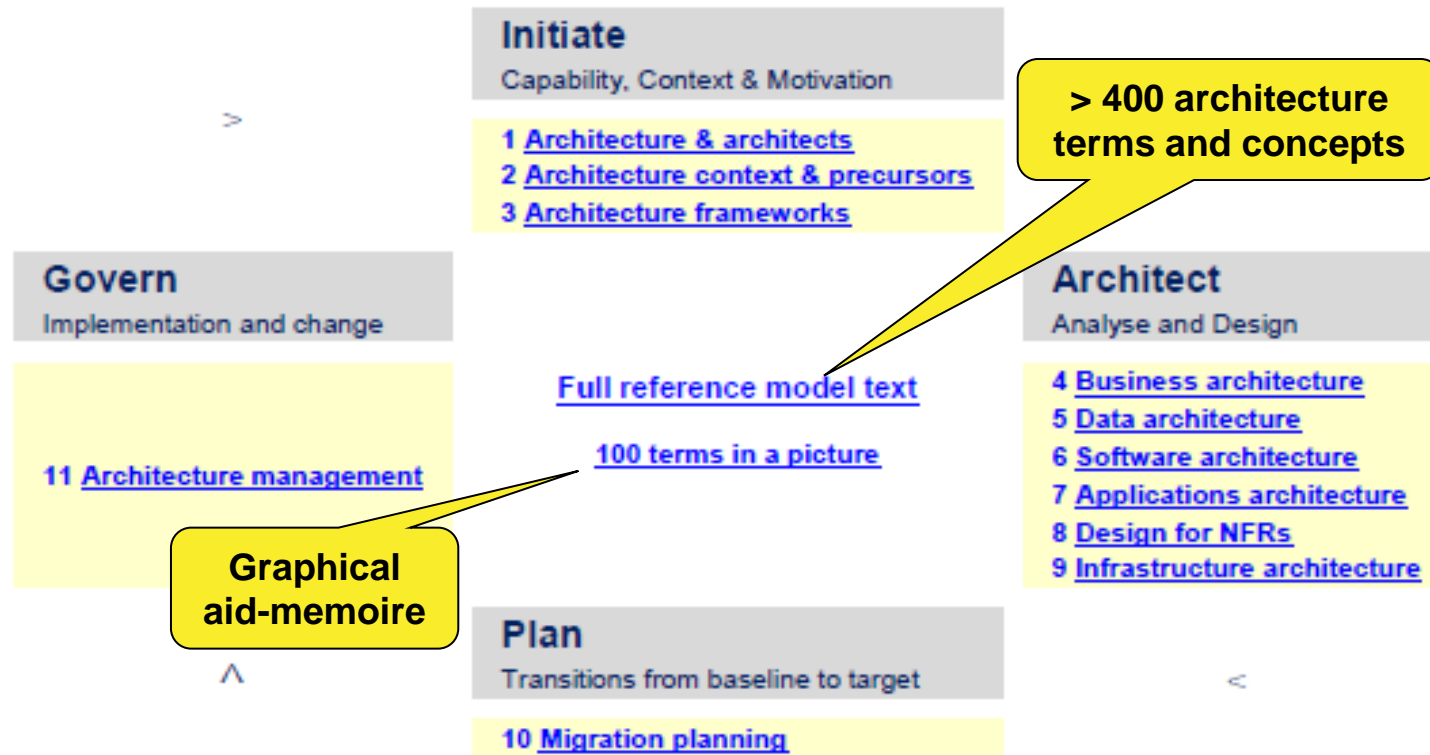
Great content and methods.

