The National Electronic Commerce
Coordinating Council

Maximizing Revenues and Saving Costs Through E-Government: Success Stories in the Public Sector

Prepared by the Revenue Maximization/Cost-Savings Work Group
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NATIONAL ELECTRONIC COMMERCE COORDINATING COUNCIL

In 1997, as the use of the Internet was increasing at a stunning rate, a group of public and private professionals—government executives and information technology practitioners—met In San Antonio, Texas to discuss their common issues, problems and ideas. This first meeting was productive. Participants learned from each other. They felt that continuing to meet as a group would help them meet the challenges and opportunities posed by the rush of engulfing information technologies. This founding group formed the National Electronic Commerce Coordinating Council (NECCC), which has continued to meet regularly.

Today, NECCC serves as an alliance of government organizations dedicated to promoting electronic government through the exploration of emerging issues and best practices. Alliance partners are the National Association of State Auditors, Comptrollers and Treasurers; the National Association of Secretaries of State; and the National Institute of Governmental Purchasing.

NECCC also works in partnership with these affiliate organizations: the Information Technology Association of America; National Automated Clearing House Association; National Association of Government Archives and Records Administrators; and National Association of State Treasurers

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I. INTRODUCTION

Why did NECCC select this area for examination?

E-government initiatives continue to be enormously popular across all levels of government. The National Electronic Commerce Coordinating Council (NECCC) has been tracking the evolution of e-commerce and e-government initiatives, and publishing white papers for several years. While enthusiasm and activity on the e-government agenda remains high, we have observed that something has changed.

"Old" Versus "New" E-Government

The early e-commerce and e-government agenda was dominated by the rush to put information, services and transactions online. Initially, public sector organizations invested their money to create a Web presence, and this work has been mostly accomplished. Early projects involved making content, typically in static form, available through the Internet. This was followed by more sophisticated applications to enable interactions, such as requesting and delivering a service or processing a transaction. Literally thousands of these types of projects have been completed.

The previous phase of activity, which we call "old" e-government, was characterized by public sector organizations as putting as many services online as possible. This activity has evolved to another phase, which we call "new" e-government. This new phase builds upon the experience of past projects, but also takes into consideration the competition for scarce resources in the public sector. Our observation is that new e-government is characterized by public sector organizations putting online only those services with a compelling business case.

Prioritization among many good ideas, based on criteria set forth in a business case, is the norm.

This year NECCC has collected examples of e-government projects that demonstrate the type of business case that will be necessary to be successful. These examples are intended to help organizations in reviewing and planning their respective e-government initiatives.

Creating the Public Sector Business Case

As a general proposition, projects are justified and authorized through three approaches.

1. ***Improved quantity and quality of output (services).*** This approach involves the philosophy of public programs doing more or doing better work with basically the same amount of budget. Common attributes of this approach are promises of increased productivity or efficiency under a level funded or constrained budget. Benefits are measured in either qualitative or quantitative terms.
2. ***Increased quality or quantity of outcome, or a new capability that did not previously exist.*** This approach is similar to the previous, but with more of a focus on effectiveness and customer satisfaction. Again, benefits can be measured in either qualitative or quantitative terms.
3. ***Increased revenues and/or decreased costs, often referred to as "return on investment."*** The focus in this approach is on the money. Projects justified this way promise to increase revenue above current levels or decrease costs below current levels (or avoid cost increases). Usually the amount of benefits is compared to the amount of the investment over a defined period of time (three to five years is typical) to determine the breakeven point and the accumulated net positive benefit. Measurement is quantitative, namely in dollars.

Soft and Hard Dollar Benefits

Another aspect of the public sector business case is the difference between soft and hard dollar benefits. Soft dollars are generally attributed to projects that generate process efficiencies and/or service and quality improvements. These are real benefits, but often materialize as part of a person's job or part of a process, and are thus difficult to capture and materialize in the budget. In contrast, hard dollar benefits are discrete and measurable events, such as new revenue, that can be directly converted to the budget.

II. LESSONS LEARNED FROM IMPLEMENTING NEW E-GOVERNMENT

Working through its membership and other affiliations, NECCC issued a survey seeking to identify e-government projects that met the following criteria:

- Used technology to achieve revenue maximization, cost savings, or cost containment.
- Completed and operational as of April 2003.
- Demonstrated rigorous measurement to show results.
- Crossed multiple organizational boundaries or affected multiple stakeholder groups.
- Exhibited results that could be replicated and used by other programs or governments.

