IT Project and Portfolio Management in Pennsylvania
Nomination for 2007 NASCIO Award

Executive Summary

With over $1 billion in information technology (IT) investments annually, the Commonwealth of Pennsylvania is the equivalent of a Fortune 20 organization - providing a diverse portfolio of IT services. In the past, these services were offered by more than forty-five individual agencies, boards and commissions - each operating under its own mission and business objectives. This resulted in redundancy, increased IT costs, and added complexity to citizen and user customers.

The Commonwealth has created an IT policy (the Keystone Technology Plan) to respond to these challenges, proactively address technology trends, and ensure alignment of IT initiatives with agency business objectives.

In order to realize the objectives outlined in the Keystone Technology Plan, the Commonwealth implemented a comprehensive set project and portfolio practices. These practices improve project delivery by improving governance, bolstering project management competencies, and providing professional and technical support for project managers. Key components of these practices include:

Policies and Processes
- The Governor issued an Executive Order to establish an Enterprise IT Governance Structure overseeing the investment and performance of information solutions across Commonwealth agencies.
- We developed a common Enterprise Project Management Methodology (EPMM) and associated system development lifecycles.
- We continue to refine our portfolio management process that provides enterprise review, approval, and prioritization for agency IT initiatives.
- We established a Project Management Domain Team that establishes project management policies and evaluates and approves technology solutions supporting project management.
- We ensure that major agency initiatives and technology procurements comply with the architectural direction of the Commonwealth through our technical architecture review.

Organization and Staffing
- The Governor's Office of Administration\Office for Information Technology (OA/OIT) completed a major reorganization that aligns our organization with our governance.
- Eight of our largest agencies (representing the majority of our workforce and IT projects) have created project or program management offices.
- We created senior job classifications for project managers and established a pool of project management expert resources who are assigned to high-priority IT projects.

Training and Support
- We developed a project management curriculum comprised of courses in project management and requirements management.
- Our deputy CIOs have staff specifically charged with assisting agencies with projects.

Toolsets
- We have established enterprise product standards for portfolio and project management, collaboration and system development software.
- We have leveraged our SAP systems to track actual spending on IT projects, and roll up that data to portfolio views by Community of Practice and for the enterprise.

These initiatives have resulted in numerous consolidations of business and technology functions and achieved cost savings of over $21 million during the past fiscal year.

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Description of the Business Problem and Solution

With over $1 billion in information technology investments annually, the Commonwealth of Pennsylvania is the equivalent of a Fortune 20 organization - providing a diverse portfolio of IT services and solutions to its 12.3 million citizens and business customers worldwide. In the past, these services and solutions were offered by more than forty-five individual agencies, boards and commissions - each operating under its own mission and business objectives. This resulted in redundant systems and services, increased IT costs, and added complexity to citizen and user customers.

The Governor's office has created an information technology policy to respond to these challenges, proactively address technology trends, and ensure alignment of IT initiatives with agency business objectives. This technology policy provides direction for all technology activities in the state government through the Keystone Technology Plan. The major goals articulated in the plan are:
- Enterprise IT Management
- IT Business Focus
- Enterprise Architecture
- Measured Performance and Accountability
- Citizen Centric Processes and Solutions
- Commonwealth IT Workforce

In order to realize these objectives, the Commonwealth has implemented several major IT initiatives. One key initiative is the creation of a comprehensive set of project and portfolio practices. These practices improve project delivery by improving IT governance, bolstering the project management competencies of its workforce, and providing professional and technical support for project managers. Implemented over the past three years, the initiatives have addressed changes in policies and processes, organization and staffing, training and support, and toolsets.

Policies and Processes
New and updated polices and processes form the basis for the Commonwealth's project and portfolio management approach.

An Executive Order to establish an Enterprise IT Governance Structure overseeing the investment and performance of information solutions across the Commonwealth's agencies has been issued by the governor. Specifically, the order directs that resources for project management and business process reengineering be provided to manage agency IT projects and facilitate the analysis of business process changes prior to the initiation of an IT project. In addition, reviews and approvals occur in all aspects of the project implementation including change order management, deliverable payments and final acceptance for projects.

The Commonwealth developed and instituted an Enterprise Project Management Methodology (EPMM) drawn from the Project Management Institute (PMI) model along with associated system development lifecycles. These are consistent with industry best practices from other states, the federal government, and the private sector, and are tailored based on Commonwealth agency specialized needs. Key aspects of the EPMM include:

- The Execution and Control phase of the methodology has been populated with a common Software Engineering Process (SEP), a system development lifecycle for application development. The SEP is a collection of artifacts, templates, and samples that have been

assembled through the analysis of several standard software development lifecycles, including the Rational Unified Process. Additionally, the Commonwealth uses the globally recognized methodology for SAP implementations – Accelerated SAP or ASAP. It was used in the Commonwealth's initial three-year SAP implementation that at the time was the largest of any state government, and continues to be used to implement new modules. ASAP is also a model for all of the Commonwealth's COTS implementation projects.

- In the Strategy Phase of the methodology, the Commonwealth has implemented the Community of Practice (CoP) process- a rigorous, Commonwealth-wide portfolio management process that provides enterprise review and approval for agency IT projects leveraging a Commonwealth business reference model. The CoP process ensures that project proposals:

  o are consistently prioritized against each other at a Commonwealth level,
  o are well formed and meet quality standards,
  o provide adequate cost-benefit results, and
  o are not duplicative or overlapping of other proposals.

