# The practice of Architecture

## Governance Structures

# Introduction

- The Architecture team is responsible for creating and maintaining guidelines and controls on technology direction within its organization.
- Ensuring alignment with the defined direction is one of the major roles of an Architecture practice.
- There are three main mechanisms by which compliance is applied and reviewed.
- None are wholly operated by the Architecture team, since the intent is to engage and involve all other groups in the process to create a collaborative approach to the delivery of ITC services.

# Summary

There are three major governance structures used to maintain architectural oversight. In keeping with the role's responsibility to maintain a broad view, none are wholly controlled by the Architecture Team itself

## Response (Triage) Team

### Purpose

- Assessment of incoming requests for IT work

### Description

- Classification, estimation and prioritisation of any work requested of the IT division. A key goal is to fit the expected outcome into the existing technology landscape in an effective and efficient way

### Team

- Chaired by Business Engagement Lead under the authority of the IT strategy lead (whatever the formal role)

### Structure

- Consists of a small number of selected individuals with long experience in different aspects of the IT division.

### Scope

- Responsible for first impressions of an initiative, including likely impact & response. Options decided at this stage often follow an initiative through its lifecycle and should be based on expert knowledge.
- To provide first responder effort in diagnosing, sorting and estimating solutions to business issues.

## Architectural Review Board

### Purpose

- Endorsement of changes to IT environment

### Description

- Core body to evaluate any technology change in an organisation. Their endorsement is required for technology introduction, alteration or retirement

### Team

- Established and chaired by the Lead Architect as a permanent body, usually with regular meetings, but may be on-demand

### Structure

- Consists of leads of various teams within the IT division who will be involved with the technology outcomes

### Scope

- Responsible for the Whole of Enterprise technology ecosystem
- To provide advance notice of planned changes and gain understanding of consequential impacts across the IT division. To identify issues early, diversify institutional knowledge and gain broad input on factors which may have broad effects

## Design Authority

### Purpose

- Evaluation of system design within a program

### Description

- Quality validation for an Initiative (project or program) which checks any work done is: fit for purpose, aligned with initiative intent, and meets organisation standards

### Team

- Formed and lead by Solution or Portfolio Architect, convening as needed, often virtually for the duration of an initiative.

