SOA-What to SOA-Is

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Agenda

- A short journey
- The Good, Bad & Ugly of SOA
- What happened at The Bank

Scene Setting

Introduction in a Nutshell

- Executives must plot the long term direction of their organization but must be in tune with the practicalities of moving the organization in that direction.
- Being an agile Services Oriented Enterprises (SOE) will bring benefits with it like
  - a shorter time to market for products and
  - services and more efficient business operations.
- But more importantly the services oriented vision has business value at its core.
- The business is very much in the driver's seat in a SOE and this typically represents a change in culture for any organization.
- Clearly this change must be managed and requires the input and guidance of executives.

This presentation is an introduction to SOA and describes some of the challenges that must be expected when becoming a SOE.

What makes SOA different to previous architectural approaches ?

Reusability

- SOA services can be extensively re-used to leverage existing IT assets
- Before, any reuse was within siloed applications

Standards

- Broadly adopted services give well-defined interfaces
- Before, proprietary standards limited interoperability

Alignment

- SOA improves business/IT alignment through business involvement in design
- Before, IT alone defined the design

Degree of focus

- SOA services focus on business-level activities
- Before, focus was narrower and more technical

Connections

- SOA services are linked dynamically and flexibly
- Before, service interactions were hard-coded and dependent on the application

In SOA even tighter alignment is required.

SOA as a business solution

A services oriented architecture (SOA) is an approach to IT systems development that meets business requirements through deriving a re-usable set of IT services.

These IT services are based on a common set of industry standards that enables them to be reassembled for rapid IT capability development.

SOA as an architectural framework

A services oriented architecture (SOA) is an architectural framework that takes everyday business applications and breaks them down into individual business functions called services.

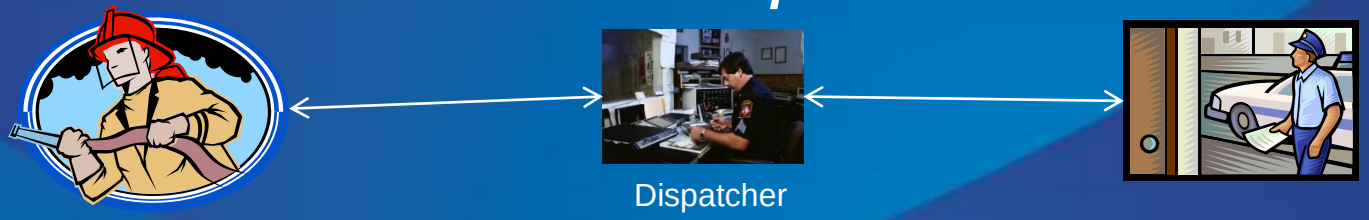
An SOA lets you build, deploy and integrate these services independent of applications and the computing platforms on which they run.

SOA is no Great Mystery

- By using proven principles for good software engineering a SOA is designed for change.
- A SOA limits the effects of changes by:
  - isolating software systems from each other and
  - providing well defined communication channels
- Called the “separation of concerns” SOA provides a way to
  - draw a blueprint for how to efficiently and effectively build enterprise IT
  - That is adaptive and less sensitive to changes than other architectures.

An Analogy

- ***Consider an enterprise is like a city. A city relies on many different services to keep it going. And the Fire Department and Police Department, for example, need to rely on each other to perform their services. However, the Fire Department does not need to know how the Police Department is organized internally, what their compensation and retirement plans are like, or who reports to whom and so on. They just need to know how to communicate with the central dispatcher***



Now just imagine the same idea applied to software with multiple dispatchers and many different services being coordinated across the organization. And it should be obvious that a well structured ecology which provides clear boundaries mean you can make changes to one service without having to change lots of things all over the place

SOA Reality!

- **A big caveat**
  - The (multi) million dollar prize only goes to the enterprise that implements SOA across many of the core systems. In other words, investing in a "little bit of SOA" without a solid plan to roll it out enterprise wide will not help your ROI very much.

- Some misconceptions about SOA:
  - It is not an API or an interface.
  - It is not at heart about web services.
  - You can do SOA without a single web service.

SOA is more about a large body of generally great IT practices unified into a single discipline.

