

2002 NASCIO Recognition Program Nomination For Outstanding Achievement in the Field of Information Technology

Title of Nomination: Washington State Applications Template and Outfitting Model™

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Executive Summary

The Washington State Applications Template and Outfitting Model™ (ATOM) available at: <http://www.wa.gov/dis/atom/> is an original, cutting-edge Web site that dynamically promotes the implementation of Washington's enterprise architecture framework.

ATOM enables integration and interoperability by sharing necessary policies, available infrastructure and application components in a step-by-step Web-based application. ATOM compiles integrated information on policies and standards, business and technical requirements, application templates and authorizing requirements for government e-business- and e-commerce-related applications. The site provides agencies a way to avoid reinventing the wheel each time they build or update an enterprise value-added service delivery component, and serves as a tool for consultants and contractors who provide IT related services to the state.

ATOM gives agencies a proven, step-by-step guide to follow, so they can reduce risk, speed time-to-market, and build applications, which are interoperable and compatible with the enterprise framework. By promoting the development of applications with a common look, feel and navigation, ATOM ensures reliability and ease-of-use for citizens and businesses.

As demonstrated at the 2001 NASCIO Mid Year Conference, ATOM's operating principle is *publish and replicate* — shared learning and application models become templates and code that state and local governments can download. Without holding agencies to a specific development sequence, each team maps the activities, as specified by ATOM, into their own project lifecycle.

ATOM creates synergy between government-to-government communications, data sharing and application development. ATOM connects service agencies and local entities with each other, and links business managers, project managers and developers.

ATOM reduces risk by identifying critical dependencies that milestone the development of successful applications. For example, before a developer can install an electronic payment component, he or she must contact the Office of Financial Management. ATOM identifies the required step, and takes the developer to the appropriate contact. In this way, ATOM lowers the risk of moving agency services online, and enables a confident investment in innovation. Agencies retain the integrity of their mission and autonomous operation at the same time they develop online services, which are state-sanctioned, reliable and present a recognizable *look and feel* to Washington citizens. ATOM is grounded in this confident innovation — developed as a smart and strategic way for project teams to move counter-bound business onto the desktop.

Harnessing ingenuity to build value into government

The value and cost-benefit to government is profound when agencies developing Internet-based applications have, on a single mouse-click, a library of digital Washington's knowledge and experience. Utilizing ATOM to eliminate the time and money spent on IT project research alone will account for savings in the hundreds of thousands of budget dollars. In its first quarter of operation, the ATOM Web site received a "Governing for Results" award from Governor Locke for quality improvement.

The interest and activity on the ATOM Web site evidences the value of a *how-to* guide that harnesses ingenuity, emerging technology and citizen-centered policy -- to date, Web site traffic has established ATOM as one of the most requested pages out of a possible 250 available on the Department of Information Services' site.

Description of the project, including the length of time in operation

Information Technology (IT) projects are complex and iterative, their development and implementation often characterized by numerous external/internal challenges and obstacles. Even large state agencies may not have the in-house expertise that can develop Web-enabled services, since most agency experience is limited to maintaining current applications.

The Applications Template and Outfitting Model™ (ATOM) was launched in November 2000 as a blueprint for application development relevant to all facets of government — agencies, commissions, local authorities. Based on the market-proven theory that *no activity has greater impact on the potential for success of an IT project than sound project management*, ATOM is an online guide that walks project teams through the unique process of building a Web-based service step-by-step.

The digital Washington building code

ATOM is a toolkit that channels a mainstream, enterprise-wide approach to application development in a way that explains both the business and technical side at each step in the project lifecycle. This is digital building code, much like the rules of infrastructure that chart construction in the brick and mortar world.

Validated by numerous customer agencies, ATOM also enjoys the affirmation and support of key players in Washington's authorizing environment, most notably, the Office of Financial Management, the Office of the State Treasurer, the Office of the State Auditor and the Information Services Board (ISB).

Policy supports delivery of high quality IT products

ATOM embodies important policy guidance from the ISB that captures and maps the latest intelligence available on IT project management. Advocating the delivery of quality products completed on time and within budget, ISB guidelines coach agency developers through the techniques of strategic project management to ensure that IT ventures proceed in a disciplined and well-managed manner.

ATOM: online source of just-in-time expertise

Off the ATOM Web site, agency developers and private sector partners can follow a stepped task list or just download current policy, applications and infrastructure information. The resource is complete and includes a framework for project management, downloadable template software code, vendor support, master contract information and breaking news on the digital government evolution. In phases:

Project Definition begins with a review of the agency's IT portfolio, moves through executive sponsorship, scope, scheduling, the plan and kick-off.

Requirements Analysis gets to the core of the business requirements that shape and drive online services: risk assessment, change control, agency capacity, interface needs, e-payments.

Detailed Design outlines Web presentation, content and style guidelines, and aggregates valuable information on architecture, business process and user interface.