Area/Domain	General (T&A = TOGAF using ArchiMate)	Enterprise level	Solution level
Establish Capability, Context and Motivation	Define organisation & Roles * Define processes * & Resources Aims and Standards * Context & motivation diagrams (T&A)	EA process variation Establish authority Agree EA funding and metrics Assess EA maturity Directives * 80 Principles	SA process variation * Scoping guide * Solution Outline Template Relating EA & SA processes
Business & Processes	Business functions and capabilities * Business diagrams (T&A)	Analyse baseline business Design target business	Design business solution * Value stream analysis Process modelling w BPMN The BPM dream (BPMN + BPEL) Process modelling in general
Data & Information	Data store and flow structures * Data diagrams (T&A)	Analyse data store architecture Business functions and data (IE) Rationalise data architecture	Design data solution Data store models Data flow models
Applications & Software	Applications diagrams (T&A) Software diagrams (T&A)	Classify applications Analyse applications architecture * Applications integration patterns * Rationalise applications architecture	Design application solution Use case definition * Communication modelling Client server system layering AM extra: software architecture

Avancier Methods Architecture Reference Model

[Process overview](#) [Products and techniques](#) [Reference model](#)

Latest update of the reference model adopted in 2008 by the BCS as a platform for their professional certificates.



- ▶ Entries can be used by examiners to form examination questions

Reference Model for Enterprise and Solution Architecture v10.3

November 2015

Individuals who have attended Avancier-accredited training have the right to use this reference model for their personal use. Any other person or organisation who wants to use or teach to this reference model must be a licensed user of Avancier Methods.

This reference model contains all the concepts from the corresponding BCS reference model that are likely to be examined in BCS examinations, but is easier to read than the BCS version and has been updated in a few places.

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▶ Enterprise

- an organisation that shares goals and a budget; it is a business or part of a business that enterprise architects are sponsored to address.
- AM for EA helps enterprise architects to treat the whole enterprise as a system, and manage changes to that system.

▶ Solution

- one or more systems designed in response to a declaration of specific problems and/or requirements.
- AM for SA helps solution architects to design a solution, and govern its implementation.

▶ In a sequence

1. Solution Vision
2. Solution Outline
3. High Level Design
4. Low Level Design (detailed, builder ready)

▶ Solution architects

- are accountable for Solution Outline and High Level Design
- adapt these milestone documents to circumstances
 - E.g. merge Solution Outline and High Level Design, or shift the focus between business, applications and infrastructure
- direct, coordinate and govern subject matter and technical experts
- ensure the quality, comprehensiveness, consistency and coherence of a solution architecture; and so,
- need breadth of knowledge more than depth in every domain.

The Enterprise Architect in short

- ▶ Highest and most strategic level of business system planning
- ▶ Strives to optimise an enterprise's system estate
- ▶ Looks for opportunities to
 - integrate systems and improve data quality
 - standardise systems and reuse services or components
 - innovate in the use of data captured from business activities
 - innovate in the use of digital information technologies
- ▶ Produces road maps for system change / upgrade
- ▶ Governs solution architects working on discrete solutions/systems

“Operating model” for core business processes

High integration	Coordinated	Unified
Low integration	Diversified	Replicated
	Low standardisation	High standardisation

An idea from “EA as Strategy” by MIT authors

- ▶ Support architect training for
 - those in or approaching a career as a solution architect or enterprise architect
 - software architects, other technical specialists, technical team leaders, and others who want to broaden their horizons.

- ▶ Cover
 - the breath of architecture concepts
 - from business through data and applications to infrastructure.
 - the application of concepts found in architecture frameworks
 - such as TOGAF and Zachman
 - the drawing of architectural diagrams
 - Including standards such as UML and ArchiMate

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[Software architecture principles and patterns](#)

- ▶ A few slide shows from this page are used in certified architect training

New Gen EA: roles and realities

"I always point... to your website [for] interesting, robust discussion and knowledge about Enterprise Architecture."
 "An astonishing collection built up over many years; an h2g2.com for Enterprise Architects" Business Intelligence Consultant

Avancier Methods present conventional advice on EA roles and processes.
 This page is a supplement about realities faced by an EA team.



