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The Canadian Government's Style of Enterprise Business Architecture

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The practice of business architecture can help transform government; however, mission diversity and other factors drastically inhibit whole-of-government business architecture development. The government of Canada's Business Transformation Enablement Program (BTEP) provides a methodology and a set of reference models that help transform business incrementally, across different communities, so that efforts are additive over time.

Key Findings

- Information management/IT organizations have been the center for enterprise architecture (EA) efforts, and EA deliverables are strongly affected by the owning organization's span of authority and accountability. Crossing political and organizational boundaries to enable government business transformation can be difficult, given the autonomy afforded agency or ministerial leadership along with natural human inhibitors to change.
- Governments are increasingly recognizing that incorporating enterprise business architecture is essential to enabling transformation and to moving beyond IT-centric EAs.

Predictions

- Organizations are moving beyond a simply technical EA to incorporate enterprise business architecture, enterprise information architecture and enterprise solution architecture. By 2008, 70 percent of Global 2000 enterprises will have achieved this transition. By 2009-2010, true enterprise architecture will be commonplace in industry leaders, enabling core strategies, adaptability, and agility (0.7 probability).
- Worldwide, governments are lagging the Global 2000 in incorporating enterprise business architecture. Articulating EA value jurisdictionwide and overcoming organizational hurdles have been key inhibitors. However, major government business architecture initiatives have begun. By 2009, 40 percent of government jurisdictions will have developed or launched enterprise business architecture initiatives (0.7 probability).

Recommendations

- Enterprise architects in government organizations seeking to develop the enterprise business architecture discipline and to support true transformation should learn from the Canadian government's experience. Application of the Canadian BTEP produces highly strategic, breakthrough improvement opportunities for more-citizen-centric government.

- Real transformation requires hard work and must be backed by business leadership. It also requires skilled facilitation to help participants become comfortable with the common language instilled in the reference models and in addressing the needed process and potential organizational changes.
- Regardless of the methodology used, the Governments of Canada Strategic Reference Model (GSRM) should be adopted and enhanced over time because it provides the common vocabulary for building on initial success and enabling other transformation efforts. The government of Canada is working with other jurisdictions to move the GSRM into the public domain.

STRATEGIC PLANNING ASSUMPTION(S)

Organizations are moving beyond a simply technical EA to incorporate enterprise business architecture, enterprise information architecture and enterprise solution architecture. By 2008, 70 percent of Global 2000 enterprises will have achieved this transition. By 2009-2010, true enterprise architecture will be commonplace in industry leaders, enabling core strategies, adaptability, and agility (0.7 probability).

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ANALYSIS

Currently, the highly strategic work of enterprise business architecture is only practiced seriously in leading-edge organizations. In government organizations, research shows that it is even less frequently pursued in a holistic manner (that is, driving transformation internally to a government department or across organizations). Therefore, the progress of the Canadian federal government is worthy of note. Its pursuit of enterprise business architecture is being led by the Treasury Board of Canada Secretariat and is called the Business Transformation Enablement Program (BTEP).

Rather than seek to develop business architecture for the whole government at one time, BTEP provides a methodology and a set of reference models that can be applied to help transform business incrementally. Work can proceed across different themes or communities (such as health, seniors, or licensing) so that the efforts are additive. Specifically, BTEP helps government executives and project managers speak a common language and use common business models to create a common vision for the desired future state. It also enables them to find related, overlapping and duplicate functions, as well as identify viable strategies, designs and plans for effective change.

Canada is not the only government body working on enterprise business architecture, as part of a holistic pursuit of enterprise architecture (EA). Indeed, in recent years, the U.S. has been much more serious about it via the Business Reference Model, Performance Reference Model and Service Component Reference Model driven by the Federal Enterprise Architecture Program Management Office within the Office of Management and Budget. Unlike the U.S., the Canadian effort is not primarily driven by legislative mandates to pursue enterprise architecture. Some effort in this architecture dimension has been observed in other federal governments as well, but none go as far as the Canadian program in breadth and depth.

The Canadian BTEP, led by the Treasury Board of Canada Secretariat, is building some momentum and, with it, some success stories. But what drove the effort? Canadians (like taxpayers around the world) are increasingly demanding seamless, integrated services from the collective government entities. Thus, politicians have responded with service transformation initiatives and e-government programs to enhance service delivery. In turn, these initiatives and programs have motivated the pursuit of BTEP, a form of enterprise business architecture, as the process for designing enterprise changes.

