



Commonwealth Contracts Backbone Security to Create Security Plan For Service Oriented Architecture

EXECUTIVE BRIEF

- Goal:** To assist a state government CTO in building a security vision for the states enterprise. The enterprise was built around a service oriented architecture that was radically different from their previous client server architecture. The commonwealth's enterprise had to be efficient, cost effective and secure.

- Solution:** Backbone Security met with the customer, analyzed the situation and rapidly developed a gap analysis and roadmap to correct any deficiencies. The next step involved assign how a service oriented architecture affected the approach to cyber security and what others using this technology were doing that worked. A survey of best practices was collected, and then used to determine the best course of action for the commonwealth.

- Results:** A projected cumulative two-year net benefit of \$785,430 was realized through the avoidance of costly in-house resources as well as avoiding internal fines for non-compliance. A 162% annual ROI was achieved through the process of out-sourcing this manpower intensive operation.

Solving their security problem enabled their service based architecture to become a model for state government enterprise systems.

Backbone Security assisted the CTO in formulating a vision for IT Security. The vision included several phases.

Phase 1 required Backbone to identify opportunities and challenges with the current "As-Is" system, barriers to success, alternatives and to define a "To Be" IT Security Strategy.

Phase 2: Develop recommendations to align IT security strategies and best practices to facilitate client prioritization of IT strategy alternatives. Also list best practices for the "To-Be" environment

Phase 3: Align the Commonwealth's security services with the business needs and strategic direction by identifying & prioritizing the business security needs and determining if the To-Be security services would align with the business needs.

Phase 4: Assess the status of the security infrastructure and policies, collect information technology and security documentation, conduct interviews with managers, system administrators, and users and identify threat sources, discover vulnerable targets and calculate risks to networked systems.

Phase 5: Develop a Security Strategy Roadmap including organizational structure, strategic direction, security systems and tools, and recommend revisions to the statutory and regulatory framework governing the security structure and systems

Benefits

| Objective | Benefits Achieved |
|---|--|
| IT Security Roadmap | Developed a highly available, reliable, scalable, cost effective, and secure service delivery environment. |
| Establish an enterprise service-oriented architecture (SOA) | Developed a flexible architecture that is based on open-standards to enable quick delivery of government services online in a totally secure fashion. |
| Establish a portfolio approach for IT investments | Evaluated IT investments at an enterprise level to ensure adherence to enterprise (open) standards and a best value approach to development and procurement. |
| Streamline Commonwealth IT security procurements: | Established an IT procurement process that is efficient and flexible to maximize the advantage of new and differentiating technologies and services which minimizing risk. |

"We had always used a big blue company as our end-to-end provider, so going with Backbone Security was a risk for us. *It paid off!* Their performance was outstanding, delivering exactly what our CIO was looking for. We were implementing a service oriented architecture and needed a security blueprint that matched it. Backbone had the skill and expertise to successfully pull this off for our commonwealth enterprise."

Chief of Security,
Information Technology Division

The Challenge: Secure a Service Oriented Architecture for a State Government Enterprise

A service-oriented architecture (SOA) is a way of designing software to provide services to applications, or to other services, through published and discoverable interfaces. Each service provides a discrete chunk of business functionality through a loosely coupled (often asynchronous), message-based communication model. System architects who take advantage of SOA can incorporate one or more services into their applications as components.

The commonwealths challenge was designing enterprise-scale software solutions

using Web services securely. The design of a high-quality software solution, like any other complex structure, requires early architectural decisions supported by well-understood design techniques, structural patterns, and styles. These patterns address common service issues such as scalability, reliability, and security.

The Solution

Backbone realized that when considering a Service Oriented Architecture's federation requirement, traditional security practice were equivalent to where networking technology was at 40 years ago - each new security standard still seeks to replace what is in place. Instead, what was needed was a security spanning layer that enabled the existing security services to interoperate. This is the fundamental goal of the emerging XML and Web services security standards - not to replace the diverse security infrastructures already deployed, but to enable them to interoperate end-to-end.

To that end, Backbone Security reviewed all the policy, procedures and existing architectures across the entire state. At the same time a risk assessment was performed to determine what security was already in place and could be integrated into the "to be" solution. After all the data was collected Backbone's security engineers, developed a detailed SOA blueprint that provided direction on how to roll-out the SOA in a secure fashion with highest possible security and return on investment.

The Bottom Line for the Commonwealth

An analysis of the implementation shows that the commonwealth will gain a cumulative two-year net benefit of \$785,430 and an annual ROI of 162% for the project. The entire project has a payback period of 6 months.

The following chart provides a detailed, two-year analysis.

BUSINESS ANALYSIS OF THE SOLUTION

Project Summary

| | |
|--|-----------|
| Annual ROI with Backbone Security Project | 162% |
| Payback Period with Backbone Security (months) | 6 |
| Cumulative two year benefit | \$785,430 |
| Cumulative two year net cost of Backbone Security's Component of Project | \$300,000 |

| Project Costs | Startup | Year 1 | Year 2 |
|--|-----------------|------------------|----------------|
| Hardware & Maintenance | \$0 | \$0 | \$0 |
| Software & Services | \$0 | \$300,000 | \$0 |
| Staff Costs for Implementation & Support | \$12,334 | \$12,500 | \$6,000 |
| TOTAL COST | \$12,334 | \$312,500 | \$6,000 |

| Benefits | Year 1 | Year 2 |
|--|------------------|------------------|
| Saving in staff costs @ (\$42,558) | \$255,348 | \$350,192 |
| Saving in staff costs @ (\$47,078) | \$94,156 | \$282,468 |
| Compliance to Commonwealth Auditors (cost avoidance) | \$60,000 | \$74,100 |
| TOTAL BENEFITS | \$409,504 | \$706,760 |

Financial Analysis

| | | | |
|-------------------------|-------------|----------|-----------|
| Net Benefit | (\$12,334) | \$97,004 | \$700,760 |
| Cumulative Net Benefit | (\$12,334) | \$84,670 | \$785,430 |
| Net Present Value | \$1,202,914 | | |
| Average Annual ROI | 162% | | |
| IRR | 1143% | | |
| Payback Period (months) | 6 | | |