Business Case for EA: A Case Study

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Thames Valley Police
1. Who we are, what we do
2. Drivers for EA
   - External
   - Internal
3. Strategy for Implementation
   Business case, culture, governance
4. Are We Winning?
Chronology

- July 2003: Problem Definition
- December 2003: EA Recommendations approved in principle
- April 2004: Implementing Recommendations
- 2003 – Police Service project for EA starts
- April 2004 – TVP participating
1. Who we are, what we do
Largest non-metropolitan force.....
From hills to inner cities (via the motorway) .......
Our staff .......

• 4000 officers, 3000 support staff
• 140 I.T. personnel
  – Radio, Data, Voice, Information Systems
• 140 locations
  – 3000 workstations, LANs/WAN
• £Multi-million I.T. budget
What We Do......

- Routine patrol, incident response
- Major and minor crime investigation
- Forensics
- Intelligence and surveillance
- Arrest and custody, Criminal Justice processes
- Counter-terrorism
- VIP protection
- Firearms licencing
- Traffic
- Public order etc etc
Our Customers....

- 2.2 million residents
- 6 million visitors
- (1 million sheep)
- 24 Hour Service
What we do....

- 90,000 emergency calls
- 100,000 “immediate response” incidents
- 1.4 million other calls
- 200,000 crimes
2. Drivers for EA
External Context

- **Compliance and Regulation**
  - Freedom of Information Act
  - Climbie, Soham Cases
  - Local Accountability, Central Performance Monitoring

- **Agility**
  - Initiative Overload
  - “Ministerial Imperatives”
Internal Context

- High Workload
- Exponential Growth leading to Dis-Integrated Information Systems
- Complex Business Change Programme requiring Integrated Information Systems
Workload

- Last Year,
- New Central Call Handling Systems: 150 locations down to 4
- New Digital radio system – 4000 officers, 700 vehicles
- Workflow-based Crime and Incident Management
- Roll out Windows 2000 to 3000 workstations
- Many new applications and enhancements
Dis-Integration...

• Few, but common entities:
• Many Event-based Information Systems – Mainly Packages
• “What do we know about?.....”
  – 35 Oxford Road?
  – Billy The Burglar?

- Complex programme to improve performance and visibility
- Too many solutions-led projects e.g. “mobile data”
- Scope creep – boundary and management re-structure
The Moment of Truth....

- Enterprise Architecture is the answer, but......
- What about business case?
- What about implementation?
3. Strategy for Implementation
The Missing Bits…

- I.T. Strategy
- Establishment of I.T. Principles
- Establishment of “Technical Reference Model” and compliance regime
- Recommendations for management change
Strategic I.T. Principles

- “Based on” [= plagiarised from] TOGAF Architecture Principles
- Basic bye-laws for enterprise management, e.g.
  - Corporate Vs Departmental
  - Strategic Vs Tactical
  - Requirements Vs Solutions
  - Corporate Responsibility for Data

- Assert the *intention* to manage complexity
EA Implementation Strategy

• **Business Case – Easy!**
  – Cost of duplicate information
  – Cross-project audit identified areas of commonality, duplication and redundancy, e.g. different projects with the same objectives
  – Data quality helps saves lives and reduce crime....
EA Implementation Strategy

- **People Case — difficult!**
  - It doesn’t apply to what I do”
  - “Nice idea, but there isn’t enough time”
  - “Nice idea but there aren’t enough people”
  - “The business doesn’t know what it wants”
  - “By the time I’ve planned it, I could have done it”

- **And that’s just the I.T. Managers...**
EA Implementation Strategy

• Governance Case – hardest!
  – Demonstrating that corporate control is lacking upsets people, but it must be done
  – Need to deal with short-termism
  – I.T Function needs to be in partnership with business direction, not a sub-contractor
The Governance Problem.