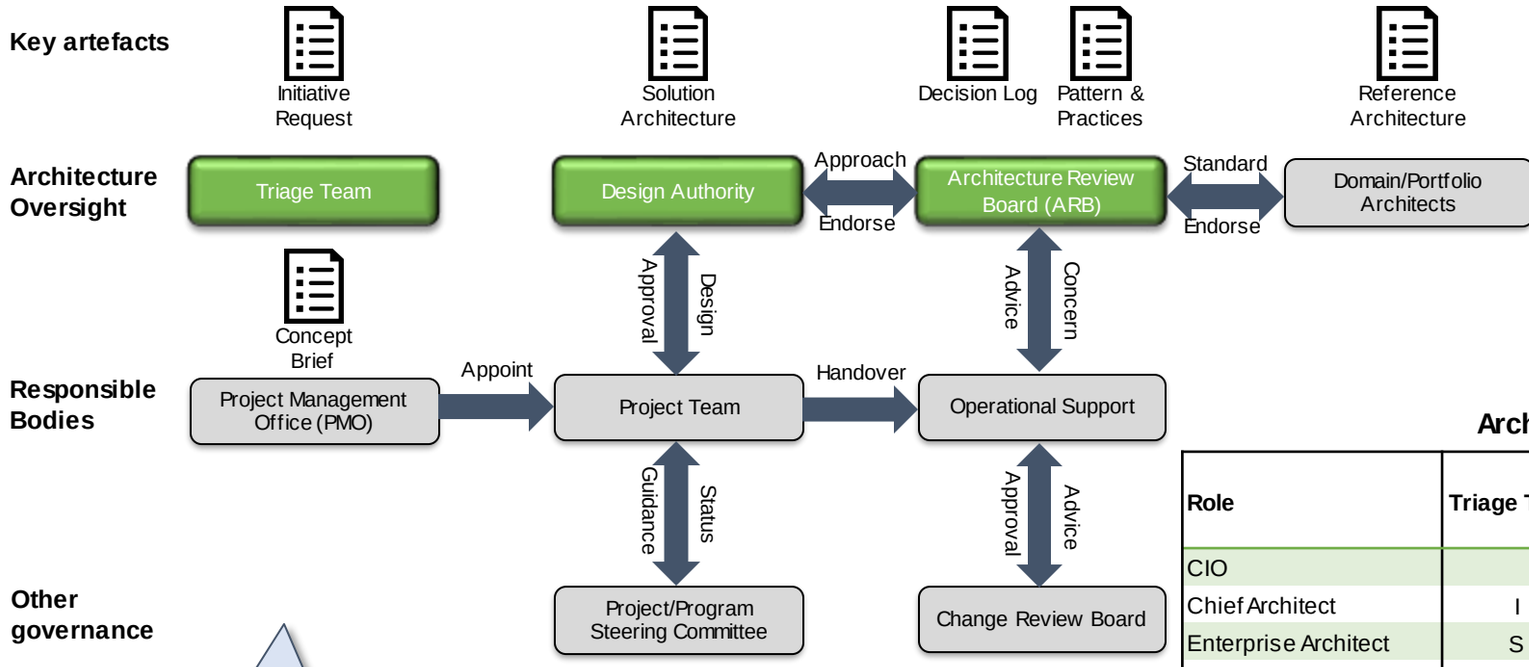
### Structure

- Consists of project technical leads, sometimes with business reps, involved in project/program delivery. Specialists (incl. domain architects) included as needed

### Scope

- Responsible for the detail of a Project or program
- To review project artefacts, including specifications and designs, and ensure design and development are consistent with the architecture and align with the business purpose

# Architecture governance overview




The ARB and Enterprise architecture deal with the abstract, strategic and broad-based areas of organisational architecture.

They provide the guide-rails to keep all areas of IT on the same track.

Triage are the 'front door' for the architecture team, providing preliminary guidance to ensure alignment from the start.

The Design Authority work on the concrete implementation of architectural principles and provide co-ordination and oversight on the implementation of technology change

| | **Architecture directed bodies** | | | Other governance bodies | | |
|---|---|---|---|---|---|---|
| **Role** | **Triage Team** | **ARB** | **Design Authority** | **PMO** | **Steering Committee** | **Change Review Board** |
| CIO | | I | I | | | |
| Chief Architect | I | O | I | | | |
| Enterprise Architect | S | | | | | |
| Business Engagement | O | | | | | |
| Operations Manager | S | S | I | | I | S |
| System/Tech Mgr | | I | I | | I | O |
| Portfolio Manager | S | | | S | I | |
| Project Manager | | I | I | O | S | I |
| Solution Architect | I | I | O | S | S | I |
| Product Expert | | I | S | | | I |
| Domain Architect | I | S | S | I | | I |
| Project Sponsor | | | I | I | O | |
| Business Owner | | I | I | | S | |
| SME & Designers | | | I | | | S |

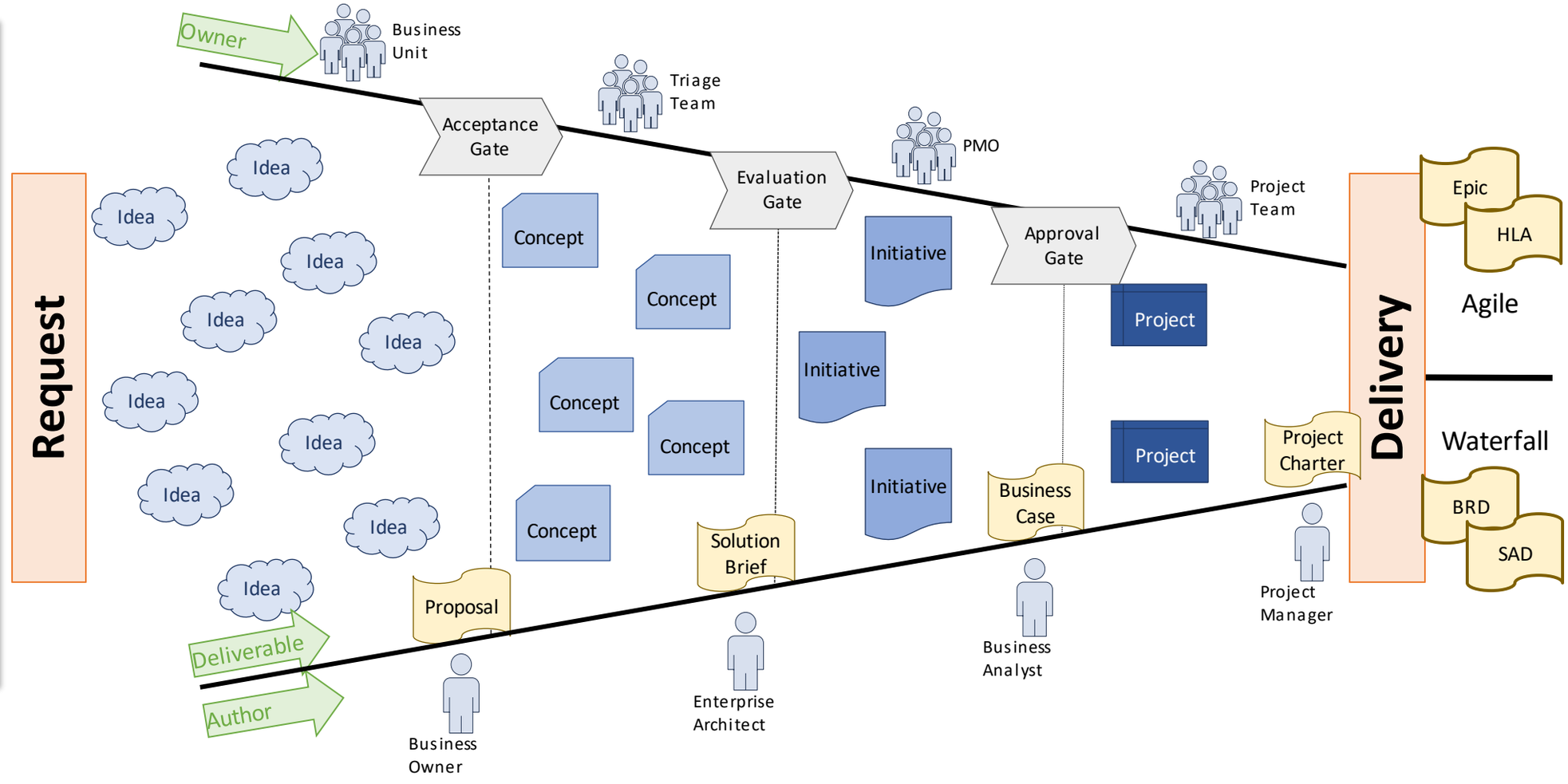
*Key:* O = *owner/lead, S = standing, I = by invitation*

