EA Delivers Demonstrable Value

EA Forum - 22 November 2006

Mohamed Ganie
Manager: Enterprise Architecture and ICT Infrastructure
Armscor
Presentation Outline

- Background
- Rationale for Enterprise Architecture
- EA Approach
- EA Capability
- User Requirement Specification
- Conclusion
Armscor's mission is to meet the acquisition, maintenance and disposal needs of the Department of Defence and other clients in terms of defence matériel, related products and related services. ARMSCOR is to maintain strategic capabilities and technologies and promote the local defence-related industry.
External Organisation Structure
Acquisition

ARMSCOR AS ACQUISITION ORGANISATION

MINISTER OF DEFENCE

SANDF

OTHER LOCAL CLIENTS

FOREIGN CLIENTS

ARMSCOR

MINISTER OF PUBLIC ENTERPRISES

DENEL

OTHER LOCAL SUPPLIERS

FOREIGN SUPPLIERS

Gateway to Defence Solutions
Product Life Cycle

ACQUISITION MANAGEMENT THROUGH
THE LIFE CYCLE OF THE PRODUCT

BASELINE MANAGEMENT

Quality Assurance, Configuration Management and Defence Industrial Participation

ASSESSING THE NEED
DEFINING THE SOLUTION
CONTRACTING THE RIGHT CONTRACTOR & MANAGING THE CONTRACT
PRODUCT SUPPORT
ASSESSING THE NEED

USER REQUIREMENT
CONCEPT
DEFINITION
DEVELOPMENT
INDUSTRIALISATION
PRODUCTION
OPERATIONAL

STOCK SALES
PHASING OUT
DESTROY
UPGRADE

Gateway to Defence Solutions
## Financials – 5 Year Overview

<table>
<thead>
<tr>
<th></th>
<th>2006 Rm</th>
<th>2005 Rm</th>
<th>2004 Rm</th>
<th>2003 Rm</th>
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<td>397.8</td>
<td>401.9</td>
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<td><strong>Revenue</strong></td>
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<td>1 101.5</td>
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<td><strong>Net surplus/deficit for year</strong></td>
<td>14.8</td>
<td>(4.1)</td>
<td>9.8</td>
<td>31.0</td>
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<td><strong>Acquisition activities</strong></td>
<td>8 405.9</td>
<td>7 386.8</td>
<td>8 338.4</td>
<td>7 868.7</td>
<td>7 006.5</td>
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</table>
Example Products and Services

- Vehicle testing at Gerotek
- Artillery testing at Alkantpan
- Verification of system interoperability
- The underwater vehicle demonstrator
- Sale of Impala Aircraft by DMD
- Freight forwarding by AB Logistics
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Business Driver: High Support Costs

- Manage The Enterprise Business
- Manage Acquisition
- Manage Project
- Support The Enterprise Business
## Business Driver: High IT Costs

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Total IT Budget</td>
<td>R 53,000,000</td>
<td>R 60,952,249</td>
<td>R 52,437,512</td>
<td>R 38,430,000</td>
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<tr>
<td>No of Employees</td>
<td>980</td>
<td>980</td>
<td>980</td>
<td>970</td>
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<tr>
<td>No of Users</td>
<td>1,200</td>
<td>1,200</td>
<td>1,200</td>
<td>1,200</td>
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<tr>
<td>Total IT Workforce</td>
<td>51</td>
<td>51</td>
<td>51</td>
<td>60</td>
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<tr>
<td>No of computers</td>
<td>1,700</td>
<td>1,700</td>
<td>1,400</td>
<td>1,200</td>
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<tr>
<td>No of servers</td>
<td>114</td>
<td>114</td>
<td>96</td>
<td>90</td>
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<tr>
<td>Avg IT Budget per Employee</td>
<td>R 54,082</td>
<td>R 62,196</td>
<td>R 53,508</td>
<td>R 32,025</td>
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<tr>
<td>Avg IT Budget per User</td>
<td>R 44,167</td>
<td>R 50,794</td>
<td>R 43,698</td>
<td>R 32,025</td>
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## Business Driver: Application Proliferation