Development guides agencies through the process of assembling the team, managing risk assessment, compiling system documentation and planning for design and test phases.

Deployment covers all the elements critical to successful implementation — user training, testing e-payment and credit card features, fine tuning the new system and developing a communication plan.

New module: e-Forms

ATOM's latest module — the Electronic Forms Project Guide— identifies and reconciles issues surrounding routing, digital signatures, database access, legacy system interfaces, archive, audit and the dynamics of data-sharing. The e-Forms Project Guide delivers all of the sample business documents, project plan, templates and code necessary to help build an e-Forms application, and is currently used by more than 30 state agencies and local entities.

Significance to the improvement of the operation of government

Time, cost, and risk are three problematic and potentially expensive operational issues for developers of agency applications. And, it is here that ATOM's greatest strength is evident, and its significance to the streamlining of government operation demonstrated.

- **Eliminates costly application R&D time**

ATOM provides the context that project managers would otherwise need to research and understand on their own. ATOM is a common reference point that results in operational efficiencies for business/program/project managers and developers, as well as private sector companies who wish to do business with the state. ATOM is the tool that establishes order in application development, removing the expensive and time-consuming front-end activity that surrounds project management.

- **Improves with each use**

ATOM is an information hub, dynamic and evolving — updated each time an agency deploys an online service. Code and templates, products of the Academy, embody the best of emerging technologies and are published for quick replication. The latest progress on agency projects, ISB policy updates, current information on infrastructure and customer feedback is published in real-time on the ATOM site for immediate use.

- **Organizes complexity**

ATOM provides a mechanism to mine the time and effort out of developing an online service by codifying an integrated "click and order" method. Using a start-to-finish timeline, ATOM compiles and organizes technology, business requirements and authorizing processes, so that agency partners can negotiate the complexities of policy and architecture as they plan, model and launch online services.

- **Translates e-commerce for non-technicians**

ATOM has an important advantage for agency developers — they don't have to be experts on how digital government is built because ATOM maps application development within the Washington state environment. ATOM raises the comfort-level for agencies as they learn how to work with new technologies such as digital signatures, Web server hosting, e-forms and applications support. Agencies go directly to the ATOM Web site and navigate logically through the intricacies of system and software development.

- **Accelerates time-to-market**

ATOM is the project "wheel" that does not need reinvention. ATOM's step-by-step method saves development time and money by avoiding missed steps, time-consuming re-starts, and ensures a product that meets state standards. This way, time-to-market is accelerated for online, customer-centric services that make the process of dealing with government immediate, simple, seamless and intuitive.

- **Mitigates risk**

ATOM is the "how" of application development that prevents the often hit-and-miss perils of independent service development. ATOM's business logic guides agencies safely through calculated risk, accelerating positive change at the pace that the Internet Age demands. ATOM's developers have ensured that the internal logic of site information and resources are intuitive and present a unified, coherent process. Users can easily and quickly navigate the multi-faceted elements of project management, and with a minimum of time and effort, download the actual code and script they will need to build an online service.

- **Significant operational cost-savings**

At baseline, ATOM saves a minimum of 40 hours per project, enabling agencies to accelerate the pace at which they automate portions of their business. Not captured in this calculation is the iterative cost-saving potential of subsequent projects. The efficiencies that arise naturally from the power of replication create a potential for time and money saved that raises the bar on responsible stewardship of public money, and ignites new thinking on old measures of return and cost-efficiency.

- **Published and replicated online for immediate use**

With the ATOM site, agencies have an essential online library where they can find step-by-step comprehensive guidance for building e-commerce applications within the Digital Washington community. Enterprise documents and products are published on the ATOM site, enabling all the stakeholders in digital government — agencies, local organizations and entities doing business with the state — to reduce development time and cost by downloading templates, code and script.

- **Transforms the business of government from within**

What cannot be measured in dollars and time is the value of a tool that enables the transformation to digital government while actively cultivating innovative leadership *in-house*. ATOM educates and roadmaps the transformation to digital government — built from within.

Benefits realized by service recipients, taxpayers, agency or state

Agencies benefit from shared expertise

ATOM-built applications have a critical advantage — they reflect a greater library of knowledge and expertise harvested from cross-organizational intelligence and infrastructure developments available for quick replication. ATOM has helped these state agencies build and internalize the expertise required for IT projects in fundamental, fail-safe ways:

The **Department of Social & Health Services** learned how to define an Internet-based applications project, identify business requirements, and create the right project team. Administrator Shirley Stirling, quickly utilized ATOM's end-to-end project management resource to speed her progress through known and unknown areas of e-forms. She estimates that ATOM saved 40 hours of her personal time alone.

"...also saved is the time of people who I would have contacted for assistance in working on our e-forms project. I discovered resources and requirements that I probably would not have known about without the ATOM site."

The **City of Bellevue** used ATOM to jumpstart and accelerate the time-to-market on an important initiative — the e-Permits portal. Project Manager Magen Michaud says the team learned how to connect with new technologies such as digital signatures and e-forms, which minimized the risk of transforming their core business.