SOA Success

- SOA will be delivered successfully and be financially viable only if:
  - Business Architecture (Not Business Analysis) and the business processes are in place and
  - linked with the underlining Application, Data and Technology Architecture.
  - Alignment between IT and business allows IT in SOEs to be more responsive to business needs because the common vocabulary is the engagement foundation
  - At the same time effort must be put in place to limit duplication Processes and in the IT Architecture (Application, Data & Technology)
  - a SOA can reduce the IT costs it is important to get everyone up to speed on SOA

The Good, The Bad & The Ugly of SOA

The Good, The Bad, & The Ugly of SOA

Good Business Implications of SOA	Bad Business Implications of SOA	Ugly Business Implications of SOA
Agility • SOAs allow business processes to be developed more quickly and it allows them to be changed more easily	**Change in the organization structure** • AT the heart of every SOA is a Centre of Excellence (COE). •The COE is a new entity that controls the technical development of the SOA and provides expertise to the rest of the organization	**It's not easy** • The transition is to a SOA is characterized by an evolution and not a revolution. •It is complex, expensive and there is no shortage of opponents to the change.
Alignment • A closer cooperative relationship between business and IT removes traditional barriers the hindered the IT implementation of business. •The footprint of a service in the business domain is a business function and it is described in business terms	**Change in organizational power structure** • Placing the ownership and control of services into the domain of business changes the power structure in organizations. • This is typically met with resistance from those who have a vested interest in keeping the status quo	**Change in culture** • Organisation culture becomes value driven – one of hardest lessons to learn
Business Process Improvements • Doing a good job of this reengineering can make a significant improvement to a business's operational efficient	**New challenges for business** •Business must get more involved in giving direction to IT. •Business lines must take ownership and responsibility for the service development and change cycle as the will drive this processes. This is not a role typically filled by business lines and will make for an uncomfortable change	
Flexibility • The adherence to good software engineering practice in SOA allows IT to be more responsive to business needs	**IT landscape becomes more complex before it can become simpler** • SOA enabled with a set of technologies i.e. ESB and BP execution engine	

The Good, The Bad, & The Ugly of SOA (Cont.)