Ultimately, the opportunities identified by BTEP for cross-government process and services redesign yield important benefits, including productivity gains, improved client satisfaction, cost-efficiencies/savings, positive policy outcomes, improved transparency and improved

accountability. Canada's approach goes beyond rhetoric normally associated with the notion of government transformation and uses a methodology and a common, government-oriented set of reference models for finding related, overlapping and duplicative sets of business functions, processes and deliverables that cross organizational boundaries. The methodology also promotes a future state that incorporates key measurable outcomes.

BTEP was created for use not only at the Canadian federal government level, but also at the provincial and municipal levels. In fact, the underlying reference model, the Governments of Canada Strategic Reference Model (GSRM), is a refinement and extension of similar reference models used at the municipal and provincial levels for more than 10 years. Furthermore, it works best when it holistically examines an area of government services across all government levels to explore constituent-centric service improvements.

Although BTEP was created specifically for Canadian government use, large, multilayered corporations can take a worthwhile lesson from this body of work. With a bit of language substitution and with different business drivers as motivation, the essence of these modeling techniques may be applied to private-sector businesses.

The BTEP does not provide the direction on what part of government should be analyzed using this process. It would be a huge mistake to tackle this for the entirety of government at any level because the effort would be too large and unfocused, and momentum would likely stall. To focus efforts on the highest-impact areas, Gartner's Common Requirements Vision process and deliverable must be used (see "Common Strategic Requirements: Aligning EA With Government Strategy").

The Five Parts of the BTEP Toolkit

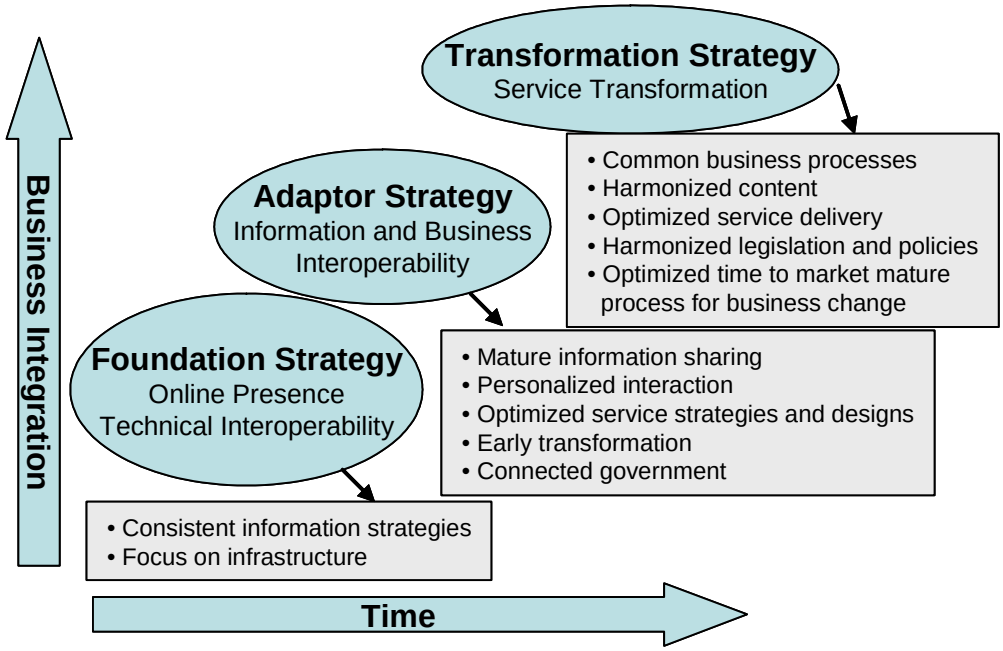
Although technical interoperability is indeed a key enabler of information and business interoperability, it is not sufficient. Indeed, a key lesson learned from technical architecture efforts in Canada was that business goals for interoperability should drive technical interoperability and changes to information management and technical systems.

The Chief Information Officer Branch of Treasury Board Secretariat created this program and the toolkit, in particular, to provide a government-specific method for doing this important work. We discuss five primary parts here.

1. Transformation Road Map

This diagram (see Figure 1) helps an organization evaluate where it is along a maturity curve, moving toward business integration and transformation. As an organization moves upward in this model, more holistic, strategic thinking across government is required. As an organization moves to the right in this model, increasing levels of governance are required.