# Demand Management – Early intervention

**Demand Management** is the act of handling incoming requests for work to be performed by the IT division.

It is not wholly the responsibility of architecture, although the architecture team plays a large part in successful handling of requests.

The architecture team is primarily responsible for ensuring alignment of technology with business needs and the best place to carry out this function is when the work if first being defined.



# Demand Management – key participants

All work done by the IT department begins as an idea by someone in a **Business Unit**.

That idea may come as part of a long-term strategy, a short-term response to some stimulus, as a simple ad hoc suggestion for improvement.

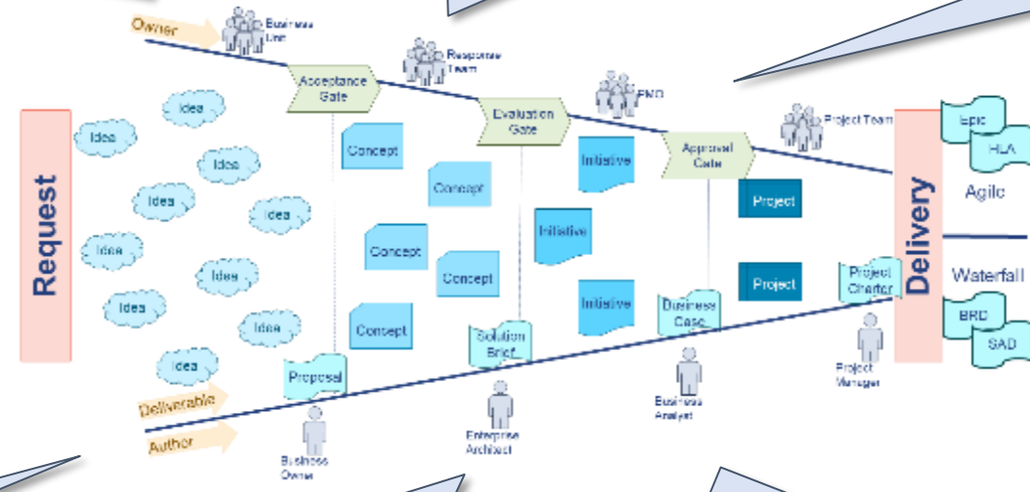
In this context, the IT department itself is considered a business unit that may have an idea for work. Initiatives arising from IT strategic roadmap map are also raised as proposals.

To manage the demand on IT and prioritise the work done, all ideas should be presented in the form of a proposal to be assessed by **the Response Team**. The name of the team varies across organisations, but the basic purpose is to triage requests and structure them so they can handled correctly.

If the business wish to proceed based on the Solution Brief, **the Project Management Office** takes over. The PMO is responsible for fitting the initiative into their project portfolio and schedule, and for organising resources. The work is prioritised; taking care of dependencies and external time constraints. Funding also needs to be arranged so a formal Business Case should be created

**The Response team** consists of a small number of staff experienced in the specifics of the organisation (not contractors or new starters, however qualified)

- An architect who knows the current landscape
- An business expert who knows the operations of the relevant BU
- A representative of the PMO familiar with the current portfolio of work
- Optionally someone from the operations team who understands the production eco-system




The size and structure of **the project team** are determined by the SDLC selected.

A number of delivery patterns should be available for selection based on the project sizing and impacts.

Small agile projects require less governance than large or broadly impactful initiatives

**The Business Owner** initiates the process by raising a request for IT services. Throughout the whole SDLC, the various teams team may, and should, refer back to the business sponsor where more information is needed.

