CASE STUDY: The Canadian Government and Business Transformation
Presented to: Open Group EA Conference Brussels
Date: 21st of April, 2004
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Agenda

- Wherefore Business Transformation Enablement Program (BTEP) ?
- What is BTEP
- Concluding Comments
Business Transformation
Rationale and Origin

- Government of Canada Vision
  “Citizen centric service delivery across whole of government”
- Integrated and interoperable business processes across government
- Need holistic “view”; standardized catalogue of Services
- Change to citizen (vice program) centred services
- Identify redundancies, gaps and opportunities for integrated program or service delivery
- Improve service delivery efficiency
Why Business Transformation?

- Government Priorities needing Business Transformation
  - Service Transformation
    - Meeting client/citizen expectations
  - Public Safety and Security
    - Society as a whole
    - Identify and rapidly respond to threats
  - Improving Internal Government Operations
    - Increased productivity
What is BTEP?

- Business Transformation Enablement Program
- Not a Solution for Departmental Business Transformation!!!
  - (But it is a methodology!!!)
- Is a “…standardized means by which such solutions can be planned, designed and cost-effectively implemented”*
- Achieve Government Interoperability
  ”… the ability to share and exchange data, to combine information management tasks or join-up business processes.
- Enterprise Architecture for Business

*TB – BTEP Executive Overview V2.2a 23 Sep, 2003
BTEP Required Outcomes

- **Speed of new/changed service delivery to market**
  - Focus on What not How

- **Ease of use by Citizens**
  - Single-Window Government/One-Stop shop
  - Enable cross-program, cross-department Event and Scenario driven service delivery
  - Efficient use of “infostructure”
  - Sharing and common infostructure components

- **More money for Services vice Service Delivery**
The adoption of **engineering-oriented design methods** are essential for all levels of the organization.

Must have an **overall transformation process** that is underpinned by the design.

Must allow **business service design to drive information systems design**.

Must have a **consistent and integrated design approach** from the strategic level to detailed implementation.

Must be able to communicate business service design in **public service business language**.
BTEP: The Major Constructs

- Transformation Framework
  - for communication, planning & design

- Strategic Reference Model
  - business modelling language that can integrate with technology design methods

- Core e-Enablers
  - support a multitude of services and programs and need to be employed strategically to achieve business goals and maximize efficiencies

- Implementation Methodology
Transformation Framework

- Profound change requires broad cooperation
- Effective cooperation requires clear communication
- Clear communication requires a common vocabulary and framework
A New Way of Looking at EA
A General Planning Framework

- Enterprise Business Architecture
- Enterprise Implementation Architectures
- Financial Management
- Public/Corporate Policy and Management
- Human Resource Management
- Service Transformation
- Information Technology

And so on …

e.g. Supply Chain
## BTEP Transformation Framework

<table>
<thead>
<tr>
<th></th>
<th>What</th>
<th>How</th>
<th>Where</th>
<th>Who</th>
<th>When</th>
<th>Why</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contextual</strong></td>
<td>Logical data model</td>
<td>Application architecture</td>
<td>Distribution architecture</td>
<td>Human interface architecture</td>
<td>Processing structure</td>
<td>Business rule model</td>
</tr>
<tr>
<td><strong>Conceptual</strong></td>
<td>Physical data model</td>
<td>System design</td>
<td>System architecture</td>
<td>Presentation architecture</td>
<td>Control structure</td>
<td>Rule design</td>
</tr>
<tr>
<td><strong>Logical</strong></td>
<td>Data definition</td>
<td>Program</td>
<td>Network architecture</td>
<td>Security architecture</td>
<td>Timing definition</td>
<td>Rule specification</td>
</tr>
<tr>
<td><strong>Physical</strong></td>
<td>Operations</td>
<td>People</td>
<td>Schedules</td>
<td>Rules</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Framework Copyright by John Zachman

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Transformation Framework

GoC Architecture

National Security & Defense Architecture
(Socio-) Economic Development Architecture
Science & Knowledge Development Architecture
Natural Resources Architecture
Environmental Protection Architecture
Rights Protection Architecture
Social Development Architecture
Cultural Development Architecture
Internal Government Operations Architecture
Public Education Architecture
Public Health Architecture
Public Safety Architecture
Internal Government Operations Architecture
National Security & Defense Architecture
(Socio-) Economic Development Architecture
Science & Knowledge Development Architecture
Natural Resources Architecture
Environmental Protection Architecture
Rights Protection Architecture
Social Development Architecture
Cultural Development Architecture
Internal Government Operations Architecture
Public Education Architecture
Public Health Architecture
Public Safety Architecture