The response to the survey was tremendous. Over 70 fascinating and meritorious projects were identified. However, to manage the size of our report, the NECCC conducted additional review and evaluation to narrow the list to 23 projects, and eventually down to the nine projects described in this report. In the aggregate, these projects delivered over $143,000,000 in revenue maximization or cost savings for their governments. There were several common themes or lessons learned across all these projects.

- **Measurement is not just about how much the governmental entity saves. It is also about how much the client saves.** While most projects factored in staff time savings as an indicator of project success, several also factored in the time clients were no longer spending driving to the site and waiting in line to conduct their transaction. In all cases, this was the much larger number. For example, while the Virginia Employment Commission saved approximately $270,000 annually on staff costs to manually process unemployment claims, their online claimants are saving over $2 million annually.
- **Bring all the stakeholders to the table.** Many projects stressed the importance of a cross-functional team when implementing systems that cross boundaries. This would include technology experts, functional experts from each department, and a representative of any consultants used.
- **Consider redesigning your processes.** Existing processes and policies may need to be revised to take advantage of advances in technology. While most processes and policies have served governments well, they may not take advantage of the efficiencies that e-government systems offer.
- **Focus on usability.** It is important to remember when implementing Internet applications, that not everyone is technologically savvy. It is important to stay focused on presenting a simple, non-threatening Web service. Other things to remember are that not all users will be running current browser versions, and in some cases, a portion of a user population may not have ready access to the Internet. User training may be required to increase adoption rates, along with strong customer telephone or online chat support.

- **Today's technologies enable governments to integrate multiple legacy systems.** Several responses cited the use of Web-based technologies, such as XML and "middleware" to enable the core application to serve a wide range of clients without requiring redesign of legacy systems. While project time may increase due to a learning curve, a development process with an enterprise-wide perspective is much more efficient than developing an application on an agency-by-agency basis.
- **Consider the use of non-traditional funding models.** During times of historical budget gaps, government money may not be available for new system development. Many of the systems we studied used a public-private partnership, where a private business funded the system development and received payment as the clients adopted the system.
- **Use scalable hardware and software.** E-government adoption rates are sometimes difficult to anticipate due to a lack of historical perspective. It is important to test systems at a peek workload, and to use scalable hardware and software so that capacity is easily increased should adoption rates exceed estimates.
- **Plan for differing laws and regulations when implementing systems that cross government jurisdictions.** By design, the process to change government regulations and laws is often cumbersome and lengthy. Consider the risk that required changes to regulations and laws might impede development, and build in time to handle this circumstance.

E-government offers great potential for increasing the cost-effectiveness of government through cost savings and revenue maximization. However, cost-effectiveness is two-fold, with the client served often saving more than the government agency. Success is often not about changing the technology, but changing the culture within the agencies and with the client.

III. CASE STUDIES

A. Education: UVic – E-Procurement and E-Commerce Integration

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UVic's e-procurement and e-commerce system focuses on leveraging leading edge Internet (www) technology to provide procurement transaction processing efficiencies on a 7x24 real-time basis worldwide.

The system has been designed and developed using industry standard HTML and ASP technology and the "shopping mall/cart" model wherein customers (internal users) can access a variety of specific e-merchant online catalogues through Web- and Internet-based technology. Users place their orders online at UVic's negotiated preferred pricing, have their orders paid for through a pre-selected purchasing card VISA payment, and have the transaction reported and tracked through ProCard – PVSNet software. The transaction is then downloaded to UVic's EASY accounting system, where the value of the order has the various federal and provincial taxes calculated and the transaction electronically adjusted. The transaction is then up-loaded to UVic's EASY accounting system debiting the customer operating budget account. Cost re-allocations are processed online in the same manner through PVSNet.

These business/commerce functions are conducted online with no need for paper, as the transactions are permanently stored at each stage of the process with access only by the authorized user, based on UVic's security levels. UVic's e-procurement portal and Web site is the foundation for its e-merchant shopping mall.

Internal customers also have the option of electronic billing. This arrangement involves online, real-time, 7x24 order placement, however, the customer arranges for payment through a monthly or bi-weekly electronic invoice from the respective e-merchant rather than a purchasing card VISA payment.