The Response team as a whole evaluate the proposal and develop options or approaches on how it is best implemented. It is common that the **Architect** is named as author due to the need to fill in technical details to the business idea

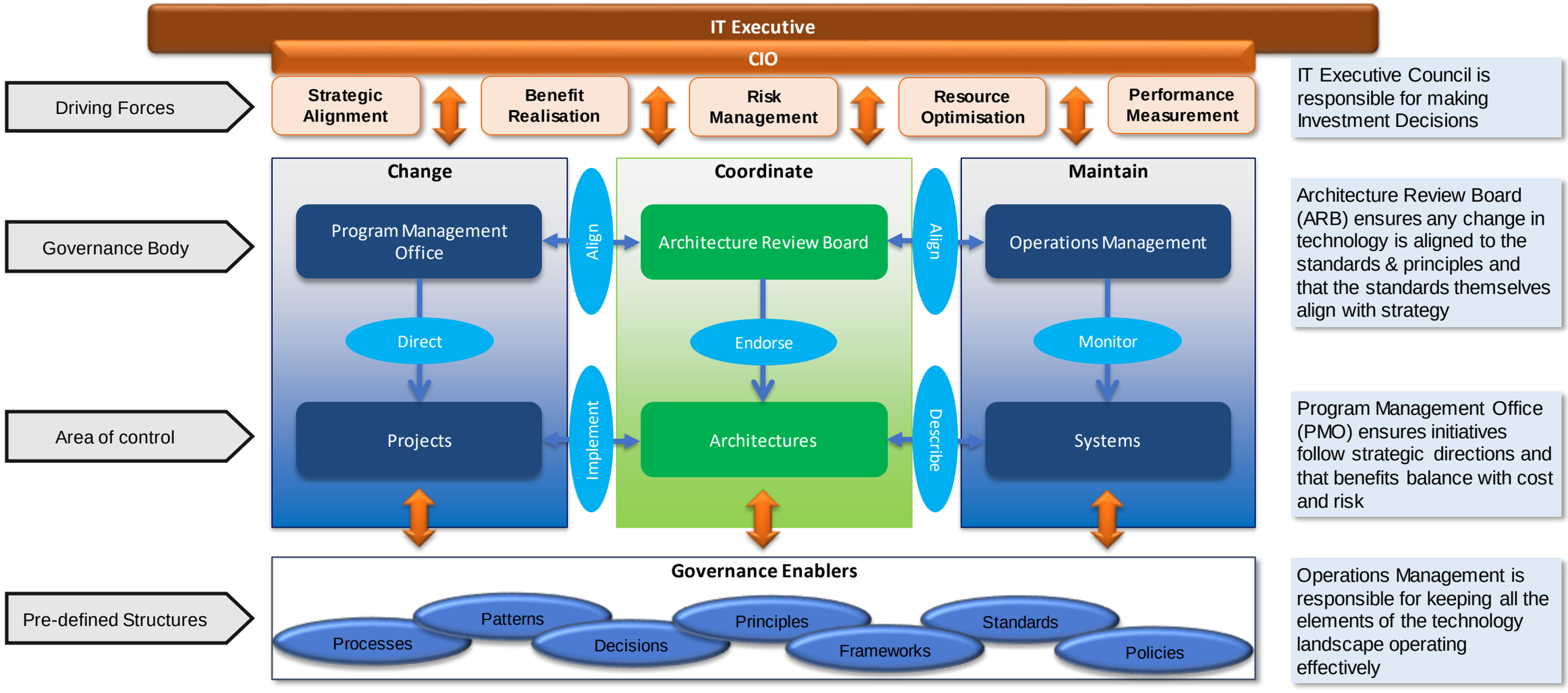
Depending on the organisation, the business case may be authored by a **project manager or business analyst** – who are overseen by the PMO team. The breadth of information means that consultation is required with a variety of teams: architecture, business sponsors, development and support.

Once a business case is approved by the IT executive (who make the financial decisions), it is formally instantiated as a **project**, with a manager assigned and resources made available. All further work on the project is carried out by the team.