Figure 1. Transformation Road Map



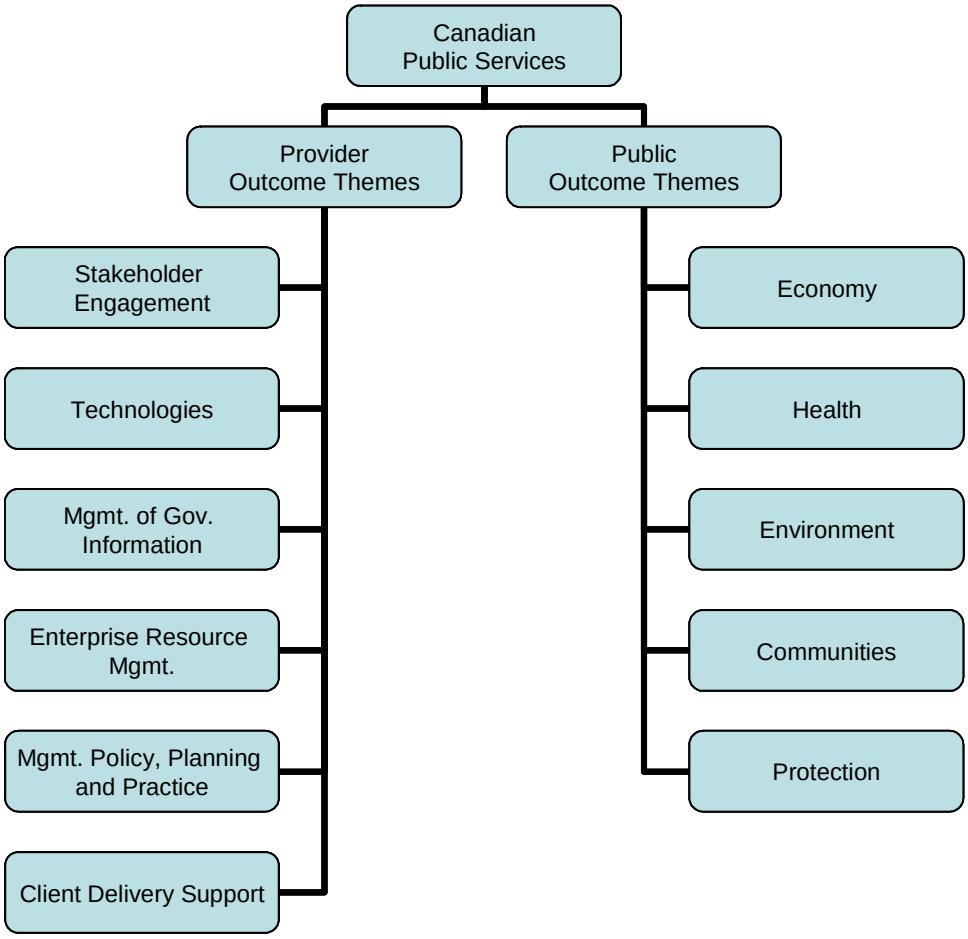
Source: Treasury Board of Canada Secretariat

2. Strategic Reference Models

Because a picture is worth a thousand words, models are used to capture the core ideas that will guide transformation. These models support techniques to enable consistent analysis of current and future business processes across government, independent of established organizational structures. In Canada, this is referred to as the GSRM. It is based on the Public Service Reference Model developed through collaboration among several Canadian cities and provinces. The GSRM provides models, semantics and reusable patterns for describing public-sector business design constructs such as programs, services, processes and resources. Although general business process modeling techniques are equally applicable in the private and public sectors, the GSRM adds value to government architects by using government vocabulary and addressing unique government functions, types of government services and delivery patterns. Ten of the key GSRM models are described here.

1. *Public Sector Business Model.* Note that this model is *not* a recommended organizational chart. Rather, this high-level model is used to align all government programs and services to the current government strategic priorities. These priorities are divided into two broad categories: 1) public outcome themes, which meet the goals for addressing public or constituent needs; and 2) provider outcome themes, which meet the goals for management of the "internal" or "back office" government programs that provide the resources and infrastructure required to deliver on the public outcome themes. These themes are mapped to the highest level of the GSRM: the Programs and Services Model, thus providing the consistent foundation for strategic management and alignment to government priorities across departments, agencies and jurisdictions over time. The Public Sector Business Model, though not a functional decomposition, is roughly analogous to the U.S. Federal Enterprise Architecture Business Reference Models (see Figure 2).