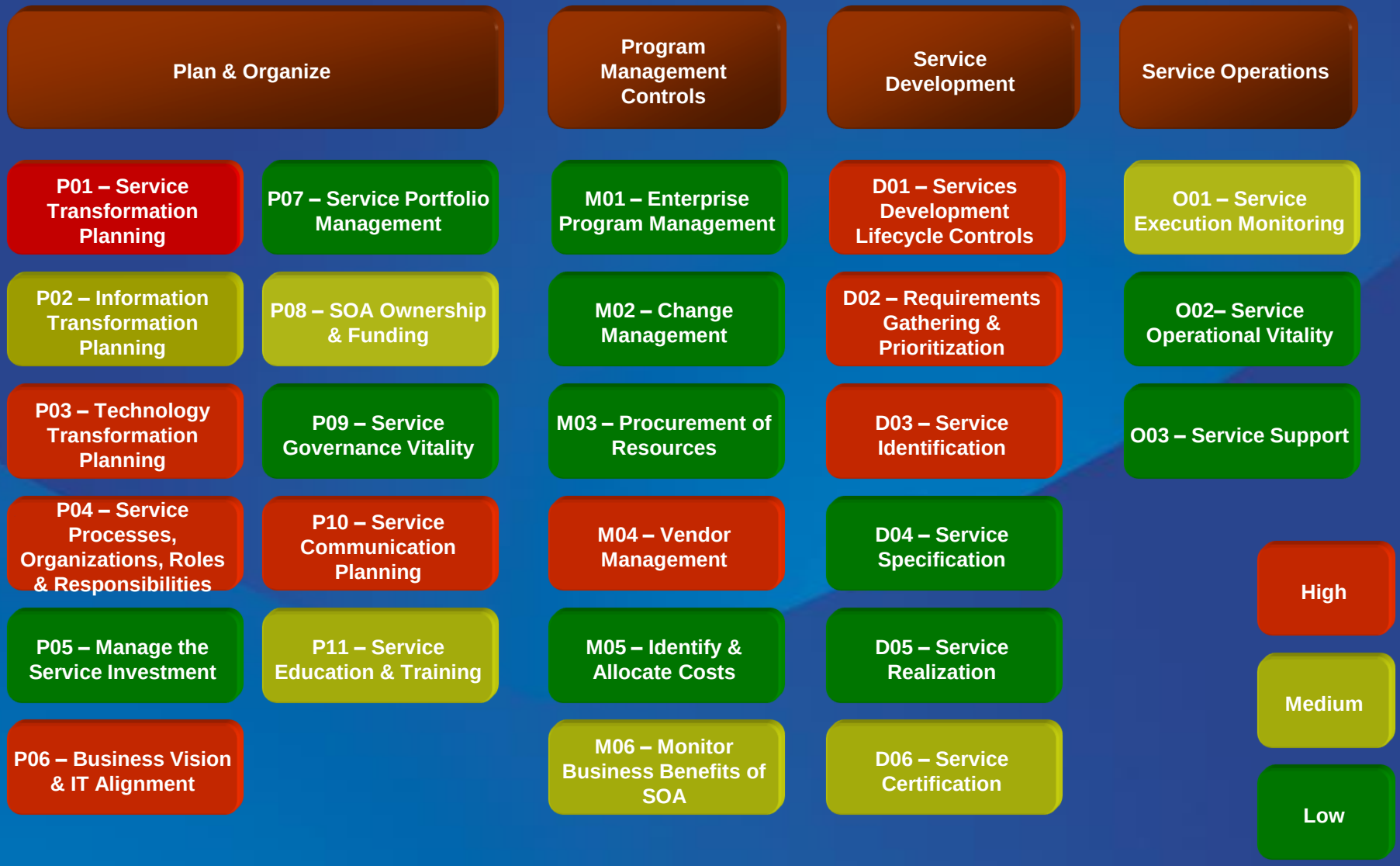
Good Business Implications of SOA	Bad Business Implications of SOA	Ugly Business Implications of SOA
Data Unification • Common – Structure, Semantics, Format, Coding, Type, Timing & Life Cycle	**No One view of data** • Standard interfaces for services require common view of data – this typically does not exist	**Unification may not be possible** • Uniform service interface is very difficult to build
Operational Monitoring • Measurement is Business Monitoring • Business Logic moves to central place	**Monitoring complexity** • Developing a monitoring model for business processes that feeds back to organizational goals is a significant piece of work that requires specialist skills	
Leveraging operational systems • Investment in existing systems can be used by repackaging it into services	**Technical misfits** • In some cases operational systems do not relent easily to being repackaged as is the case when the structure of business functions does not match the requirements	**Changes may be needed**
Integration Bus • A bus architecture like the Enterprises Services Bus (ESB) reduces the number of connections in a SOA compared to a Point to Point architecture	**No short cuts** • Point to Point communications are seductively easy to implement and low cost when compared to an ESB. An ESB represents a significant enterprise investment in technology and skills making it appear unattractive in the short term where there is a focus on project schedules and project budgets. This makes this type of enterprise investment difficult to justify	**Long Term payoff** • The seductive short term benefits of Point to Point solutions will turn into a maintenance nightmare • The ugly truth, though, is that the ESB requires an upfront enterprise investment to get started

What have we done at The Bank?