I.T. Projects

1  2  3

Business Programmes
Cost and Time managed, *not* Scope and Dependencies

Programme Management

I.T. Projects

1  2  3

Business Programmes
I.T. Strategy
Recommendation

“Strategic Direction, Technical Design Authorities”
[Architecture Practice]

I.T. Projects
1 2 3

Business Programmes

Logical conclusion?

“Strategic Direction, Technical Design Authorities” [Architecture Practice]

Enterprise Architecture model

I.T. Projects

1 2 3

“Business Design Authority”
Meanwhile, in another part of the forest.....

- PITO (Police Information Technology Organisation)
- Strategy for *National business/I.T. Alignment*
- PSEAF
- Strong card to play internally
Project Objectives

• Propose and agree a shared EA ‘Metaframework’ for Police Service, based on Zachman - a way of organizing and aligning architecture work products (artifacts)
• Identify where gaps exist currently at national level
• Make recommendations for populating and implementing the Metaframework
EA is essential to meeting Police Service Objectives

- **INTEGRATION**
  - More effective policing through improved information flows
  - ‘Join-up’ the Police Service and the Criminal Justice System
- **AGILITY**
  - Respond to change in environment (e.g. legislation, patterns of crime)
- **EFFICIENCY & COST REDUCTION**
  - Avoid duplication of IT and re-keying of information
- **MANAGING COMPLEXITY**
  - Avoid systems entropy
- **ALIGNMENT**
  - IT change aligned to Police Service Objectives
Recommended framework structure to support ‘Enterprise Engineering’

**National Framework**

- Used to organise models of the ‘Police Business’ and systems at national level.
- Describes Police Strategies, Common Processes, Data, Systems, etc.

**Engineering Framework**

- Describes the corporate standards relevant to creating and changing models in each cell.
- Includes the metamodel for each cell primitive.

**Local frameworks**

- Describes Police Business and systems at local level.
- For agreed cells, they share part of their content (slivers) with National Framework.
# Using the Framework to manage initiatives

<table>
<thead>
<tr>
<th>DATA</th>
<th>What</th>
<th>FUNCTION</th>
<th>How</th>
<th>NETWORK</th>
<th>Where</th>
<th>PEOPLE</th>
<th>Who</th>
<th>TIME</th>
<th>When</th>
<th>MOTIVATION</th>
<th>Why</th>
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<tbody>
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<td>Scope (Contextual)</td>
<td>Planner</td>
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<td>Ent = Field</td>
<td>Proc = Language Stmt</td>
<td>Node = Addresses</td>
<td>People = Identity</td>
<td>Time = Interrupt Cycle</td>
<td>End = Sub-condition</td>
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<td>Reln = Address</td>
<td>I/O = Control Block</td>
<td>Link = Protocols</td>
<td>Work = Job</td>
<td>Machine Cycle</td>
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<td>System Model (Logical)</td>
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<td>Ent = Segment/Table/etc.</td>
<td>Reln = Pointer/Key/etc.</td>
<td>Ent = Data Entity</td>
<td>Reln = Data Relationship</td>
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<td>Technology Model (Physical)</td>
<td>Builder</td>
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<td>Ent = Business Entity</td>
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**Row 1:** Identify Scope of Business impacted by Initiative

- Identify and execute most effective and efficient way of delivering ‘technology’ solutions (databases, components, infrastructure, etc)

**Row 2:** Change/build models to reflect how business will operate

**Row 3:** Define information storage and processing requirements, from enterprise perspective

**Row 4:** Identify and execute most effective and efficient way of delivering ‘technology’ solutions (databases, components, infrastructure, etc)
EA Implementation Strategy....

- Obtain internal Buy-in
- Identify Business problems where EA can make a difference
- Governance discussions with Senior Management Team
Are We Winning?

- **Recruiting:**
  - Management positions
  - Re-alignment of existing staff

- **Internal Implementation**
  - Toolset acquisition to demonstrate capability to senior management team,
  - Establishing internal processes

- **Negotiating management changes**

- **Working With PITO**
“Nowadays, they think computers can solve crimes....”

“I wish that was all they had to do.....”