<table>
<thead>
<tr>
<th>Department</th>
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<tr>
<td>Acquisition</td>
<td>16</td>
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<tr>
<td>Corporate Affairs</td>
<td>19</td>
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<tr>
<td>Human Resources</td>
<td>17</td>
</tr>
<tr>
<td>Quality</td>
<td>5</td>
</tr>
<tr>
<td>Information and Infrastructure</td>
<td>17</td>
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<tr>
<td>Finance</td>
<td>18</td>
</tr>
<tr>
<td>Legal Services</td>
<td>1</td>
</tr>
<tr>
<td>Armscor Business</td>
<td>9</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>102</strong></td>
</tr>
</tbody>
</table>
Business Driver: IT Decision Making

- High security environment
- Critical IT decisions not taken at the right level of authority resulting in “the tail wags the dog” scenario
- IT decisions not taken based on accurate information resulting in poor choices
- Tendency by IT to over provision
- “Not invented here” syndrome
- Everyone is an IT expert
Technology Drivers

Three key technologies with disruptive influence on our current architecture

- **Open Source Software**
  - Operating System : Linux
  - Office Suite : Open Office & Star Office
  - Backend Systems : ERP applications

- **Broadband Wireless Access**
  - WiFi
  - WiMax

- **Voice Over IP**
Management Buy-in

- The need for EA was identified in 2003 but no buy-in from top management – no funds

- Budget was approved for the 2005 financial year

- Strategic Session of the Management Board took a decision in July 2005 to delay the mainframe migration project and stop all major IT projects
  - EA Project is the only show in town.
  - Mainframe migration project – stopped
Presentation Outline

- Background
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**ENTERPRISE ARCHITECTURE - A FRAMEWORK™**

<table>
<thead>
<tr>
<th>DATA</th>
<th>FUNCTION</th>
<th>NETWORK</th>
<th>PEOPLE</th>
<th>TIME</th>
<th>MOTIVATION</th>
<th>SCOPE (CONTEXTUAL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>List of Things Important to the Business</td>
<td>List of Processes the Business Performs</td>
<td>List of Locations in which the Business Operates</td>
<td>List of Organizations Important to the Business</td>
<td>List of Events Significant to the Business</td>
<td>List of Business Goals/Strategy</td>
<td></td>
</tr>
</tbody>
</table>

**ENTERPRISE MODEL (CONCEPTUAL)**

- **Planner**
  - Entity = Class of Business Thing
  - Function = Class of Business Process

- **Owner**
  - Entity = Business Entity
  - Relation = Business Relationship

- **Designer**
  - Entity = Data Entity
  - Relation = Data Relationship

- **Builder**
  - Entity = Segment/Table/etc.
  - Relation = Pointer/Key/etc.

- **Sub-Contractor**
  - Entity = Field
  - Relation = Address

**SYSTEM MODEL (LOGICAL)**

- **Planner**
  - Entity = Business Entity
  - Relation = Business Process

- **Owner**
  - Entity = Business Unit
  - Relation = Business Resource

- **Designer**
  - Entity = Application Function
  - Relation = User View

- **Builder**
  - Entity = Computer Function
  - Relation = Screen/Device Format

- **Sub-Contractor**
  - Entity = Language Statement
  - Relation = Control Block

**TECHNOLOGY MODEL (PHYSICAL)**

- **Planner**
  - Entity = Business Entity
  - Relation = Business Process

- **Owner**
  - Entity = Organization Unit
  - Relation = Work Product

- **Designer**
  - Entity = Application Function
  - Relation = User View

- **Builder**
  - Entity = Computer Function
  - Relation = Screen/Device Format

- **Sub-Contractor**
  - Entity = Language Statement
  - Relation = Control Block

**DETAILED REPRESENTATIONS (OUT-OF-CONTEXT)**

- **Planner**
  - Entity = Address
  - Relation = Protocol

- **Owner**
  - Entity = Identity
  - Relation = Job

- **Designer**
  - Entity = Identity
  - Relation = Role

- **Builder**
  - Entity = Machine
  - Relation = Control Block

- **Sub-Contractor**
  - Entity = Protocol
  - Relation = Step

**FUNCTIONING ENTERPRISE**

- **Planner**
  - Entity = DATA
  - Relation = FUNCTION

- **Owner**
  - Entity = NETWORK
  - Relation = ORGANIZATION

- **Designer**
  - Entity = SCHEDULE
  - Relation = STRATEGY

- **Builder**
  - Entity = DATA
  - Relation = FUNCTION

- **Sub-Contractor**
  - Entity = NETWORK
  - Relation = ORGANIZATION

**Zachman Institute for Framework Advancement - (810) 231-0531**

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TOGAF

+ Resource Base
Project B – Armscor Specific Project

C - Operate an EA Office

Architectural Domains:
- Business Architecture
- Information Architecture
- Data Architecture
- Applications Architecture
- Technology Architecture