# Demand Management – process gates

| Artefact | **Proposal**<br>Aka [Initiative Request] | **Solution Brief**<br>Aka [Concept Brief]<br>Aka [Solution Outline]<br>Aka [Architecture Vision] | **Business Case** | **Project Charter** |
|---|---|---|---|---|
| **Format** | Depends on organisation size & IT maturity<br>• Email<br>• Document<br>• Online form<br>• Service Request | Depends on process used for evaluation<br>• Slide pack<br>• Document<br>• Online form | Document | Document |
| **Purpose** | Describe the idea and why it is worth doing | To allow the proposal to be classified & prioritised | To justify funds allocated for implementation | Describe the approach and desired outcomes |
| **Content** | Includes key information about the proposal from a business point of view:<br>• User groups<br>• Processes involved<br>• Expected benefits<br>• Enough scope for sizing<br>• Funding options<br>• Business contact for clarification0 | Critical is dependencies or pre-requisites.<br>Also includes:<br>• High level options for solution<br>• Recommended approach<br>• Initial RAID log and constraints<br>• Assessment of impact on other systems, data needs & process changes<br>• Major dependencies & consequences<br>• Order of magnitude estimation of cost<br>*T-shirt sizing and next steps at minimum, but any additional detail at this level is valuable.* | Critical is cost-benefit comparison:<br>As justification, it should include:<br>• Basis of risks and effort estimates<br>• Breakdown of implementation costs<br>• Estimation of support effort & licensing<br>• Implications and consequential impact on other initiatives or systems<br>• Benefits of a variety of types: financial, regulatory, reputational etc.<br>*The measures should be quantitative if possible and ideally objectively evaluated. Non-financial costs, risks, benefits and value are also important.* | Following (for instance) PMP standards.<br>Includes:<br>• The scope statement<br>• Approach (e.g. waterfall, agile, lean etc.)<br>• Purpose and success criteria<br>• Resource forecast<br>• Schedule and constraints<br>*Small agile projects require less governance than large influential changes. If a set of approved delivery patterns is recorded, simple criteria for selecting, and the resulting obligations on the project should be readily available* |
| **Author** | Business representative<br>(directly or through BRM) | Architect<br>Consultation with any relevant stakeholders | BA or PM (PMO structure)<br>Consultation with any parties involved in delivery or support | Project Manager |
| **Effort** | As required by business | ~ 1 day on average. High complexity = up to 2 days | 1-2 weeks depending on cost justification needs | 1 day – 2 weeks depending on approach |
| **Owner** | The business unit itself | The response team (aka Triage Group, Front door team etc.) | Project Management Office (PMO) | Project Team |
| **Approval** | Business unit decide to continue or retract according to priority and impact assessment | Initiative rating and insertion into PMO schedule | Funding approval by Executive Council | |

# ARB – Technology oversight




IT Executive Council is responsible for making Investment Decisions

Architecture Review Board (ARB) ensures any change in technology is aligned to the standards & principles and that the standards themselves align with strategy

Program Management Office (PMO) ensures initiatives follow strategic directions and that benefits balance with cost and risk

Operations Management is responsible for keeping all the elements of the technology landscape operating effectively

# Architecture Review Board – terms of reference

The Architecture Review Board balances the immediate demands of the project management office and the desire for a stable landscape by the Operations team.

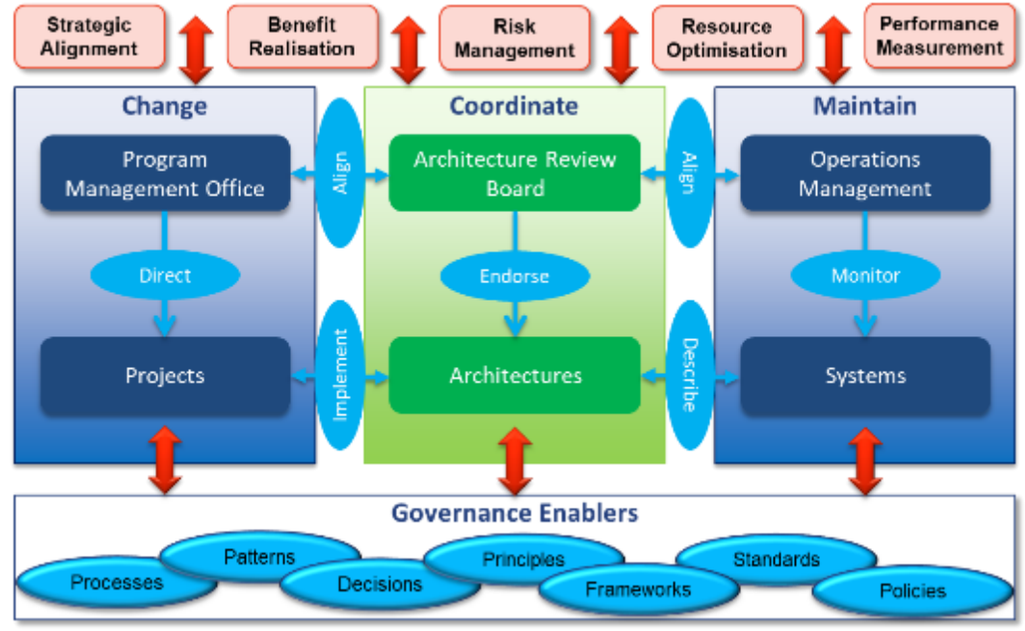
It takes a broad view of the current technology landscape and the planned roadmap to ensure the long-term interests of the enterprise, as a whole, are taken into account during change planning

As the main architectural control body, the ARB is **convened by the lead architect** who also has final authority over any decisions or outcomes.