Avancier

[Home page](#)

Go to the [training calendar](#) for courses addressing topics below.

The context for EA		The practice of EA		
Perspectives of EA	EA framework FAQs	Architect roles	Applications architecture	Data architecture
EA as SOA * EA as a design/change process * EA as abstract system description * EA as portfolio management EA as rationalisation EA as strategy (after Ross etc.) EA as cybernetics Agile EA	EA history * Traditional EA * New Generation EA * What is EA not? EA pitfalls What is an architecture framework? Past and present views of EA	Architect roles - introduction * Some real architect roles Roles by level EA manager roles EA and SA roles in SFIA EA and SA roles in TOGAF EA and SA roles in AM SA roles Roles by domain Business Architect	EA challenges case study Portfolio management challenges Application road maps Application portfolio Buy v. build decisions For more, go to AM Products and Techniques	Abstraction in enterprise data models Big Data + BI ERP historic data strategy ERP advice that looks plausible For more, go to AM Products and Techniques
More EA history	EA rationale & challenges	Architecture tools	EA meta models	

- ▶ A few slide shows from this page are used in certified architect training

Software architecture: principles and patterns
 "TONS of interesting stuff! Wonderful! Many thanks!" "making me see object oriented analysis and design in a new light."

This supplement to [Avancier Methods](#) explores software modularity and reuse.
 If you are interested in our [one day tutorial](#) on the topics below – as a private or public event – [email here](#).



[Home page](#)

Introduction	Design concerns & qualities	Basic design patterns	Service-Oriented Architecture
Structured modular design Basic OO design principles A history of modularity (to REST) *	Concerns, qualities & requirement types From logical model to physical database Design for NFRs - basics Flexibility v. performance	Very basic design patterns * Layered software architecture Basic OO design patterns * Four communication styles *	SOA and EDA basics What does SOA mean to you? * SOA business case & governance SOA reference models
Integrity challenges	More design patterns	Microservices (micro apps)	Further discussions
Single v. multiple database solutions Integrity challenges Continuous v. eventual consistency CAP triangle v. CAP theorem ACID v. BASE Integrity v. throughput	Design by Contract and CQRS Logical domain models Domain-Driven Design v. Transaction Script CQRS and Event sourcing Business v. database transactions Software design as a process	Microservices (micro apps) introduction Business Capabilities / Contexts Decentralized data management Design for failure & "You build, you run it" Smart endpoints and dumb pipes Governance - decentralized or centralized? Do micro apps improve maintainability?	Challenging assumptions More is not better Who joins up ability to FA? Use and abuse of REST Five flavours of WQA Cloud computing VM-unfriendly apps Order processing in 2500 BC What is an application?
System complexity and agility			
System complexity and agility (new page with many papers)			