Super Programs are views
The Government Strategic Reference Model (GSRM)

- **Why**
  - Clear communication requires common vocabulary and framework
  - Scope impacts of cross-program transformation demand rigour

- **What**
  - Business modelling language/Public Service vocabulary describes designs
  - Operates at strategic levels of framework
  - Based on **Public Service Reference Model (PSRM)**
    - Developed and used in 40 cities in Canada and US and 2 Canadian provinces
  - IM/IT independent business designs

- **Used to**
  - Align programs and services to business goals and client needs
  - Align IS to business
  - Identify opportunities for transformation
  - Assess impacts of business solutions and technologies
GSRM Core Models

- Programs and Services Model (PSM)
- Service Design Model (SDM)
- Information Reference Model (IRM)
- Logistics Reference Model (LRM)
- Community Portfolios Model (CPM)
- Events and Cycle Model (ECM)
- Performance Reference Model (PRM)
## GSRM and Zachman Models

<table>
<thead>
<tr>
<th>What</th>
<th>How</th>
<th>Where</th>
<th>Who</th>
<th>When</th>
<th>Why</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data</td>
<td>Process</td>
<td>Network</td>
<td>People</td>
<td>Time</td>
<td>Motivation</td>
</tr>
</tbody>
</table>

### Scope/Objectives
- (Ballpark View) - Programs and Services Model

### Model of Business
- (Owner’s View) - Information Ref, Service Design, Logistics Ref Model, Community Portfolio, Events & Cycle, Performance Reference Model

### Description of IS
- (Designer’s View) - Business and Technical Architecture Transition

### Technology Model
- (Builder’s View) - Technology Architecture

### Detailed Description
- (Out-of-Context) - Actual System
GSRM: Programs and Services Model

- **Program Fields**
  - *Public-Facing* Program Fields (12)
  - *Provider* Program Fields (11)
  - Each Program Field is comprised of one or more government programs (not all existing in one organization).

- **Services & Outputs**
  - Standard Services (19 used across the Program Fields)
  - *Patterns* have been developed for many of these.
GSRM - PSM - Common Programs

Public Programs
(Socio-) Economic Development
Science and Knowledge Development
   Natural Resources
   Environment Protection
Legal, Collective, Democratic & Human Rights Protection
Social Development
Cultural Development
   Public Education
   Public Health
   Public Safety
   National Security & Defence
   Justice

Provider Programs
   Public Policy, Planning and Management
   Corporate Policy, Planning and Management
   Human Resources Management Services
   Financial Management Services
   Information & Information Technology Management Services
   Facilities, Fleet and Equipment Management Services
   Communications Management Services
   Supply Chain Management Services
   Administrative Services
   Professional Services

client
<table>
<thead>
<tr>
<th>Periods of Permission</th>
<th>Regulating, licensing, permitting, certifying, identifying, authorizing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Periods of Agreement</td>
<td>Creating collaborations, negotiating agreements, settling disputes</td>
</tr>
<tr>
<td>Findings</td>
<td>Inspecting &amp; investigating</td>
</tr>
<tr>
<td>Rulings &amp; Judgements</td>
<td>Applying rules &amp; dispensing justice</td>
</tr>
<tr>
<td>Penalties &amp; Periods of Sanction</td>
<td>Enforcing compliance, meting out punishment, penalizing</td>
</tr>
<tr>
<td>Periods of Protection</td>
<td>Monitoring, warning, guarding, storing, eliminating threats, reducing risks</td>
</tr>
<tr>
<td>Interventions</td>
<td>Intervening, responding to threats &amp; emergencies, giving aid, restoring order</td>
</tr>
<tr>
<td>Care &amp; Rehabilitation Encounters</td>
<td>Providing care &amp; rehabilitation to people and things</td>
</tr>
<tr>
<td>Recreational &amp; Cultural Encounters</td>
<td>Providing recreational &amp; cultural experiences</td>
</tr>
<tr>
<td>Educational &amp; Training Encounters</td>
<td>Providing education and training experiences</td>
</tr>
<tr>
<td>Advisory Encounters</td>
<td>Providing information &amp; advice</td>
</tr>
<tr>
<td>Promotional Encounters</td>
<td>Influencing, advocating, persuading, promoting awareness</td>
</tr>
<tr>
<td>New Knowledge</td>
<td>Conducting research</td>
</tr>
<tr>
<td>Funds</td>
<td>Acquiring and providing financial resources</td>
</tr>
<tr>
<td>(Units of) Resource</td>
<td>Providing resources such as goods, equipment, accommodations (apart from funds and human resources)</td>
</tr>
<tr>
<td>Movements</td>
<td>Moving people and things</td>
</tr>
<tr>
<td>Matches, Referrals &amp; Linkages</td>
<td>Brokering, referring, connecting, matching</td>
</tr>
<tr>
<td>Rules (laws, regulations, policies, strategies, plans, designs, standards)</td>
<td>Creating and changing rules</td>
</tr>
<tr>
<td>Implemented changes</td>
<td>Changing existing organization, practices, systems</td>
</tr>
</tbody>
</table>
**Primitive vs Composite Models**