Figure 2. Public Sector Business Model



Source: Treasury Board of Canada Secretariat

2. *Program and Services Model.* This contextual model is used to classify programs and services. With it, a standard framework is used to chart a common understanding and alignment of the scope and range of needs outputs provided by government programs.

3. *Program Service Alignment Model.* This model depicts services provided directly or indirectly by government, showing outputs delivered by providers to the public. It aligns target groups, their needs, direct outcomes, services that face the program's target groups, service outputs and programs across multiple jurisdictions.

4. *Service Integration and Accountability Model.* This model shows the interrelationships between internal services and services that deliver outputs to the public across the whole value chain. It depicts all services required within the scope of one or more programs, all service outputs from those services, and the accountability relationships between them.

5. *Transition Output Bundle Model.* This model shows services that are designed to prevent, detect or help a target group to transition from one state to another. A service bundle groups a set of services that are required to meet the target group's ultimate intent.

6. *Information Model.* This is not to be confused with the work of enterprise information architecture. This model identifies and defines the "things of shared interest" in government about which information is collected and used. This begins to create a shared business vocabulary, which is key to driving a basis for information sharing.

7. *Logistics Model.* This model identifies and defines the types of locations, areas, jurisdictions, boundaries and other spatially and geographically referenced elements of the government's business and the types of business flows between them, like transportation, energy and information.

8. *Target Group Model.* This model identifies and defines populations of interest to the government, including those that receive outputs of government programs and services, along with those that benefit from the delivery of those outputs.

9. *Events and Cycle Model.* This model identifies and defines events related to an individual service request or complaint and those that affect multiple services, such as natural disasters. The model assists in planning improved coordination of service delivery from multiple providers responding to the same event. It also provides a method for discovering and documenting effective patterns of response to event types.

10. *Performance Model.* This model defines the interrelationship of performance metrics for programs, services, processes and resources, such that performance measures from various sources can be aligned to support more-integrated performance information design. A portion of it, the Program Logic Model, shows the contribution of individual service outputs to government strategic objectives. The Performance Model is roughly analogous to the Performance Reference Model used in the U.S. government.

3. Transformation Framework and Agenda

The BTEP transformation framework is an instantiation of the general-purpose Zachman Framework, as applied to a government context. Specifically, for the business architecture work being performed in BTEP, the first two rows of the Zachman Framework are filled in with the artifacts described here. This provides a formal way to organize all these artifacts in a two-dimensional matrix. It paves the way for further decomposition of these artifacts in the future through other architectural dimensions. Note that each type of artifact can have a current state and a target (to-be) state.

The transformation agenda identifies all the strategic design and planning deliverables necessary to transform the organization from the current state to the future state.

4. Core Enabler and Requirement Domains

The core capabilities that allow government to advance in its level of maturity and agility to reach its goals are called "core enablers." Requirement domains have a cross-cutting role in the improvement of government services by addressing common requirements. Thus far, in Canada, 10 enablers and three core requirement domains have been identified:

Requirement Domains	Core Enablers
Accessibility	Delivery networks
Privacy	E-democracy
Security	E-business
	Enterprise resource management