Because each e-merchant's pricing is unique and proprietary to UVic's contracts, security access is established to the site. As well, each e-merchant assigns an internal specific ID and password for the authorized user to access their respective catalogues (second level security access).

All UVic authorized e-merchant's catalogues are hyper-linked to UVic's Web site, and each e-merchant must agree to UVic's eight electronic commerce conditions prior to being listed on the Web site.

Reason for Automating Through E-Government

- The objective of the e-procurement and e-commerce system was to make available, to authorized internal users, an effective and efficient means of acquiring low value, frequently needed types of products and services without having to go through an unnecessary procurement step. **The system was created to:**
  - Drive down/out transaction costs.
  - Improve supply cycle and process time by eliminating duplicate/triplicate keying of data.
  - Eliminate the need to generate multi-form (set of five pages) hard copy documents.
  - Reduce error rates in supply fulfillment caused by keying errors.
  - Reduce point-of-purchase costs by reducing line item prices passed on by the e-merchants reflecting process improvements.
  - Improve supplier performance and delivery.
  - Reduce purchasing intervention for low value acquisitions.
  - Improve payment process and throughput time.
  - Improve management reporting.
  - Improve customer/supplier relationships.
  - Focus limited resources on acquisitions where value can be provided.

- **Specific objectives of the program were to:**
  - Have approximately 320 VISA payment cardholders prior to March 31, 2003, and at least 750 at full implementation – as of March 31, 2003, the number was 367.
  - Reduce the number of Purchase Requisitions (PRs) and Purchase Orders (POs) equivalent to the number of VISA transactions – reduced by an average of 3,779/year.
  - Reduce the number of invoices processed manually equivalent to the number of VISA payments – reduced by 7,395/year.
  - Reduce the process time from PR to PO to less than a week and if possible to same day.
  - Reduce the invoice processing period to less than 14 days.
  - Increase the average VISA payment transaction value to at least $500.
  - Increase the annual spend value of VISA transactions to greater than $2.5 mil.
  - Decentralize low-value acquisitions to end-users (<$500 and <$1,000).
  - Reduce hard process costs for forms, printing, long-distance, mail, envelopes, handling, etc.
  - Leverage deep discounts available from Suppliers to do business with them electronically.
  - Reduce error rates.
  - Maximize use of resources and add value.
  - Maximize online sourcing capabilities and opportunities.
  - Use technology to reduce student cost of education and extend UVic preferred pricing to students, staff and alumni.

Discoveries During Implementation

The first and foremost discovery was that Purchasing Services was not "service oriented," but rather "control oriented." To get to the service model, the staff had to look inward at their role, what tasks and activities they performed, and then re-invent their operations.

- **Staff used a Business Process Reengineering (BPR) "value matrix" to achieve this goal as follows:**

    - Continued practices that were valued by customers and stakeholders and that were generally seen to be working well.
    - Took corrective action toward measures that were valued by customers and stakeholders but that were not seen to be working as well as they should be.
    - Introduced into the system measures that were not the normal current business practice, but that would add-value to the organization and process.
    - Eliminated or fundamentally changed current practices that were not valued by customers and stakeholders.

- **Staff could reduce point-of-purchase pricing** on a number of high-volume, low-value items if they did business differently with suppliers and merchants.

- **Internal customers did not value some of the methods and processes because of excessive front-end intervention.** The corporate purchasing policy needed revision to reflect technological advancement. For example, policy was changed to set the spending threshold for review by Purchasing Services from $250 to $500; then as an incentive to use the VISA payment card, raised the threshold for VISA purchases to $1,000.

Hurdles to Success

Effective change is difficult to achieve unless handled appropriately.

- **Due to the corporate culture (academic environment) obtaining consensus and buy-in from our internal users was not without its challenges.** Through collaboration, focus groups, one-on-one meetings, pilots, and formal presentations, the merits and benefits of an e-procurement and e-commerce system were recognized, accepted and supported by a large population of our user and stakeholder group. The "what is in it for me" syndrome prevailed.

- **Staff were very concerned that their specific jobs would change dramatically or be abolished due to reduced work, and that changes would have a significant impact on their livelihood.** Through a "strategic planning" exercise, in which all staff participated, staff were reassured that they would not be impacted negatively by migration to a "service delivery model." In fact, several positions were upgraded.