Intellectual Capital
- Products / Services
- People
- Content
- Processes
- Tools

Gateway to Defence Solutions
Presentation Outline

- Background
- Rationale for Enterprise Architecture
- EA Approach
- **EA Capability**
- User Requirement Specification
- Conclusion
Project B – Armscor Specific Project

C - Operate an EA Office
Establishing EA Capability

- Defined EA Principles
- Developed EA Conceptual Framework
- Selected EA Toolset
- Defined EA Meta-model
- Executed Pilot Project
**General**

**Principle**

Architecture and standards are based on business strategies, processes and requirements.

**Implications**

- Investments in IT are like investments elsewhere in the enterprise — they must be optimised for total adherence to a policy requiring this.
- Principles identify which component architectures take precedence over others.
- Optimisation is done end-to-end (enterprise-wide).
- Sub-optimisation, for example, just for application delivery, or operations, or support, is not acceptable.

**Information**

**Principle**

Architecture and standards are based on business strategies, processes and requirements.

**Implications**

- The computing infrastructure will be secure. Security means:
  - Need for a consistent security model in an environment where content is managed among suppliers, and trading partners.
  - Consistent disciplines result in higher quality products and services, reduced development and maintenance costs and improved operational effectiveness.

**Data**

**Principle**

Data is an asset to be managed across its technology life cycle.

**Implications**

- Data warehousing / marts will not be used for source system data archiving.
- Data warehouses / marts must be utilised for data mining and decision support.
- Data warehouses / marts require a consistent model of data and consistent disciplines across its value stream.

**Application**

**Principle**

An enterprise data dictionary will be created and maintained.

**Implications**

- Use common standard methods to analyse, design and monitor the evolution of organisation structures.
- Use the Software Engineering Institute’s Capability Maturity Model to assess the effectiveness of development or application development activities and provide a particular percentage of the company.

**Technology**

**Principle**

IT offers strategic advantages in terms of cost avoidance through leveraging current assets. This means:

- • Cost avoidance through leveraging current assets
- • Higher productivity
- • Better information access to decision makers
- • Improved decision-making

**Information**

**Principle**

The business architecture is an enterprise level strategy that will define the business model.

**Implications**

- The business architecture is an enterprise level strategy that will define the business model.
- The business architecture is an enterprise level strategy that will define the business model.

**Data**

**Principle**

We will never underestimate the importance of data.

**Implications**

- We will never underestimate the importance of data.
- We will never underestimate the importance of data.

**Application**

**Principle**

Buy, not build.

**Implications**

- COTS potentially reduces the time and expense if installed and used in vanilla state.
- COTS potentially reduces the time and expense if installed and used in vanilla state.

**Technology**

**Principle**

Technology renewal

**Implications**

- Technology renewal
- Technology renewal

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**Notes**

- The computing infrastructure will be secure. Security means:
  - Need for a consistent security model in an environment where content is managed among suppliers, and trading partners.
  - Consistent disciplines result in higher quality products and services, reduced development and maintenance costs and improved operational effectiveness.

- Data warehousing / marts will not be used for source system data archiving.
- Data warehouses / marts require a consistent model of data and consistent disciplines across its value stream.

- Use common standard methods to analyse, design and monitor the evolution of organisation structures.
- Use the Software Engineering Institute’s Capability Maturity Model to assess the effectiveness of development or application development activities and provide a particular percentage of the company.

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  - • Cost avoidance through leveraging current assets
  - • Higher productivity
  - • Better information access to decision makers
  - • Improved decision-making

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- We will never underestimate the importance of data.
- We will never underestimate the importance of data.
- We will never underestimate the importance of data.
Example – Diverse Business Models

Principle

The Business Architecture will accommodate diverse business models that will reflect the character of the total Armscor group.