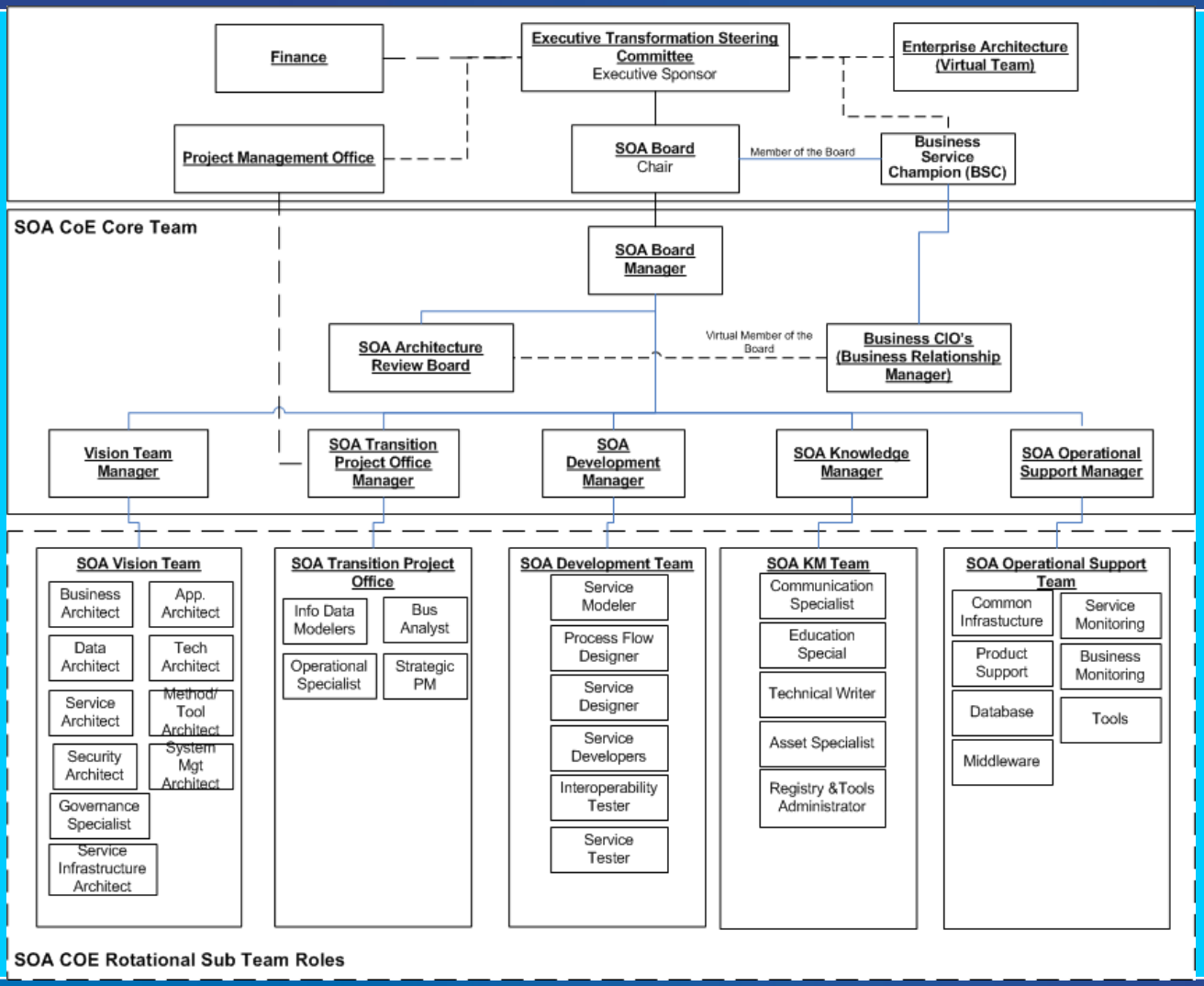
The Bank Challenges

- Security – Move from System security to Process Security
- Culture Change – The Silo walls must come down
- Governance shift – from IT to Enterprise
- Enterprise Architecture – The Big Picture