"Rather than starting at the very beginning, the business owners and IT professionals became grounded in the new approach to customer service. The e-Permits template, used for the moorage permits, answered a question we had about how to ensure that a printed temporary e-permit was valid. The solution of using an algorithm to create a validation number that could be decoded by a field inspector or auditor is just the right solution."

Department of Revenue learned how to navigate the authorizing environment in sequence, and easily locate the appropriate policies, standards and guidelines relevant to payments, privacy, security, archiving, auditing architecture and Web presentation. At the outset of the project, Applications Development Specialist Chuck Bowers was specifically looking for direction on Washington's authorizing and policy environment.

"ATOM is a site that is very beneficial for users of all experience levels because it encapsulates all the 'bits', even those that either are unknown or overlooked..."

Department of Labor and Industries learned how to download the latest templates, code and script in order to speed application development. Agency developers sourced ATOM to download the latest code samples for ASP and script — including but not limited to the e-permit that is being used across the state and has been exported successfully for use in the State of Pennsylvania as part of NASCIO's *Component Re-use Initiative*.

Dept of Ecology used e-permit templates to build the front-end for five applications in approximately two weeks.

Washington State Parks used ATOM to complete and launch two flourishing online services. Today, over 50 percent of boat launch applications are now transacted over the Internet.

State of Pennsylvania took advantage of ATOM's assembly of documentation and technical guidance to build an e-Permit for boat registration. A contract programmer who worked after hours developed the application in two short weeks.

Citizens benefit by familiar "look and feel" services,

ATOM saves a minimum of 40 hours of time and tax dollars with every project. This digital government innovation expands the innate efficiency and convenience of Web-enabled transactions by allowing agencies to launch new applications swiftly and securely for 24 X 7 customer service. Citizens transact privately with government, using applications that function smoothly, and present a common look and feel.

National and international beneficiaries

Today, ATOM's utility has been discovered by dozens of Washington state agencies, and reach as far as the international community — inquiries and potential replication are under study by a half-dozen states, the Canadian Province of British Columbia, Paraguay and Japan.

Return on investment, short-term/long-term payback (include summary calculations). Projects must exhibit measurable operational benefit

ROI calculates at the application level

ATOM is an innovative digital government investment that returns time and money to the agency and the taxpayer with each application launched. Application teams used ATOM in the development of online services where ROI is properly calculated — at the application level.

ATOM helps agencies to:

Gain a rapid return on the investment of agency staff time. With an anticipated 150 projects coming online in Washington state, the developers of ATOM estimate that a minimum of \$300,000 can be saved in 2001. Agencies using ATOM report a cost-benefit of at least 40 hours per project. Multiply this value by 150 projects, and Washington saves a total of 6,000 employee hours in a single year. At an average FTE hourly rate of \$50, ATOM comfortably and conservatively will save taxpayers \$300,000 in its first 12 months of operation.

Invest more in the business transformation. Agencies report that ATOM frees up much of the time investment required during the front-end development phase of digital government, so that they can concentrate on the important business transformation about to take place. Thousands of application development hours will be saved across state government this year as agencies take advantage of ATOM's capacity to focus their effort on the new dialogue about to begin as they empower the citizen to engage government in a more personal and individual way.

Save time and money allocated for application development . The service ATOM provides is free. Agencies, local governments and firms who do business with the state can download the know-how and template building blocks — at no charge — that will run on state hardware and software platforms, and look, behave and feel like an online service provided by the state of Washington.

Avoid costly mistakes. Step-by-step, ATOM integrates the best technology, the right policy and market-proven requirements to launch state-certified applications quickly, cost-effectively — free of the expensive hazards that can accompany independent application development.

Budget low acquisition costs due to replication of code, templates. ATOM purposely gives away links to policies, sample business and technical documents, as well as actual project templates and code to help standardize the approach to digital government. It speeds time-to-market and helps agencies avoid re-inventing the project wheel. ATOM is updated in real-time with each new application — it's value increases exponentially with use.

According to IT research organization, IDC (International Data Corp.) the ROI calculation for e-commerce demands a method to quantify the “soft benefits” of moving business online.

At this juncture, agency business and project managers are developing a calculation that expands the basic ROI model and captures the advantages and returns that don't fit easily into formulae. These important “soft” benefits are occurring naturally as the digital Washington community empowers itself and its constituents to conduct the business of government over the Web. Not quantified to date:

- value of better and quicker communications between departments, agencies and citizens
- money saved when staff have more time available for over-the-counter personal service for the citizen in line
- cost avoidance — agencies don't need to outsource, when in-house replication enables staff to customize software such as e-forms for specific departmental use
- cost-efficiencies possible when the expertise and leadership needed to design, develop and deploy reliable and secure online services can be sourced from within
- operational savings at the facility level that accompany empowering the citizen to conduct desktop business with the state conveniently and quickly from home or work.