If you use TOGAF, then AM helps you

TOGAF is a management framework that promotes the role of architects

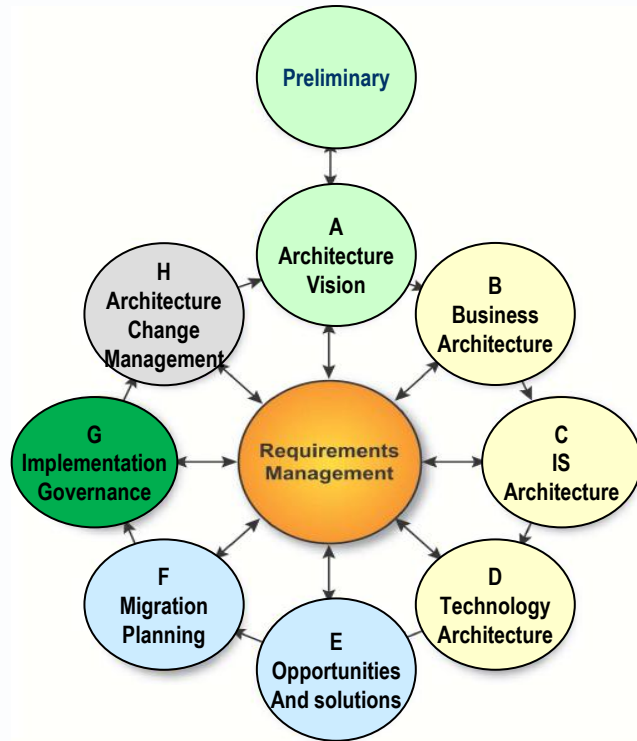
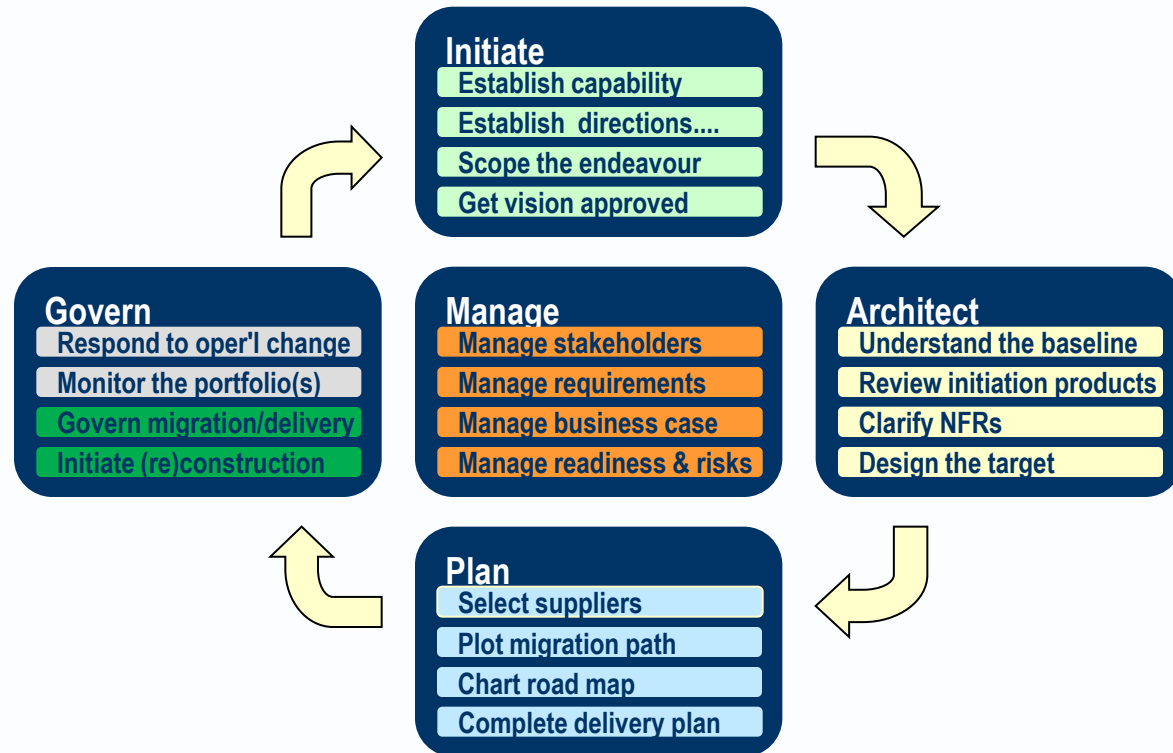