Rationale

Especially within Armscor Business it is impractical to attempt to develop a generic business model to reflect the business processes across each business unit. The group clusters a number of diverse businesses together and should be reflected like that in the Business Architecture.

Implications

1. Armscor will have one business model.
2. Armscor Business will have a business model per business unit.
3. Shared services such as Finance and Human Resources can be modelled across the group.
Example – Buy not Build

**Principle**

Reuse of industry accepted and commercially supported architecture components (processes, systems, etc.) is an effective delivery solution.

**Rationale**

Over the lifetime of a business process, it may be more effective to buy than it is to build and maintain.

1. Commercial Off The Shelf (COTS) provides an integrated architecture and industry best practice.
2. COTS potentially reduces the time and expense if installed and used in vanilla state.

**Implications**

1. Define evaluation criteria and use an impartial process to select and implement systems.
2. Packages should conform to defined standards for data, application, and technology models.
3. Use vanilla Commercial Off The Shelf (COTS) package capability. When tailoring COTS solutions, stay within the allowable guidelines supported by the COTS vendor. Typically, business processes must be adjusted to accommodate purchased components.
Example – Conceptual FW Detail

Zachman Definition

“The Business Process Model”

This is a model of the actual Business Processes that the enterprise performs, quite independent of any “system” or implementation considerations and any organisational constraints. It can be represented as a “structured methods”-style model expressing the business transformations (processes) and their inputs and outputs.

Process: Business Process
Input/Output: Business Resources

Sub-Process Model (Level 3)
This model represents the decomposition of one Process into more detail. It represents a specific operation that takes place as part of a Process. It contains 2-12 Sub-Process objects that describes this operation.

Sub-process: A Sub-Process represents a specific operation that takes place within a Process.

Technique: Value Chain

Activity Model (Level 4)
This model represents the decomposition of one Sub-Process into more detail. It describes the flow of manual and automated Activities in a specific sequence. It contains 2-25 Activity objects that describes this flow.

Activity: An Activity is a single (manual/automated) action that is executed as part of a Sub-Process. Activities are executed in parallel or in sequence and collectively form a process flow. Through its association with roles, applications and documents, it is the link to other modelling focus areas.

Event: An Event represents a particular “state”

Process Interface: Represents interfaces to processes outside the scope of the current model.

Decision Point: A Decision Point is used to handled parallel branches, decision, multiple triggers and complex flows.

Technique: Event Driven Process Chain Diagram
Example – Composite Model

**Activity Detail**

Zoom in on a specific activity to describe it in more detail.

**Activity:** An Activity is a single (manual/automated) action that is executed as part of a Sub-Process. Activities are executed in parallel or in sequence and collectively form a process flow. Through its association with roles, applications and documents, it is the link to other modelling focus areas.

**Role:** Represents the part that must be played in the execution of similar activities.

**Team:** A group of people that work together (temporarily) to achieve defined objectives

**Packages:** Application Packages

**Objects:** Business Objects (Information items)

**BP KPI:** Specifies how to measure a process.

**Technique:** Function Allocation Diagram
EA Tool Selection

The tool was selected based on the EA Conceptual Framework. The following criteria were used in selecting a tool from System Architect, Corporate Modeler (CaseWise) and Aris set of tools (derived from TOGAF 8.1)

- Frameworks supported
- Methodologies supported
- Meta-model
- Interfaces
- Single Repository
- Modelling
- User Interface

- Reports
- Simulation
- Security
- Infrastructure
- Administration
- Local Support
- Cost
EA Tool Selected – System Architect

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EA Approach

Project B – Armscor Specific Project

C - Operate an EA Office

Armscor Specific Project (Solution Focus)

Architecture Domains

Business Architecture
Information Architecture
Data Architecture
Applications Architecture
Technology Architecture

Intelectual Capital

Products / Services

People
Content
Processes
Tools

Enterprise Architecture
Capability

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Pilot Project

Define high level models across all 5 domains of EA

- Business Process Model
- Organisational Structure
- Mission, Vision, KPIs
- Data Model
- Application Portfolio
- Infrastructure

Mapping across domains

- Process to Applications and KPIs
- Data to Applications
- Infrastructure to Applications and Data
Armscor Mission and Vision

Mission

To meet the acquisition, maintenance and disposal needs of clients.