**Primitive (and Stable)**
- One-Dimensional (e.g., List of Things)
- Zachman Framework cells
- Enables composites

**Composite (and Dynamic)**
- Uses Two or more Primitive models
  - (e.g., ye olde CRUD matrix)

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**Business Value is in The Composite Models**
## Evolving Row 1 Models
An Ongoing BTEP Pathfinder

<table>
<thead>
<tr>
<th>COLUMN</th>
<th>ROW 1 MODELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHAT</td>
<td>1. Things Important to the Business</td>
</tr>
</tbody>
</table>
| HOW     | 2. Program Fields  
|         | 3. Programs  
|         | 4. Services |
| WHERE   | 5. Jurisdictions  
|         | 6. Business Locations  
|         | 7. Geographical Areas |
| WHO     | 8. Target Groups  
|         | 9. Roles |
| WHEN    | 10. Events & Cycles |
| WHY     | 11. Vision  
|         | 12. Authorities  
|         | 13. Targeted Needs  
|         | 14. Outcomes  
|         | 15. Environment Things |
### Evolving Row 2 Models

#### Primitive and Composite

<table>
<thead>
<tr>
<th>‘CENTRE OF GRAVITY’</th>
<th>ROW 2 &amp; Composite MODELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOP MODEL</td>
<td>1. GSRM Top Model</td>
</tr>
<tr>
<td>WHAT</td>
<td>2. Information Reference Model</td>
</tr>
<tr>
<td>HOW</td>
<td>3. Program Service Alignment Model</td>
</tr>
<tr>
<td></td>
<td>4. Service Integration &amp; Alignment Model</td>
</tr>
<tr>
<td>WHERE</td>
<td>5. Operational Model</td>
</tr>
<tr>
<td></td>
<td>6. Logistics Model</td>
</tr>
<tr>
<td>WHO</td>
<td>7. Target Group Model</td>
</tr>
<tr>
<td></td>
<td>8. Community Model*</td>
</tr>
<tr>
<td></td>
<td>9. Organization Responsibility Model*</td>
</tr>
<tr>
<td></td>
<td>10. Culture &amp; Workforce Model</td>
</tr>
<tr>
<td>WHEN</td>
<td>11. Events &amp; Cycles Model</td>
</tr>
<tr>
<td></td>
<td>12. State Transition Model*</td>
</tr>
<tr>
<td>WHY</td>
<td>13. Authority Model (Governance Model†)</td>
</tr>
<tr>
<td></td>
<td>14. Performance Model</td>
</tr>
<tr>
<td>BTF CUSTOMIZED</td>
<td>15. Risk Model*</td>
</tr>
<tr>
<td></td>
<td>16. Value Model*</td>
</tr>
</tbody>
</table>

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IM/IT Enablers = e-Enablers

- Organizing principle for information systems
- Represents transformation of IM/IT strategy and work
- Designed & built across enterprise to be
  - re-usable, flexible and reliable.
- Aimed at enabling business interoperability & transformation from an IM/IT perspective
- Evolving standard way of designing and measuring of IM/IT
- Currently identified 10 e-Enablers
- IM/IT Foundation for all Programs
- Roughly correspond to initial Architectural Domains of Government of Canada Federated Architecture
IM/IT Capabilities = e-Enablers

