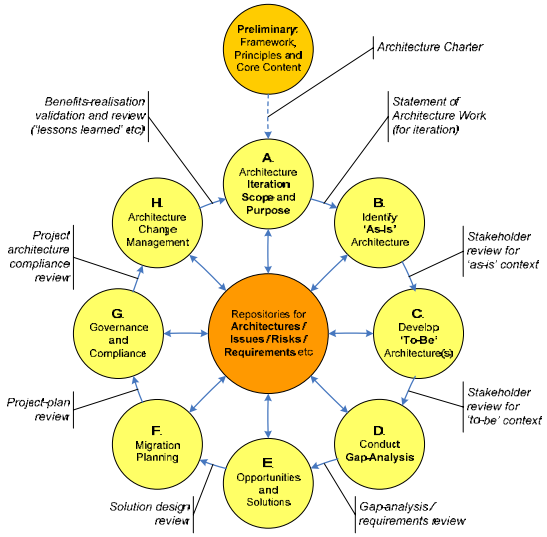
A revised TOGAF ADM for whole-of-enterprise architecture

In its standard form, the TOGAF ADM is usable only for IT-architecture. The architecture consultancy **Tetradian** has identified a set of amendments to the ADM that allow it to be re-purposed for use in broader-scope whole-of-enterprise architecture, including contexts in which no IT is in use at all.

This modified TOGAF ADM cycle also maps well with PRINCE2 and similar programme or project management methodologies and governance. Unlike the original ADM, it requires just one explicit stakeholder-review at the end of each of Phases A to D. The key governance documents or 'products' also mark the boundaries between the architecture-cycle Phases:



We create and review the architecture capability via a high-level version of the *same* architecture-cycle. In TOGAF, this is described as the 'Preliminary Phase'.

- **Phase P**: Preliminaries – establish (or review) the architecture capability, the purpose, governance, framework, methodology and integration, and define a big-picture view of what the overall aims to achieve for the entire enterprise

A whole-of-enterprise scope is too large to tackle in one go, so we develop the architecture iteratively, with each step constrained within the specific scope of a single business-issue or change-project. This works because we use a framework that has a true enterprise-wide coverage. It also makes better business sense, because we gain immediate return from the architecture work, and its value increases as each project leverages the knowledge and lessons learned from previous architecture-cycles.

In the TOGAF standard, scope and purpose are always IT-centric, with an emphasis on detail-level technology. But here we may be dealing with *any* scope, *any* business-issue. So note that the four Phases in the assessment part of the cycle have a subtly different emphasis compared to TOGAF:

- **Phase A**: *Establish Iteration Scope* – identify the core business-issue(s) to be addressed, and scope (in terms of framework layers, columns and segments) to be covered in the analysis
- **Phase B**: *Assess Current Context* – establish the current architectural description for the scope and business-issue identified in Phase A
- **Phase C**: *Assess Future Context(s)* – establish the required future-architecture(s) for the scope and business-issue identified in Phase A
- **Phase D**: *Derive Change Requirements* – establish the gaps between the current architecture (from Phase B) and desired future architecture (from Phase C), and the resultant change-requirements and constraints in relation to the scope and business-issue (from Phase A)

The second part of the cycle, for solution design and implementation, is much closer to the original TOGAF ADM: the key difference is that it can cover more than just an IT-centric scope:

- **Phase E**: *Design Solutions* – work with solution-designers to assess options and trade-offs between requirements and constraints (from Phase D) to identify high-level solution-designs
- **Phase F**: *Plan Migration* – work with governance, portfolio and change management teams to develop transformation blueprints, change-programmes and individual implementation-projects
- **Phase G**: *Guide Implementation* – work with programme and project managers to assist in resolving trade-offs between architecture and implementation

When all projects arising from the assessment are complete, the high-level architects and solution-architects alike need to carry out a 'lessons learned' exercise, to identify any architectural concerns that might trigger new architecture-cycles, or change the architecture itself.

- **Phase H**: *Review Architecture Implications* – assess issues and lessons-learned arising from the architecture cycle, and identify (and, if required, implement) any necessary changes to architecture standards and processes

The architecture is never 'complete': instead, it grows and changes with each iteration, creating a richer and more valuable view of the enterprise as a whole.

Methodology – preparation

This phase is independent of the main architecture cycle. Since it provides oversight to the main cycle, we need to do it at least once before any architecture work takes place, but we also need to revisit it at regular intervals – for example, as a formal annual review.

Phase P – preliminaries

In this phase we obtain authorisation from the executive to conduct enterprise-architecture; define the overall scope of enterprise-architecture, and the roles, responsibilities and function of the architecture team; and outline the governance, standards, frameworks and methodologies to be used for architecture development and architecture services. Typical steps include:

Step P1 – Establish the enterprise-architecture capability
Step P2 – Identify Architecture Principles
Step P3 – Identify applicable business policy, legislation and regulations
Step P4 – Identify applicable Standards
Step P5 – Identify core business-goals and business-drivers
Step P6 – Identify enterprise-architecture scope
Step P7 – Identify constraints
Step P8 – Identify stakeholders and concerns, business requirements, and overall architecture Vision
Step P9 – Identify content for high-level models
Step PX – Secure approval for Architecture Charter, governance, etc

Methodology – assessment

In the assessment Phases A to D of the architecture-cycle we create most of the architecture models, design-requirements and the like. The focus of governance here is more on the architecture itself than on programme-management – though the latter should at least be informed, and preferably engaged, in every step of the process.