Vision

To be a South African and global centre of technical excellence.
Key Result Area 1

The Corporation must acquire defence matériel, facilities and services

- Quality & Information Technology
- Acquisition

To meet the acquisition, maintenance and disposal needs of the DoD

- Develop and maintain acquisition capabilities
- Review and optimise processes and maintain ISO 9001 listing
- Enhance Armscor’s acquisition services to the DOD
- Establish and implement capability management model by 1 September 2007
- Implementation of the acquisition benchmark study findings
- Armscor is subjected to annual ISO 9001 audits. Zero significant audit findings

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# Process/As-Is Application Mapping

<table>
<thead>
<tr>
<th>Armscor Enterprise Process</th>
<th>Manage The Enterprise Business</th>
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<tbody>
<tr>
<td></td>
<td>Manage Acquisition Business</td>
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<tr>
<td></td>
<td>Manage Programme / Project</td>
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<td></td>
<td>Procure Products And Services</td>
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<tr>
<td></td>
<td>Support Acquisition Business</td>
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<tr>
<td></td>
<td>Support The Enterprise Business</td>
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<tr>
<td>Support the Enterprise Business</td>
<td>Provide Financial Services</td>
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<td>Provide Human Resources Services</td>
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<tr>
<td></td>
<td>Provide Security Services</td>
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<td></td>
<td>Provide Information And Communication Systems, Services And Technology</td>
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</tr>
<tr>
<td></td>
<td>Manage Infrastructure Services And Other Support Services</td>
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<td>Provide Quality Management Services</td>
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<td>Manage the Enterprise Business</td>
<td>Monitor Business Performance</td>
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<td>Manage Risk</td>
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</table>
Conceptual Technology Architecture

Enterprise Security Services

Enterprise Portal

Enterprise Business Services

Wide Area Network
Storage Area Network
Local Area Network

Handheld Devices
Desktop/Laptop Hardware
Server Hardware

Enterprise Resource Management Services (Desktops and Servers)

Desktop Management
Server Management
Personality Migration
Asset Management
Software Packaging
Patch Management
Data Management
Handheld Management

Enterprise Identity Management Services

Audit Services

Handheld Devices Operating Systems
Desktop/Laptop Operating System
Network Operating Systems
Application Server Services

Handheld Devices
Desktop/Laptop Hardware
Server Hardware

Local Area Network
Storage Area Network
Wide Area Network

Enterprise Office Suite
Enterprise Content Management
Enterprise Email
Internet Browsing Capability
Enterprise File and Print Services
Database Systems
Enterprise Applications
Business Intelligence

Enterprise Business Services

Enterprise Portal

Enterprise Security Services
Presentation Outline

- Background
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- EA Approach
- EA Capability

User Requirement Specification

Conclusion
Project B – Armscor Specific Project

Armscor Specific Project (Solution Focus)

C - Operate an EA Office

Intellectual Capital

- Products / Services
- People
- Processes
- Tools

Architecture Domains

- Business Architecture
- Information Architecture
- Data Architecture
- Applications Architecture
- Technology Architecture

Enterprise Architecture Capability

Gateway to Defence Solutions
A comprehensive and representative User Requirement Specification generated from the EA practice
Key Project Principles

- No workshops!
- Subject Matter Experts as key facilitators
- Re-use previous material
- Use appropriate tools
- Project management
Project Approach

- Define/update business activity flow
- Define/update business activity detail
- Record business activity detail
- Generate URS
- Review URS
- Approve URS
- Publish URS

Legend – Responsible Resource

- Modeller & User Coordinator
- User Coordinator
- Modeller

Yes Yes Yes No No Yes Yes Yes
The four systems identified in the ISO15288 standard were used to classify activities for the purposes of the User Requirement Specification. Current application portfolio not used to prevent risk of restating the current systems. The specification should be based on the business process and not the current systems.