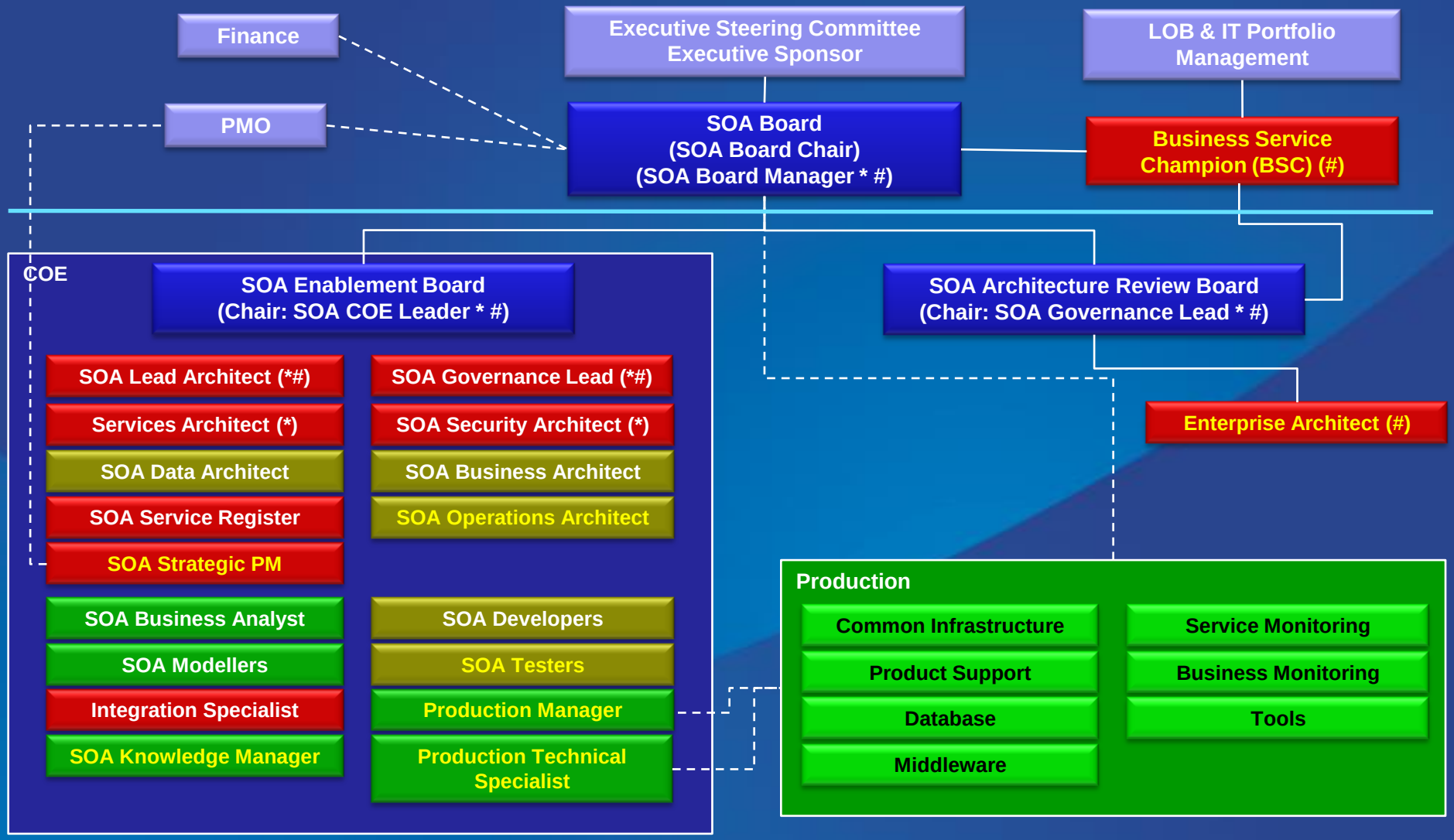
The Bank SOA Governance Heat Map (Journey)



SOA Organization – Best Practice



Reality needs to be part of your Structure



- SOA Architecture Review Board Member

* - SOA Enablement Board Member

The 3 Board High Level Responsibility

Board	High Level Rsponsibility
SOA Board	•Approve strategic portions of the Service Transformation planning •Provide input on the SOA organization and metrics and incentives to be used •Approve aspects of the alignment of business and IT •Resolves exception requests •Review Status, Issues & Risks •Final Decisions/Appeals & Funding Additions
SOA Architecture Review Board	•The board is involved in all major aspects of SOA Governance and the SOA journey and has approval authority over most aspects of the governance deliverable plan as documented in the governance RACI chart. •Prioritization of projects/services requests and for funding •Approves/modifies priorities suggested by SOA Enablement Board •Accountable for implementation and management of SOA Governance •Set SOA standards & policies •Consults on the correct alignment of business and IT. Should review all business and IT linkages and alignment methodologies for best practices for this organization. •Review and change or approve the service version management standard to be used.
SOA Enablement Board	•First level to ensure compliance with implemented standards/services •Assist LOB with initiatives /projects for new services •Provides guidance to BSC to ensure conformance with reuse and business agility driven standards •Prioritization of project/service requests and funding (with in mandate) •Define all SOA architecture elements (Tech, application, data, security,...) •Provide thought leadership •Harvests assets •Support SOA development and operations • Maintain the SO Architecture

SOA Structure Challenges

- Appointment of Business Executive Sponsor
- Produce the SOA Framework
- Attempt to Align to current Organisational Structures – (1st Workable structure proposed)
- Establish SOA Board, SOA Architecture Review Board, SOA Enablement Board
- Assign Key players

Summary

- SOA – Is nothing new
- SOA – Is not an IT Thing
- SOA – Will be political due to silos being broken
- SOA – All or Nothing
- SOA – Forget Security, Forget SOA
- SOA – EA will help you execute
- SOA – Start with a SOA Governance Framework

THANK YOU