Relationship management

Case management

Knowledge management

Information management

Trusted identity

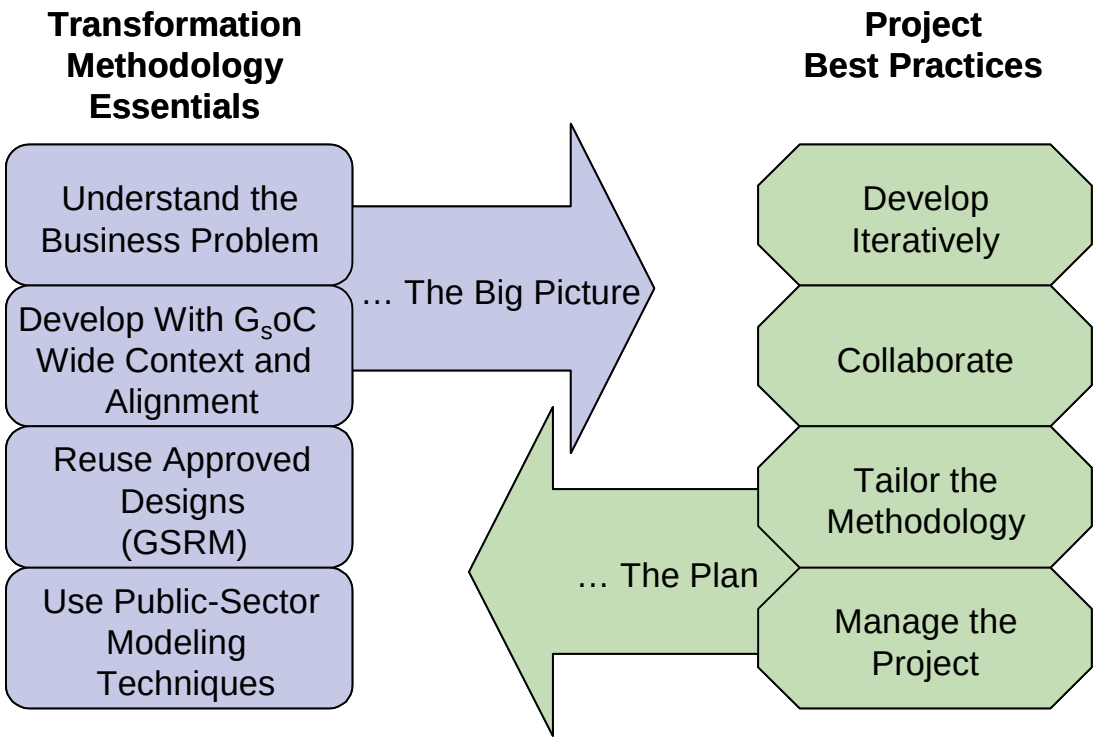
IT infrastructure

5. Methodology for Transformation

This piece of the program provides business owners with the means to produce the planning, design and implementation deliverables required to use the models to achieve business transformation. Then, a step-by-step, iterative process is used to plan transformation activities. The produced transformation project deliverables include business problem assessments, target visions, transformation strategies, target designs, transformation business cases, transformation implementation plans, readiness reviews and alignment assessments.

The BTEP methodology brings together concepts and best practices that have proven essential to successful business transformation projects — delivering aligned, whole-of-government strategic designs and plans in a manner conscious of time and cost. In addition, when the plans are implemented, they achieve the desired results early and continuously throughout the transformation (see Figure 3).

Figure 3. BTEP Strategic Design and Planning Methodology



Source: Treasury Board of Canada Secretariat

There are two integrated parts:

- BTEP Strategic Design and Planning Methodology: This focuses on the top two rows of the transformation framework. It is used by planning projects to create strategic designs and master implementation plans for projects.
- BTEP System Design and Planning Methodology: This focuses on the third through fifth rows of the framework. It is used by project teams to do the detailed designs and implementations (see Note 1).

The methodology must have the participation and buy-in of key business stakeholders. The initial learning curve is steep for getting participants familiar and comfortable with the methodology and for acquiring the common vocabulary needed to work together across organizational boundaries. Success requires strong facilitation skills and a gradual introduction of more-detailed materials as the participants come to grips with what transformation means to them and their organizations.

Theoretically, other transformation methodologies could be used. However, regardless of the methodology chosen, the GSRM should be adopted and enhanced over time, because it provides a common vocabulary for building on initial success and enabling other transformation efforts. The government of Canada is working with other jurisdictions to move the GSRM into the public domain.

RECOMMENDED READING

For more information about the Business Transformation Enablement Program, see http://www.cio-dpi.gc.ca/btep-pto/index_e.asp

Acronym Key and Glossary Terms

BTEP Business Transformation Enablement Program

EA enterprise architecture

GsoC governments of Canada

GSRM Governments of Canada Strategic Reference Model

Note 1. Early Usage Example

Where it has been properly applied, the Business Transformation Enablement Program (BTEP) approach has proven to deliver the stated benefits. Here is an example.

Seniors Service Mapping Initiative

This effort spanned four federal departments, three ministries in Ontario at the provincial level, and one regional municipality in Niagara, which involved three departments. Sixteen people from across these organizations participated in three two-day workshops held over a three-month period, with individual assignments between sessions. The BTEP process and techniques were used to identify potential transformation opportunities to improve service delivery to seniors across all levels of government. A total of 203 services were identified across all jurisdictions, including external and internal services related to seniors.

One hundred twenty-two ideas for service improvement were generated. These were grouped and filtered down to three specific opportunities meeting these criteria:

- Drives integration

- Changes behavior in service providers
- Changes client relationship, increasing the value of the service provider to the client
- Reduces steps and processes to achieve outcomes
- Reduces response time and saves money
- Yields long-lasting benefits

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