The members of the ARB should include key people from across the IT division who are interested in the overall technology eco-system.

Ideally the roster should include:

- Domain & Portfolio architects
- Application support manager
- Technology support manager
- Head of the PMO
- Chief Information Security Officer
- Information Management Lead




The ARB format is to review submissions on technical matters. Submissions may be:

- a request for input or feedback,
- a recommendation for endorsement,
- as information to the ARB members.

The outcomes may include:

- simple acceptance,
- formal endorsement,
- request for additional information
- requirement for change

Generally, the topics addressed by the ARB will tend to be fairly technical and hence business representatives may not be interested.

However, where the matter under discussion involves a particular project or piece of business functionality, the relevant stakeholders should also be involved to provide context to the conversation.

Depending on the size and formality of the organization, the ARB may hold regular meeting or be a virtual team assessing submissions online, or various options in between.

The major point is that the key stakeholders within the IT division are aware of, all major work being done in the Technology area, and formally approve any changes.

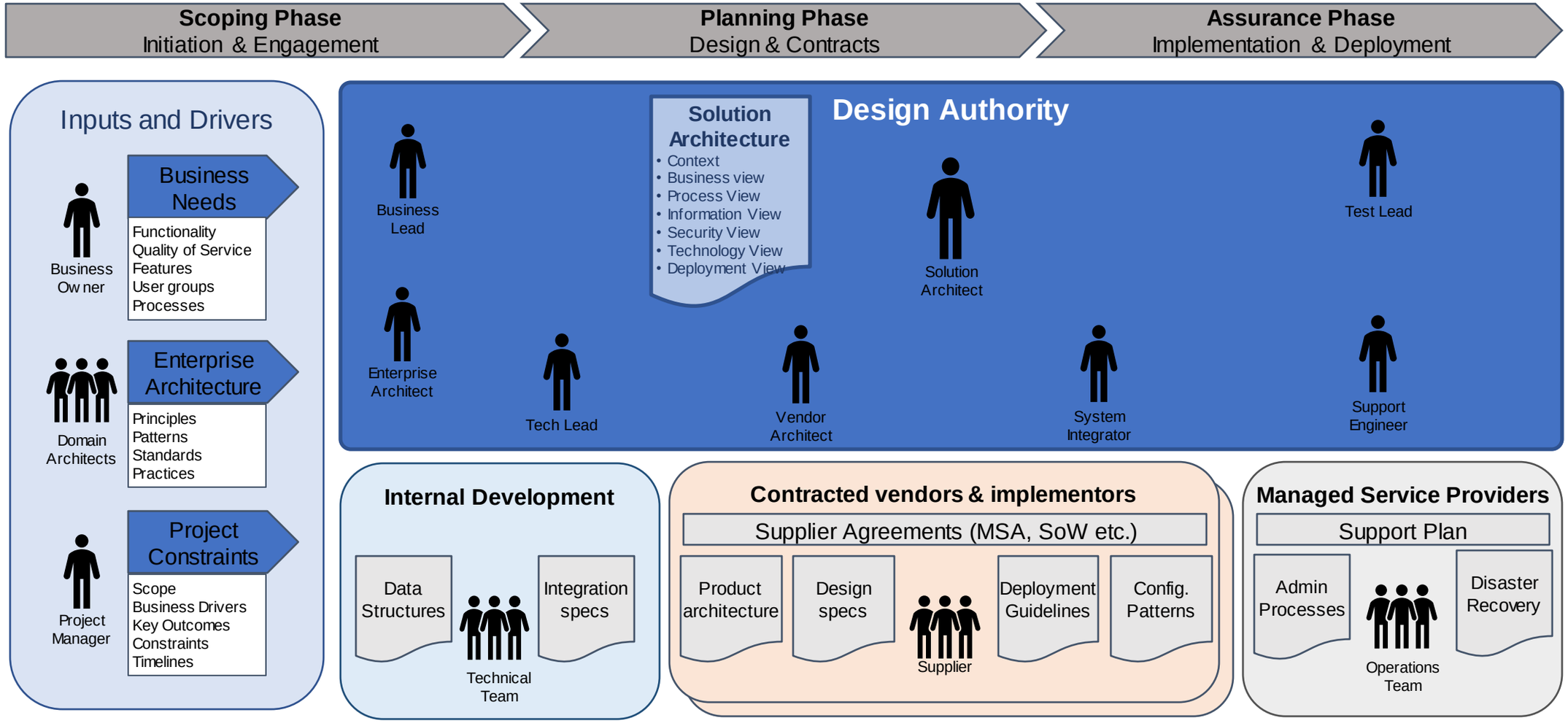
ARB are consulted for any change in the technical environment. That means:

- Checkpoint for any solution with architecturally significant work
- Any change to patterns and practices
- Proposed change to any existing part of the eco-system
- Any new building blocks or approaches
- Roadmap items and priorities
- Requested exemptions or challenges to accepted processes or principles

# ARB – types of presentation

| Artefact | Information | Solution Overview<br>Aka [Concept Brief]<br>Aka [Solution Outline]<br>Aka [Architecture Vision] | Options Analysis<br>Aka [Decision Evaluation]<br>Aka [Market Scan}] | Request for comment/action |
|---|---|---|---|---|
| **Format** | Slide Pack<br>Optionally with supporting document | Slide Pack | Slide Pack<br>Optionally with spreadsheet | Slide Pack<br>Optionally with document or spreadsheet |
| **Purpose** | Update the ARB members on an issue of wide concern within the technology space<br><br>Includes update on aspects of solution architecture where requested | To gain endorsement for a proposed solution as part of an initiative. | To request endorsement for a specific decision either within a larger program of work (such as a project) or as a standalone update | To request input or feedback from the expert panel on the correct approach.<br><br>Used as escalation mechanism for issues with broad impact. |
| **Content** | Variable depending on situation<br>Should include:<br>• Architectural context (bus &/or tech)<br>• Summary of potential impacts<br>• Consequences to the organisation | The proposed solution, and options that have been considered<br>Summary of the current context and technology<br>Architecturally significant requirements<br>Any systems which are likely to be impacted<br>Data elements required and their sources<br>Key integration points | Problem statement<br>Relevant constraints, context & considerations<br>Evaluation criteria<br>Options considered with pros/cons<br>Recommendation and justification<br>Next steps | Problem statement<br>Relevant constraints, context & consideration<br>Options considered<br>Statement of request |
| **Presenter** | Business representative<br>(directly or through BRM) | Solution Architect | Solution or domain architect responsible | Architect<br>Also open to other members of IT community |
| **Invited Attendees** | Manager or senior representative of impacted areas<br>Decision maker or sponsor for change | Program / project manager<br>Business Analyst or representative | *As required to support analysis* | Persons able to answer questions on topic |
| **Outcome** | No action is required by ARB | Endorse<br>Request for further information | Endorse<br>Suggestions | Request for further detail<br>Suggestions<br>Escalation<br>Referral |

# Design Authority – Solution Architecture



# Design Authority – key aspects

The Design Authority provides the point of connection between technical teams, project/program management and the enterprise architecture

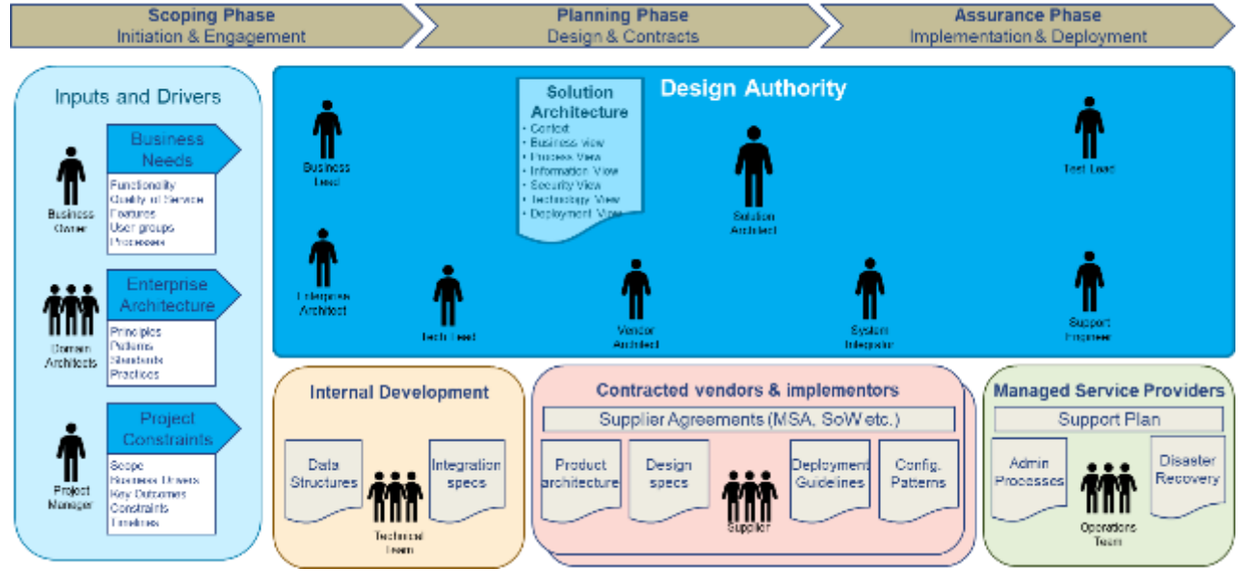
Apart from the Solution Architect, who chairs the DA, most participants are called upon as required. They include:

- Technical Lead – Designer and input on Development concerns
- Lead Business Analyst – input on business requirements
- Test Lead – advice on testing processes
- Technology / Application Manager – Input on supportability and deployment issues
- Product vendor technical expert – input on capabilities and best practices

The process of managing a complex implementation is enormously simplified by a well design template that provides a clear breakdown of the work. Aspects of the solution should be separated according to the interests of stakeholders while providing an clear overview showing how all the parts fit together

The scope of the DA, as with the Solution Architect role, is tied directly to a specific project/solution outcome.