Source: ISO15288
High level data model for Acquisition to be used to indicate data requirement for URS.
High level data model for internal processes to be used to indicate data requirement for URS.
Approach and Tools

Define Activity Flow diagrams
Business Activity Flow - Example

1. Define Debtors
2. Send All Documentation And Debtors Invoice To Debtors Clerk
3. Verify All Documentation And Debtors Invoices Received
4. Generate Debtor Reports
5. Original Invoice Send To Debtor
6. Copies Filed

Define Activity Flow diagrams
Approach and Tools

- Define Activity Flow diagrams
- Capture activity detail
- Export
## Business Activity Detail Required

<table>
<thead>
<tr>
<th>Activity Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity Frequency</td>
</tr>
<tr>
<td>Role – at least Responsible and Accountable</td>
</tr>
<tr>
<td>Data</td>
</tr>
<tr>
<td>Business System</td>
</tr>
<tr>
<td>Report</td>
</tr>
<tr>
<td>Documents</td>
</tr>
<tr>
<td>Business Rule</td>
</tr>
<tr>
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</tr>
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<td>8</td>
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<tr>
<td>9</td>
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<tr>
<td>10</td>
</tr>
</tbody>
</table>
Approach and Tools

Define Activity Flow diagrams

Capture activity detail

Analyse

Export

QA & Import

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Analyse – Role Accountability

Senior Financial Officer Treasury involved in 165 activities

- Withdrawal From Institution
- Signs Receipt
- Sign Off Voucher Book
- Sign Off Reconciliation Book
- Send Voucher Book To Another Senior Financial Officer
- Send Voucher Book To Senior Financial Officer
- Send Weekly ACB Sheets, Tape Delivery & Data Control Advice To Cheque Signer

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Analyse – Document

TJ Printout

Send TJ Printout To Senior Financial Officer

Capture Transaction TJ And TR

Analyse

Dictionary Object - BPMN Process - Capture Transaction TJ And TR

Look at activity detail for any activity using TJ Printout

Send Captured Transactions To Senior Financial Officer

Send Captured Transactions To Senior Financial Officer For Approval

Send TJ Printout To Senior Financial Manager
Approach and Tools

- Define Activity Flow diagrams
- Export
- Capture activity detail
- QA & Import
- Analyse
- Publish

Operational Procedure
Operational Procedure

- Generated based on models in System Architect
- Generated in the standard Armscor procedure format
### 6. PROCESS TABLES

#### 6.1. Activity Tables

<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
<th>Frequency</th>
<th>Documents, Reports</th>
<th>Accountability (Responsible, Accountable, Consult, Inform)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generate Debtor Reports</td>
<td>Generate Debtor Reports</td>
<td>Ad hoc</td>
<td>Documents:</td>
<td>Debtors Financial Officer (R)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Request (In)</td>
<td>Financial Officer Bud Control (I)</td>
</tr>
<tr>
<td>Send Request To Financial Officer</td>
<td>Request handed to Financial Officer for further processing</td>
<td>Daily</td>
<td>Documents:</td>
<td>Manager Budget Control (A)</td>
</tr>
<tr>
<td>Create Debtor And Debtor Account</td>
<td>Check debtor list to see whether debtor exist. If debtor does not exist, create on system. Choose debtor account number. Update debtor details if necessary.</td>
<td>Daily</td>
<td>Documents:</td>
<td>Assistant Manager (A)</td>
</tr>
<tr>
<td></td>
<td>Business Rules:</td>
<td></td>
<td>• Debtor Request Supporting Documentation (In)</td>
<td>Debtors Financial Officer (R)</td>
</tr>
<tr>
<td></td>
<td>• Valid debtor</td>
<td></td>
<td>• Update Debtors List (Out)</td>
<td></td>
</tr>
<tr>
<td>Capture Financial Transaction</td>
<td>Financial serial number generated in sequence</td>
<td>Daily</td>
<td>Documents:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Assistant Manager (A)</td>
<td></td>
</tr>
</tbody>
</table>
Approach and Tools