Figure 5-1 Architecture Development Cycle

AM gives architects more specific processes and documentation artefacts

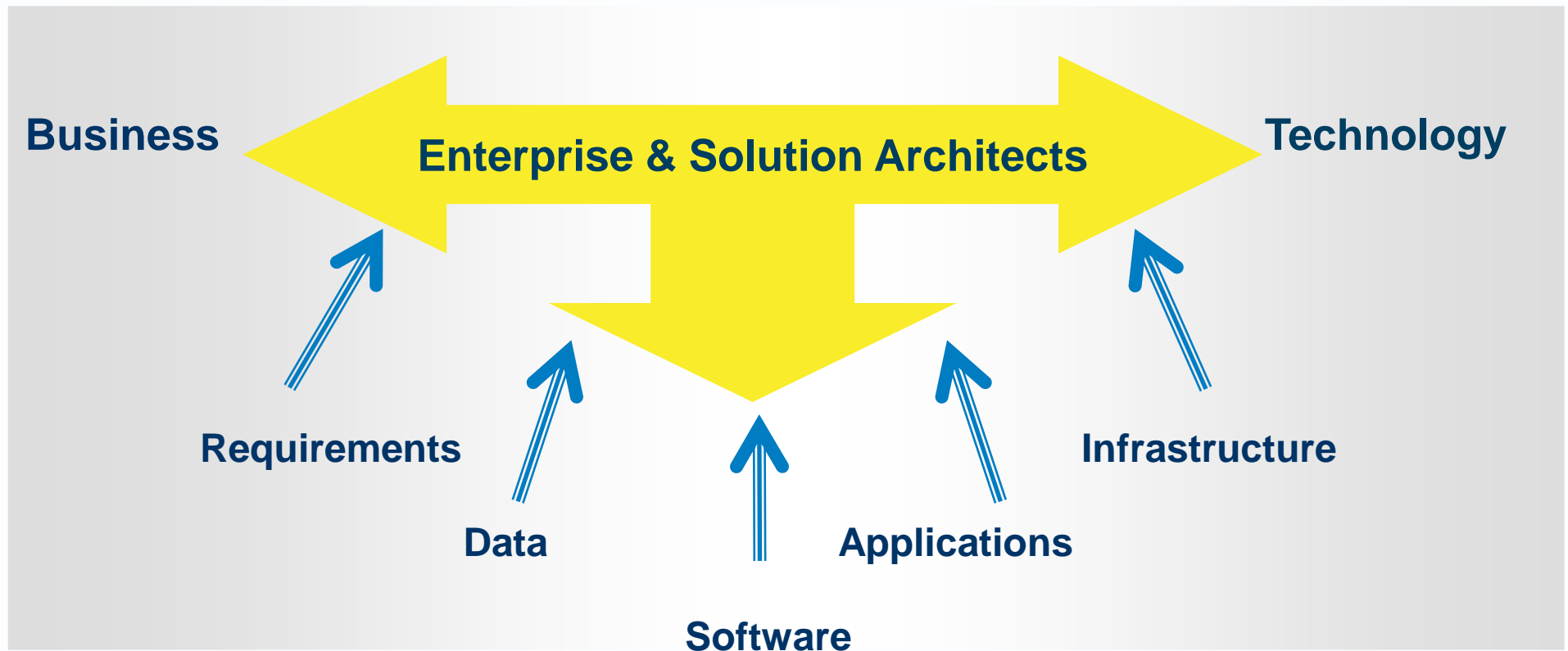


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- ▶ Coherent: coordinated, cohesive and consistent

- ▶ Certified architect training draws only *some* material from AM
 - the 80% published on the web site
 - the 20% available to AM licence holders (e.g. menu of 80 principles).

Certified architect training is designed for people

- ▶ Approaching a senior architect role
- ▶ Looking towards that broader, directing, decision-making role
- ▶ With some experience of detailed design and low-level architecture descriptions, in junior roles or narrower specialist domains.



Certified architect training is designed to

- ▶ See <http://avancier.website> for details of training courses.
- ▶ AM training gives you a broad general knowledge of architecture frameworks, terms, principles and methods.
- ▶ Help you understand the subject well enough that you can:
 - pass the examinations to be a certified architect
 - use recognised terms and concepts in architecture assignments
 - relate the terms and concepts you learn on the course to the methods and standards of your employer or customer.
- ▶ (Employers increasingly expect architects to be educated to a professional certificate standard.)