Strategic planning and governance (including Enterprise Architecture development) may deal with abstractions and generalities but the purpose of the DA is to deal with real, immediate and tangible design needs and issues




The DA is responsible for the overall solution architecture. It is responsible for:

- Oversee the completeness, constraints and consequences of solutions
- Co-ordinate the work of various teams, including vendors, especially watching for gaps or overlaps
- Ensuring all technical designs align with project goals, business needs, corporate strategies and IT controls
- Provide a forum for escalation for issues or advice on decision points
- Communicate between participants and maintain the project, program or portfolio vision

The DA has ultimate oversight and responsibility within its scope – the project, program or portfolio – and refers to the ARB for other matters.

- All specifications or designs (including HLD/ DLD)
- Options which affect implementation
- Points where more than one implementation team is involved
- Approaches or recommendations by vendor representatives

Many of the DA participants tend to have a directed focus on their own areas of responsibilities.

The process for review should ensure all members are actively engaged and involved in relevant decisions.

The DA is the key means for managing the engagement between all designs, architects and technical groups involved in a project (or program)

It is the mechanism by which the Solution Architect works with all contracted 3rd party architects and design resources assigned to the project to ensure the successful inclusion of each discrete component into the overall solution.

# The Design Authority – term of reference

| | | |
|---|---|---|
| **Authority** | • **Collaboration and Consensus** in engaging all technical authorities (including 3rd parties) involved in delivery. The DA provides a forum for open, proactive and often critical debate. Design decisions must balance conflicting needs and hence may result in unfavourable outcomes to some parties. The DA function provides a opportunity for all relevant stakeholders can provide input to options, factors and conclusions around design decisions.<br>• **Timely and Authoritative Decision Making** is essential to the successful delivery of a project and the need to allow open and critical design analysis should not override project constraints such as budget, outcomes or timelines. A final arbiter and decision maker – the Solution Architect – is therefore necessary to maintain focus. Alternative opinions are captured in Design Decisions and, if appropriate, the RAID log. | The scope, practices and decisions of the DA shall be binding on all component contributors, internal and external.<br>In some circumstances, the outcomes of DA deliberations may be treated as a formal change request and any contract (Master Services Agreements and Statement's of Work) used to engage 3rd parties should include provisions that reflect this arrangement. |
| **Scope** | • Guide the design activities for any overarching Program as well as the discrete projects<br>• Record Design Decision (DDRs) as required to document significant design issues<br>• Ensure that individual component designs and architectures (e.g. by an external vendor) are consistent and complimentary with the overall Solution Architecture<br>• Manage/orchestrate the review, publication and change control process for all associated project design collateral | The DA is required in all projects where:<br>• The solution under development is to be an assembled/integrated across multiple autonomous products or components<br>• Solution products or components are managed or delivered by a 3rd party. This does not mean an external party operating under a commercial agreement; it may also include another department from within the parent organisation |
| **Deliverable** | The primary record of the DA operations is the Solution Architecture document.<br>It offers an overview of all aspects of the end-to-end solution; compiling, co-ordinating and summarising the various technical viewpoints taken by the implementation teams.<br>Design detail, if required, is usually contained in other artefacts and references provided in the Solution Architecture. | A template for the Solution Architecture is essential. It's purpose is to provide headings which cover all potential factors involved in creating a solution.<br>In many ways the details of how these factors are addressed is not critical – as long as steps are taken to ensure effectiveness. The important point is that they are consciously considered and processes are set in place. |
| **Membership** | The DA is lead by the Solution Architect but includes members of all impacted teams: Development, Support, Testing, etc. as well as domain and portfolio leads<br>All impacted teams should be represented to ensure their interests are properly included and captured in the design. | While the Design Authority (DA) is a function, not a role, the Solution Architect usually manages the DA and their responsibilities are directly related to the DA function. |
| **Format** | The format of the DA varies according to the organisation and the size of the effort being directed. Often, a simple email group is sufficient with online sessions with ad hoc meetings as needed by specific issues. In larger programs of work, a formal "technical reference group" may meet regularly with a formal agenda | The DA is convened at project start-up and is involved:<br>• When designs/specifications are in final draft<br>• When new technical issues or risks are identified<br>• If project constraints require significant Architecture change<br>• Concerns with wider impact that need to be escalated to ARB |