Define Activity Flow diagrams  
Capture activity detail  
Analyze

Export  
QA & Import

Publish

Functional Requirements  
Operational Procedure

Gateway to Defence Solutions
Functional Requirements

- **Business Systems** – based on ISO15288
### Functional Requirements

#### Business System

<table>
<thead>
<tr>
<th>A</th>
<th>Business System</th>
<th>B</th>
<th>Business Sub-system</th>
<th>C</th>
<th>Business Module</th>
<th>D</th>
<th>Business Sub-module</th>
<th>L3 Sub-process</th>
<th>L4 Activity</th>
<th>L4 Activity Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>Enterprise System</td>
<td>Quality Management System</td>
<td>Quality Plan System</td>
<td>Manage QA Of Product / Service</td>
<td>Identify Resources</td>
<td>If necessary addition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Enterprise System</td>
<td>Quality Management System</td>
<td>Quality Plan System</td>
<td>Manage QA Of Product / Service</td>
<td>Allocate Responsibilities</td>
<td>Responsibilities must quality assurance plan</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Enterprise System</td>
<td>Quality Management System</td>
<td>Quality Plan System</td>
<td>Manage QA Of Product / Service</td>
<td>Describe Activities</td>
<td>Identify and describe determine the critical</td>
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</tr>
<tr>
<td>20</td>
<td>Enterprise System</td>
<td>Quality Management System</td>
<td>Quality Plan System</td>
<td>Manage QA Of Product / Service</td>
<td>Generate QA Plan</td>
<td>The quality assurance planning principles</td>
<td></td>
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<tr>
<td>21</td>
<td>Enterprise System</td>
<td>Quality Management System</td>
<td>Quality Plan System</td>
<td>Manage QA Of Product / Service</td>
<td>Implement QA Plan</td>
<td>After approval the quality assurance plan project team</td>
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</tr>
<tr>
<td>22</td>
<td>Enterprise System</td>
<td>Quality Management System</td>
<td>Quality Plan System</td>
<td>Manage QA Of Product / Service</td>
<td>Determine QA Level</td>
<td>Guidelines to determine the maturity and quality of the contractor.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Enterprise System</td>
<td>Resource Management System</td>
<td>Financial Management System</td>
<td>Close Systems Engineering Project</td>
<td>Reconcile Project Finances</td>
<td>Reconcile project financials and risks of the product</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Enterprise System</td>
<td>Resource Management System</td>
<td>Financial Management System</td>
<td>Close R&amp;D Project</td>
<td>Reconcile Project Finances</td>
<td>Reconcile project financials and risks of the product</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>25</td>
<td>Enterprise System</td>
<td>Resource Management System</td>
<td>Financial Management System</td>
<td>Close T&amp;E Project</td>
<td>Reconcile Project Finances</td>
<td>Reconcile project financials and risks of the product</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Enterprise System</td>
<td>Resource Management System</td>
<td>Financial Management System</td>
<td>Financial Accounting</td>
<td>Manage Stock Replacements</td>
<td>Submit Invoice To Industry</td>
<td>The finance department must submit invoice, or in accordance with the agreement.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>Enterprise System</td>
<td>Resource Management System</td>
<td>Financial Management System</td>
<td>Financial Accounting</td>
<td>Identify And Analyze (T&amp;E) Business Opportunity</td>
<td>Prepare Quotation For Client</td>
<td>After requirements are that must be submitted.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Approach and Tools

Define Activity Flow diagrams

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Analyse

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Business Process Model

Functional Requirements

Operational Procedure

Gateway to Defence Solutions
Business Process Model

Index for diagram
"Manage The Enterprise Business"

Diagram Properties:
- Govern The Business (L1 Macro Process)
- Manage Business Strategy (L1 Macro Process)
- Manage Stakeholder Relations (L1 Macro Process)
- Monitor Business Performance (L1 Macro Process)

Govern The Business (L1 Macro Process)

Child Diagrams:
- Govern The Business (B040-L2 Process)

Symbol Properties
Graphic Comment: A-PROC-4030
Level: L1

Definition Properties
Initial Date: 2/13/2006
Initial Time: 10:54:24
Initial Audit: NOTEBOOK
Instantiate: False
Test Time: After
Instance Generation: Serial
Parallel Flow Conditions: All
Approach and Tools

- Define Activity Flow diagrams
- Capture activity detail
- Analyse

Access through Sharepoint

Review

Business Process Model
Functional Requirements
Operational Procedure

Gateway to Defence Solutions
Presentation Outline

- Background
- Rationale for Enterprise Architecture
- EA Approach
- EA Capability
- User Requirement Specification
- Conclusion
Conclusion

- Use the right tools for the right audience
- Create views per audience
- Re-use existing models
- Establish an EA capability
- Find opportunities to promote EA in the business
- EA works!
“Someday, you are going to wish you had all those models, enterprise wide, horizontally and vertically integrated at excruciating level of detail.

You might as well start working on them...

Anytime this afternoon is probably not too early!”

John Zachman (2001)