CROSS-CUTTING THEMES:
- accessibility,
- privacy,
- security

BUSINESS INTEROPERABILITY
- eDemocracy
- eBusiness
- Enterprise resource management
- Relationship and case management

INFORMATION INTEROPERABILITY
- Knowledge management
- Business intelligence
- Information management
- Trusted identity

TECHNICAL INTEROPERABILITY
- Information and infrastructure protection
- IT infrastructure

THEMES:
- accessibility,
- privacy,
- security
BTEP Methodology
Close Linkage to Portfolio Management

Portfolio/Project Structure

Strategic Reference Models

Treasury Board Approval
(Not yet mandatory !!)
BTEP Methodology

- Tied into Project Management Framework
- Creation of Corporate Portfolio
  - Corporate Portfolio broken down into domain Portfolios (e.g. IM/IT)
    - Domain Portfolio broken down into projects
      - Projects broken down into iterations
        - Iterations broken down into phases
  - Deliverables tied to iterations & phases
- Funding tied to quality of Deliverables
# BTEP Primary Deliverables by Phase

<table>
<thead>
<tr>
<th>Primary Deliverables</th>
<th>Phases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Problem Assessment</td>
<td>Vision</td>
</tr>
<tr>
<td>Target Business Vision</td>
<td></td>
</tr>
<tr>
<td>Transformation Strategy</td>
<td></td>
</tr>
<tr>
<td>Target Business Design</td>
<td></td>
</tr>
<tr>
<td>Transformation Business Case</td>
<td></td>
</tr>
<tr>
<td>Transformation Implementation Plan</td>
<td></td>
</tr>
<tr>
<td>Alignment Assessments</td>
<td></td>
</tr>
</tbody>
</table>
BTEP and Portfolio Management

Corporate Portfolio

Specialized Portfolios

Projects

Controlled Iteration

Iterations

BTEP Phases

BTEP Deliverables

DELIVERABLES
1. Business Problem Assessment
2. Target Business Vision
3. Transformation Strategy
4. Target Business Design
5. Transformation Business Case
6. Transformation Implementation Plan
7. Alignment Assessments

PHASES
1. Vision
2. Strategy
3. Planning
4. Business Case

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BTEP and Strategic Reference Model

Zachman Enterprise Architecture Framework
BTEP Model Basis

ZACHMAN VIEWS
• Strategic/Business
  • Contextual View
  • Conceptual View
• Systems
  • Systems View
• Detailed Blueprints
  • Physical View
  • Implementation View
• Functioning Organization
  • Operations View

STRATEGIC REFERENCE MODELS
• Programs and Services Model
• Information Reference Model
• Service Design Model
• Logistics Reference Model
• Community Portfolios Model
• Events and Cycles Model
• Performance Reference Model

• As required
Strategic Model Fit in Portfolio Management

Portfolio Management

Strategic Modeling

Deliverables

1. Business Problem Assessment
2. Target Business Vision
3. Transformation Strategy
4. Target Business Design
5. Transformation Business Case
6. Transformation Implementation Plan
7. Alignment Assessments
BTEP – Concluding Comments

Provides
- Clear, holistic view and context of transformed business processes
- Determine where processes can be re-designed and IT enablers
- Sustainable and resourced designs and implementation plans

Benefits
- Standardized approach to Enhance interoperability and Optimize service delivery
- Common Public Service Language to enable collaboration
- Reuse through standardized service designs

Challenges
- Significant change to way that program service delivery currently conducted
- Higher up-front cost of being generic
- Need for collaboration (Federal, Multi-jurisdictional, NGOs)

Still a work very much in progress and not universally accepted
Need to clearly differentiate between
- Enterprise Architecture
- Enterprise Technology Architecture (IM/IT)

EA is a solid strategic planning framework for non-IM/IT and is being increasingly used as such

EA still too associated with strictly IM/IT
- Dir EA in CIO shop, “primitives”, …

BTEP coined to engage Business Executives

Architecture Design Method
- Solid means to derive Enterprise Technology Architecture
- Not intended for Enterprise Business Architecture

Need care when employing term EA
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