- The CoP process begins with the development of an enterprise strategic plan, from which individual agency strategic plans and associated project proposals are developed. The plans and project proposals are then considered in a collaborative environment organized by common program goals in four broad program areas: Health and Human Services, Public Safety, Environmental, and General Government Operations. Specifically, every agency IT project meeting key, defined criteria is subject to a two-gate process. The first gate evaluates each project proposal on its merits, with the successful proposals then undergoing a financial review that includes a cost/benefit analysis. An executive-level group comprised of the Commonwealth Chief Information Officer (CIO), and Secretaries of key agencies involved in procurement, budget, administration and the Governor's Chief of Staff make final decisions to fund recommended projects.

The Commonwealth has instituted a technical architecture review process to ensure that major agency initiatives and technology procurements comply with the architectural direction of the Commonwealth. A team of senior business and technology resources conduct face-to-face reviews with agency staff to discuss and render decisions on major agency initiatives and procurements of software, hardware, and services. These technical reviews serve as a complementary and subsequent assessment to both CoP projects and other emergency initiatives to provide technical architecture consistency and quality checkpoints.

The Commonwealth has taken steps to establish consistency and synergy between its Enterprise Architecture Governance process and its project and portfolio management initiatives by establishing a Project Management Domain Team. Comprised of Commonwealth project management leaders, the domain team establishes project management policies and evaluates and approves technology solutions supporting project management.

Organization and Staffing
The Commonwealth continues to evolve its IT organizations to fulfill the objectives outlined in the Keystone Technology Plan. The Commonwealth has organized itself along similar business processes into four Communities of Practice - Health and Human Services, Public Safety, Environmental, and General Government Operations. The Commonwealth CIO has four Deputy CIOs who provide support and leadership to agencies in each of the Communities of Practice. The Deputy CIOs focus on cross-agency synergies and business requirements. Additionally, the Deputy CIOs and their staff are key stakeholders in the management of agency projects

through the CoP review and approval process previously described. They also manage the programs – or *communities* – for their particular area by serving as champions or sponsors of key projects, providing project management support and customer service. This promotes collaboration across previously silo-bound agencies to reduce duplication, costs, and increase returns on investment, and also enhance solutions for system interoperability and security.

Eight of the largest agencies (the departments of Transportation, Public Welfare, Health, State Police, Education, Environmental Protection, Conservation and Natural Resources, and Labor and Industry) representing the majority of the Commonwealth workforce and IT projects, have created project or program management offices. These offices are staffed with project management professionals who support their agency project managers, and manage portfolios and programs of IT projects.

The Commonwealth has placed renewed emphasis on project management as a career path by creating senior job classifications for project managers and business analysts. These classifications promote career paths within the project management discipline. A pool of expert project managers, reporting directly to the deputy CIOs, has been established. These senior resources are assigned to manage high priority IT projects.

Training and Support
In support of the Commonwealth's project management polices and practices, a comprehensive project management curriculum has been developed and delivered to Commonwealth employees. Highlights of this curriculum include:

- A three-day instructor-led classroom course on the Commonwealth EPMM. To date, this course has been delivered to over 400 employees, mostly IT professionals, ranging from line personnel to executives. In written course evaluations, 95 percent of the participants stated the class was a wise investment of their time.
- A two-day classroom course on requirements management was delivered to 120 IT professionals this year, with additional courses being scheduled. Participants gave the course an overall 3.7 score on a scale of one to four, with four being the highest rating.
- A summary overview class to the *customers* of IT projects – program managers and staff – to inform them how IT projects are delivered and managed and to encourage their appropriate and necessary involvement in these projects.
- A web-based course on project management for all Commonwealth employees.

The Commonwealth Deputy CIOs have staff specifically charged with mentoring and assisting agencies develop their IT strategic plans and submissions of IT projects to the CoP enterprise approval process.

Toolsets
The Commonwealth, through its Enterprise Architecture program, has established several product and technology standards to support the project and portfolio management policies and procedures. Relevant product standards include:

- CA Clarity (formerly Niku). An enterprise implementation to automate the Commonwealth's CoP portfolio management process and to manage IT projects, portfolios and programs.
- BEA Aqualogic Portal. An enterprise implementation for project and organization collaboration. Additionally, BEA Aqualogic Portal serves as the unified interface for all new citizen facing and internal web applications.

- IBM Rational suite. To automate and assist with key functions during system development including consistent project management functions such as requirements and change control management.
- SAP procurement, budgeting and accounting systems. To provide consistent cost monitoring by tracking actual spending on IT projects, and summarizing cost information to portfolio views by CoP and for the enterprise.

Public Value

The implementation of these project and portfolio management initiatives has resulted in numerous benefits to the Commonwealth's citizens, employees, and business partners. The CoP process has focused technology solutions to be firmly anchored in business goals. These business goals are interoperable and support lines of business regardless of the organizational units in which they occur. The CoP and the technical architecture review processes have enabled visibility to reduce unnecessary redundant functions. Key examples include:

- the consolidation and unification of Commonwealth applications that provide licensing for fishing, boating, and hunting, resulting in significant cost savings and a consistent, simpler mechanism for citizen applicants.
- The combination of a multitude of agency imaging, scanning, and remittance functions into a handful of implementations.

The CoP and Technical Architecture Review processes have resulted in significant, tangible cost savings for the Commonwealth. In the past year alone, the Commonwealth has saved over $21 million through project consolidation and prioritization.

Additionally, these reviews have led to higher quality submissions (and in some cases, resubmissions) which will provide intangible benefits by reducing risks in the upcoming fiscal years.

These initiatives represent a sea of change in the way the Commonwealth works. As the Commonwealth embraces and evolves towards a Service Oriented Architecture, the portfolio management practices will become integral to rationalize and prioritize service offerings across agencies and lines of business. Likewise, the project management practices will result in higher-quality services with more accurate and controlled estimations.

The Commonwealth's portfolio and project management initiatives are critical ingredients towards fulfilling the objectives in the Keystone Technology Plan.