Architecture Development
with TOGAF

Eric Smith
Principal Consultant
QA, plc
We are ....

A specialist business that improves IT effectiveness within large organisations. The focus is on enhancing the skills of people, optimising human capital investment and providing IT expertise that complements in-house skills.
Our Capabilities

UK’s no.1 IT Trainer
400+ Courses
• Instructor-led
• Internet-based
• Published materials

Multi-discipline
Technical skills
Business skills

Architecture consulting
Technical consulting
IT strategy and architecture
Enterprise infrastructure
Application integration
Service management

Human capital development consultancy
Learning management systems
Today ….

- The Client
- IT Strategy
- Why have an Architecture?
- What is Architecture?
- Developing and Applying an Architecture – The Architecture Programme
- Architectural Principles
- Architecture Definition Strategy
- Architecture Governance & Conformance
The Client

- Major International Player in the Travel Industry
- Grown through acquisition
- Countering threats from internet travel booking agencies
- Multiple distribution channels
- Many technology suppliers and partners
- Wants to reduce cost, improve service and increase revenue
Strategy Issues (1)

- Know Your Customer
  - The Implementation of Customer Relationship Management
  - Underpinned by Loyalty Schemes
- Attack the cost base and increase revenue
- Form Joint Ventures with
  - Technology suppliers
  - Financial Institutions
  - Competition
- Integrate the use of e-Commerce by using leading edge technology
Strategy Issues (2)

- Multiple Distribution Channels
  - Internet
  - Mobile Phones
  - Digital TV
  - In flight, on board and in room services
  - Shops
  - Call centers
  - …..
Business Issues and Architecture

• Application of technology continues to be challenging, driven by innovative business practices and the need to reduce cost
• Many overlapping initiatives, parallel programmes
• An IT Strategy is used for the alignment of business and IT and prioritising investment
• An Architecture is the blueprint for implementing the Strategy
• Architecture at 2 levels
  – Global Architecture for standards, frameworks, etc.
  – Loosely Coupled Architecture allowing the Business Units to do their own thing
• Senior Management must align behind a well defined IT Strategy and support the Architecture Programme
IT Strategy

• IT strategy is explicitly linked to the future business direction. It is:
  – A Framework for Decision-making
  – A Process for alignment of Business & IT
  – A set of Strategic Options
  – A set of aligned Business & IT projects/initiatives

• An IT Strategy comprises:
  – Business & IT Principles
  – Strategic Applications
  – Strategic Options for each application
  – Decision Criteria
  – Investment & Migration Plan
  – Consolidated implementation plan
  – Business Case for IT initiatives

• The IT strategy defines what needs to be done and, through explicit linkage to the business, why this needs to happen and when.
Enterprise Architecture

Enterprise Architecture

Applications Architecture

Information (Data) Architecture

Technical Architecture

IT Strategy

Business Architecture
Architecture

Principles, mechanisms, patterns and structures that clearly define and communicate the structure of a system

- Describes how a system is constructed from a number of interrelated parts, or components.
- An architecture is the technical foundation for an effective IT strategy, which in turn is the core of any successful modern business strategy.
Benefits of an Architected Approach

- A consistent architecture provides flexibility, which can:
  - Improve speed to market and reduce costs by
    - containing change and limiting its effect on other systems
    - reducing the number of technology suppliers
    - improving the effectiveness of development, test, implementation and support staff
    - reducing the training burden
    - enabling integration of packaged solutions
    - Faster development of IT Solutions
  - Enable business innovation by
    - mix and match of business components to form new products
    - delivering products over new channels
    - availability of consistent data in near real time
    - automating or simplifying processes
    - enabling connectivity with partners, customers, and suppliers
Developing an Architecture

Vision

As-Is

To-Be

Gap

Action

Business Processes /Functions

Design

Application Components

Implement

Technical Infrastructure
The Architecture Programme (1)

• Issues:
  – Control the cost and overheads
  – Economy of scale
  – Prevent re-inventing wheels, but promote (re-)use
  – Global exchange of information and experiences

• Proven approach:
  – Provide a central co-ordination function
  – To communicate with Business and IT
  – Defining standards, direction and frameworks
  – Participate in the Implementation Projects
  – Feed back the experiences and adjust the Architecture
  – Provide focussed expertise to implement solutions (C of E)
The Architecture Programme (2)

• Is an initiative at Group Level
• Is long term and ongoing, not a quick and dirty approach
• Is there to co-ordinate IT activities throughout the Group
• Is there to provide consistency
• Is there to ensure architectural benefits are realised
Architecture Programme Components

Document Management Strategy

- Programme Control Book
- Change Control Process

Programme Brief

- Vision and Objectives
- Overview of Architecture & Principles
- Programme Outline

Organisation and Governance
- Structure/Roles
- Responsibilities
- Authority

Architecture Conformance Strategy
- Process
- Conformance Model
- Plan

Programme Plan
- Activities
- Timeline
- Costs

Architecture Definition Strategy
- Process
- Standards
- Templates

Architecture Definition Format
- Glossary
- Standards Database
- Tools & Practices

The Architecture

- Architecture Principles
- Requirements of Architecture
- Architecture Standards and Designs (Application, Information and Technical)
- Technology Blueprint
The Architecture Team

Group IT Director

Global IT Programme Management
- Project Team

Voice & Data Communications Management

LG IT Heads. For strategic applications and infrastructure

Knowledge Management

Group IT Architects
- Applications Architect
- Information Architect
- Technical Architect
Principles Definition

• Principles are rules and guidelines for planning, design, build, and operational control of systems

• Architecture Principles serve as actionable IT guidelines, providing a common basis for decisions across IT.

Architecture principles should:

– Articulate a company’s values
– Guide product selection
– Guide implementation choices
– Become part of the IT culture
– Integrate with IT processes
Architecture Definition Strategy

Based on TOGAF Architecture Development Methodology

- Phased
- Iterative
- Phases have steps
- Validation against requirements at every step
Technical Reference Model

- Service Based
- Separates LOB apps from generic apps
  - Apps can be bespoke or COTS
- Qualities
  - Availability
  - Assurance
  - Usability
  - Adaptability
Architecture Conformance

Irrelevant: The implementation has no features in common with the architecture specification (so the question of conformance does not arise).

Consistent: The implementation has some features in common with the architecture specification, and those common features are implemented in accordance with the specification. However, some features in the architecture specification are not implemented, and the implementation has other features that are not covered by the specification.

Compliant: Some features in the architecture specification are not implemented, but all features implemented are covered by the specification, and are in accordance with it.

Conformant - All the features in the architecture specification are implemented in accordance with the specification, but some more features are implemented that are not covered by specification.

Fully Conformant - There is full correspondence between architecture specification and implementation. All specified features are implemented in accordance with the specification, and there are no features implemented that are not covered by the specification.

Non-conformant: Any of the above in which some features in the architecture specification are implemented not in accordance with the specification.
The Architecture?

Inception

Defining the Architecture

Architecture Programme

Project management

Business Change Management

Sales Channel Toolset

Integration Broker

Technical Change Management

Toolset

Integration

Broker

....

....

....

....

....