Phase A – establish iteration scope

This phase is the start-point of a regular architectural-services cycle, to identify the purpose, scope and context *for the current iteration*. Typical steps include the following:

Step A1 – Establish the business-purpose and scope of the cycle
Step A2 – Review applicable Architecture Principles, policies etc
Step A3 – Identify business goals and strategic drivers
Step A4 – Establish the architecture-framework scope of the cycle
Step A5 – Identify additional stakeholders, concerns and requirements

Step A6 – Identify additional constraints

Step AX – Secure approval for Statement of Architecture Work

Phase B – assess current context

This phase establishes the current architectural context for the scope specified in Phase A of this cycle. Typical steps include the following:

Step B1 – Develop Baseline Architecture for 'as-is' context

Step B2 – Select reference-models, views and viewpoints

Step B3 – Create and update 'as-is' architecture models

Step B4 – Review 'as-is' architecture against qualitative criteria

Step B5 – Finalise building-blocks for the architectural scope

Step BX – Conduct checkpoint-review for stakeholders

Phase C – assess future context

This phase establishes the probable and/or intended future context for the scope and each future time-horizon specified in Phase A of this cycle.

The steps in Phase C are almost identical to those in Phase B: the only difference should be that the architecture developed would apply to the respective time-horizon rather than the current 'as-is'. All steps other than CX, the final stakeholder-review, should be repeated for each time-horizon in scope. The review should cover and compare all 'to-be' architectures developed in this Phase.

Step C1 – Develop Baseline Architecture for 'to-be' context

Step C2 – Select reference-models, views and viewpoints

Step C3 – Create and update 'to-be' architecture models

Step C4 – Review 'to-be' architecture against qualitative criteria

Step C5 – Finalise building-blocks for the architectural scope

Step CX – Conduct checkpoint-review for stakeholders

Phase D – derive change-requirements

This phase establishes the gap between the current 'as-is' context and the probable and/or intended future 'to-be' context(s) for the scope and time-horizon specified in Phase A of this architectural cycle.

All steps other than DX, the final stakeholder review, should be repeated for each time-horizon in scope. The review should compare the 'as-is' architecture from Phase B to all 'to-be' architectures developed in Phase C.

Step D1 – Construct and validate matrix of 'as-is' to 'to-be' architectures

Step D2 – Derive change-requirements from validated matrix

Step D3 – Review requirements against existing dispensations

Step D4 – Review requirements against qualitative criteria

Step DX – Conduct checkpoint-review for stakeholders

Methodology – solutions

In the solution Phases E to H, the focus of governance moves to project- and programme management, with enterprise architecture called upon mainly to provide architectural guidance and arbitration between projects,. and maintain high-level consistency as the architecture changes over time.

Phase E – design solutions

During this phase the architecture unit will provide technical and other support to assist the sponsor in selecting appropriate options to resolve the gap between the 'as-is' and the one or more 'to-be' architectures for the context. Note that the key responsibility for decisions on solution designs rests with the sponsor, not the architecture unit. Typical steps include:

Step E1 – Review gap-analysis and requirements from Phase D

Step E2 – Identify business drivers and constraints for implementation

Step E3 – Brainstorm technical requirements from functional perspective

Step E4 – Brainstorm co-existence and interoperability requirements

Step E5 – Perform architecture re-assessment and gap analysis

Step E6 – Develop preliminary solution designs

Step E7 – Identify major work packages or projects

Step EX – Conduct stakeholder review of solution designs

Phase F – plan migration

During Phase F the architecture unit provides support to assist sponsor and programme-management in developing plans to implement the proposed solution designs. The key responsibility for such decisions rests with the sponsor and programme management body, not the architecture unit.

In practice, enterprise-architecture in Phase F has more of a 'watching brief' than an active role, so the key steps here would depend on broader governance procedures for detail-level project-, programme- and change-management. The TOGAF ADM suggests that typical steps would include:

Step F1 – Prioritise projects

Step F2 – Estimate resource requirements and availability

Step F3 – Perform cost/benefit assessment of the various migration projects

Step F4 – Perform risk assessment

Step F5 – Generate timelined implementation roadmap

Step F6 – Document the Migration Plan

Step FX – Conduct stakeholder review of project- or migration-plan

Phase G – guide implementation

During this phase the architecture unit provides support to sponsor and programme-management, to attain and maintain architecture-compliance during implementation of solutions from Phase E, in accord with project- or migration-plans from Phase F. Overall governance for the project(s) under review remains with the respective project- or programme-management body.

The steps in this phase depend on the requirements and number of 'gateways' in the respective governance methodology. All steps other than GX, the final stakeholder-review, should be repeated for each gateway. The review should assess architecture issues arising from all gateways for the plan, as per the scope for the architecture-cycle. Typical steps include:

Step G1 – Review Architecture Compliance Statement

Step G2 – Assess impact on overall architecture

Step G3 – Respond to Architecture Compliance Statement

Step GX – Conduct stakeholder architectural review of plan-implementation

Phase H – review lessons-learned

During this phase the architecture unit reviews the results of the iteration in terms of benefits achieved for the business, and implications and impact on overall future architecture. This will often result in updates or additions to the set of primitives, models, metamodels, Building Blocks and other content in the Enterprise Continuum; to requirements, standards and other decisions; to content within the shared glossary and thesaurus; and entries in the issues- and risks-registers. Typical steps include:

Step H1 – Assess results from the architecture-cycle

Step H2 – Monitor changes in business and technology environment

Step H3 – Assess potential changes to framework, methodology etc

Step H4 – Assess requirements and options for architecture change

Step HX – Conduct review by architecture governance-body

Resources

For more details on this adaptation and use of the TOGAF ADM for whole-of-enterprise architecture, see Tom Graves, *Bridging the Silos: enterprise-architecture for IT-architects* (Tetradian Books, 2008), www.tetradianbooks.com/2008/04/silos/

For the standard TOGAF ADM specification, see www.opengroup.org/architecture/togaf8-doc/arch/