  The e-procurement and e-commerce initiative was instrumental in improving the working relationships not only within the purchasing unit, but also with customers and suppliers.

Project Timetable

The project was initiated in the fall of 2000 when it was determined that Purchasing Services could not continue to operate as it had and expect to meet the supply management needs of the organization as a whole. In mid-November 2000, it was identified that the former Web site was not serving the public adequately and that process were labor intensive, constrained and "rules bound." A vision was identified, based on private sector concepts relative to e-commerce and e-procurement. In early December 2000 (one month later), the new and improved Web site was completed and placed into real time piloting.

On January 23, 2001, the e-procurement portal was further enhanced to accommodate VISA payments and the tracking and reporting of transactions through ProCard PVSNet, including the development and implementation by Millennium Computer Services of the tax calculation formula module for up-loading into BANNER – SCT.

UVic ran with this site until December 2002, at which time significant technology changes required enhancement to the Web site. A UVic co-op student was hired to enhance the Web site and include all functionality deemed essential to the services provided. E-Procurement Gen 2 was developed. During this evolution, HAZMAT and WEBREQ functionality was developed by Millennium Systems and linked to the e-procurement, e-sourcing and other electronic services Web pages.

Project Outcome

- Improved procurement process throughput time: most PR's within two working days.
- Improved customer service.
- Improved supplier payment throughput: current payments are made in less than a week and often on the same day.
- Reduced the number of low value invoices submitted for payment (7,400 reduction or 23 percent).
- Increased number of VISA payments for low value purchases (increased by 10,447 or 967 percent).
- Improved supplier and merchant relationships.
- Decreased point-of-purchase prices MONK Corporate Express ($360k/year or five-year reduction estimated at $1.8 million).
- Empowered user departments through decentralization of low value purchases.
- Improved morale within the purchasing unit through better customer relations.
- Formed strategic supply partners through the combined strategic alliance model and e-procurement model.

- Established a procurement service where UVic students, employees and alumni are eligible for UVic preferred and negotiated prices and discounts through designated e-merchants.
- Although the actual budget and expenditures increased marginally $8,211 or .0197 percent from FY02 to FY03, processing volume increased by 22.12 percent.
- Purchasing Services will not have to hire additional full time employees in 2003-04.

Measuring Results

Purchasing Services tracks all process activity electronically through BANNER-SCT ERP, EASY financial and accounting reporting system, VISA payment system and PVSNet transaction reporting and tracking systems, including:

- Budget to actual expenditures for each fiscal reporting period.
- Solicitation invitations issued by reporting period for each type of solicitation.
- Invoices processed by dollar volume and number of transactions by reporting period by category of invoice.
- POs issued by reporting period.
- PRs processed by reporting period.
- VISA payments made against the purchasing card by dollar value, cardholder and number of transaction.

Partnerships/Collaborations

Collaborators on this project were:

- Controller
- Manager, Accounting Services
- Manager, Financial Reporting
- Executive Director, Financial Services
- Vice President, Finance and Operations
- Manager, Business Development and External Relations
- All Purchasing Service Staff
- Various Department Mangers
- Various Support Technical Staff from Computer Services
- University Technical Advisory Committee
- Human Resources Department
- Union – 951
- Professional/Educational Association
- Department Executive Directors
- Department Administrators
- Department Front-Line Staff
- Faculty
- Deans and Chairs
- Suppliers and Merchants
- Chamber of Commerce
- Director, Internal Audit
- UVic Co-op Program
- UVic Students
- Manager, Computer Store
- Manager, Book Store
- Manager, ZAP Copier Centre
- Millennium Computer Service
- E-Com Strategies.com
- CIBC VISA
- ProCard
- Occupational Health and Safety
- Periscope Holdings – NIGP Code

Can Other Governments Replicate This Project?

This project, which uses e-procurement/e-commerce methodology and systems, can be implemented relatively quickly within any BANNER-SCT ERP system. However, it should be relatively simple and should be inexpensive to implement this functionality into any ERP system that is Web-based.

Organizations must evaluate their readiness for change, be willing to take some risk, be prepared to go through a Business Process Redesign (BPR) exercise, and determine whether there is value for their organization to migrate to a Web based e-procurement and e-commerce protocol, where the e-merchant maintains their respective online catalogues in a 24 x 7, real-time environment.

