Technology Architecture

Principle & Practice

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Presentation Topics

• Why do we need a Technology Architecture?
• Technology Strategy – Towards Architecture
• The Business Perspective
• Technology as a Driver, not as a Controller
• Towards a Technology Architecture
• Issues & Pointers
Why do we need a Technology Architecture?

• All Enterprise Architecture artifacts use Technology

• Without rules Chaos ensues.

• To maximise on the returns of our efforts

• To create a Foundation for business to build on
Technology Strategy

• First Understand, then seek to be understood!
  
  Stephen Covey – 7 Habits

• Define a start and then identify a destination

• What are your key drivers,
  – Example: Simplification, Innovation, Consolidation

• Once you have a strategy, create an Architecture
Where Technology Architecture Fits

- Prelim: Framework and Principles
  - Architecture Vision
  - Business Architecture
  - Information Systems Architectures
- Requirements Management
  - Implementation Governance
  - Migration Planning
  - Opportunities and Solutions
- Technology Architecture
  - 1. Create baseline
  - 2. Consider views
  - 3. Create arch. model
  - 4. Select services
  - 5. Confirm bus. obj.
  - 6. Determine criteria
  - 7. Define arch.
  - 8. Conduct gap analysis
Technology Architecture

• Technology Architecture can become a tangible Foundation

• It must however only be seen as a business supporting Foundation – Not a goal in itself

• Technology is transient, business strategy is not!

• Technology can be a driver for business, it must not become a governor or destination
Towards a Technology Architecture

Understand the Business Strategy

Define the Technology Frameworks & Components

Understand their boundaries and their synergies

Classify and conquer

Explain Your Technology choices – be firm!
Technology Classes

- **Access Devices**
  - Thick Client
  - Thin Client
  - Portable Client

- **Portal**
  - Application Development Tools (Modelling, Simulation, Coding & Debug, Service Registry)
  - Application Server (J2EE Layer)
  - Presentation Portal / Web Services Gateway
  - BPM
  - ESB
  - BAM

- **Integration**
  - Composite (SOA)
  - Purchased (COTS)
  - Built App

- **Application**
  - Database
    - ORACLE
    - Microsoft SQL
  - Operating System
    - Unix
    - Linux
    - Windows

- **Server**
  - Large SMP
  - Blade / Cluster
  - Virtual
  - RISC
  - RISC / Intel/AMD
  - Intel/AMD

- **Storage**
  - High Performance Disk
  - Low Cost Disk
  - Archive (Optical/Tape)
  - Optical Fibre SAN / iSCSI

- **Network**
  - IPNet / IP Network (Layer 1 – 7)
  - Broadband
  - Wireless
  - MPLS
  - ATM, Metro Ethernet, xDSL
  - Optical and NG-SDH Transport
  - Legacy Access
  - Legacy Transport

- **Infrastructure Technologies**
  - Service Management & Tools & Best Practices
    - including Server, Storage, Security & Network
  - Security Architecture
    - Certification and PKI, NAC, Wireless Access Protection
  - Communication and Application Management
    - Data Integrity, Network Access & Device Protection

- **Technology Classes** - ITSD-57152 Version 3.01 [2008]
Technology Guidelines

• Give reasons for each Technology Class

• Define purpose, objective & strategy

• Provide Technology Directives
  – Give reasons for or against any new Technology
Issues & Pointers

• Technology Architecture must be Top-Level Driven
  – Like EA, if it is not CIO/CTO driven - It will fail!
• Priorities must be clearly defined and understood
  – Eg Protect existing/legacy investments (why?)
• Business is not a Democracy
  – Too much negotiation means too few decisions!
• Technology must never become a destination
  – Merely a path to better business and profit
• If it’s a question of best strategic fit, or time to market
  – Time to market wins every time – live with it!
• Don’t believe everything a Tech Vendor tells you!
Any Questions?

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About the Presenter

- **Steve Jump B.Sc, C.Eng, MIET, MSAIEE**
- Steve has been involved in the design and delivery of complex technology based solutions around Africa for the past 18 years, and has over fifteen years of practical technology architecture experience. He has been involved in many system deployments in a variety of environments including complex system deployments for both small and large organisations.
- He has worked in a variety of roles from system administrator to IT executive level allowing him to gain a complete experience of all aspects of the use of technology in business, and specifically of how both people and technology must be used together to ensure success and profit. An electronic engineer by training, Steve has designed and built systems as small as single chip integrated circuits, and as large as million user internet systems.
- His early career experiences in advanced system testing has lead him to the conclusion that from smart munitions to enterprise data warehouses if you don’t know what you are doing any button has the potential to “make it go bang!”
- He is presently a Senior Specialist for Technology Strategy and Architecture with Telkom SA Ltd, and is actively involved in the design of Telkom’s future technology architectures.