B. Health and Medicaid – Electronic Verification of Vital Events (EVVE)

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The National Association for Public Health Statistics and Information Systems (NAPHSIS) and the Social Security Administration (SSA) is phasing in a new e-government initiative that will make it easier and quicker for people to apply for Social Security benefits. The project, called eVital (EVVE), will provide immediate online verification of birth and death information. This new initiative is part of the President's Management Agenda and the Office of Management and Budget's (OMB's) Quicksilver E-Government initiatives.

The project, currently being piloted in eight states, allows SSA employees to verify state birth and death information online, which enables SSA to process benefit applications and Social Security card requests faster and at lower costs. Additionally, EVVE's direct government-to-government transaction will help reduce fraud.

Reason for Automating Through E-Government

Currently, the public must provide birth and/or death information in order to receive benefits or a Social Security Number from SSA. If a person does not have the appropriate document, then he or she has to obtain a copy from a state bureau of vital statistics. In some situations, SSA may contact the vital statistics agency directly for a record. In both cases there is usually a fee for the record and a delay in

obtaining the copy. This new e-government project will reduce the cost and time it takes to verify birth and death information.

The solution to providing meaningful service to SSA applicants was the establishment of an electronic hub at NAPHSIS that provided the bridge between state and local vital records data systems and the SSA user. The objective was to provide a cost-effective, reliable, and secure hub to protect state and local data from misuse and fulfill the SSA objective of saving time and money in processing benefit applications.

Discoveries During Implementation

The most important lesson discovered in creating this system was how difficult the state and local laws and regulations were in terms of allowing access to their respective data. Every jurisdiction had a different set of rules it must follow concerning the confidentiality, protection and maintenance of their data. Negotiations with SSA and the individual state vital records offices began in 1994, and initially the SSA wanted open access to these records.

Because of the complexity of the negotiations and the time constraints faced by the individual states, the states approached NAPHSIS in 2000 with a request to intervene with SSA on their behalf. The states felt that NAPHSIS could provide common representation for the states and be a single point of contact with SSA and that NAPHSIS could achieve both a common methodology and a fair and equitable price for the services provided.

NAPHSIS was able to overcome the confidentiality issues by using a query algorithm, which provides a match/no match response to an SSA query and eliminates the browsing capabilities. This match/no match response became the foundation for the EVVE project.

To solve the fair pricing issue, both SSA and NAPHSIS agreed to the hiring of an outside accounting firm to undertake a fair price assessment study of state vital records costs.

Hurdles to Success

NAPHSIS, SSA, and the participating pilot states learned many lessons during the pilot evaluation phase. These lessons included state data problems, SSA user data entry errors, state infrastructure stability, and coordination between state vital records offices and the state IT departments. In order to increase the successful match rates on EVVE queries, these problems will need to be addressed. State data problems identified during the pilot phase included:

- Lack of availability of the “Date Filed” field to support verification queries.
- Idiosyncrasies in the Date Filed field between electronic records and paper certificates.
- Poor timeliness of converting paper death certificates into electronic format.
- Utilization of database extracts as “snap-shots” in time versus accessing a “live” database for queries.
- Lack of accessibility to modified data records for queries.
- Truncation of characters in name fields during certain time periods.
- Removing blanks, hyphens, and other special characters from the electronic record.
- Incorrectly indexed name fields in the electronic database.

SSA user data entry errors ranged from typographical in nature to entering incorrectly provided information from their claimant. In Mississippi, 85.5 percent of the “no matches”’ on birth queries during the pilot phase could be attributed to data entered erroneously by the SSA user.

Project Timetable

From the initial identification in 1994, the states, SSA and NAPHSIS worked on solving the problems that surround such a system. An agreement was signed in July 2001 for NAPHSIS to perform the work outlined on the proposal for the Online Access to Vital Records Project, also known as EVVE. NAPHSIS selected the vendor to run the hub, and identified a pool of states that were interested in being pilots. After much study by NAPHSIS and SSA, eight states were identified. These initial pilot states were Hawaii, California, Colorado, Minnesota, Missouri, Iowa, Mississippi and Oklahoma.

The initial pilot project ran through May 2003. NAPHSIS, SSA, and the eight states agreed to extend the pilot through the current federal fiscal year, and discussions are now under way as to how best to expand the pilots with the goal of full implementation before the end of 2004.

Project Outcome

The project is a proven success. State vital records are accessed without any compromise in the integrity of the data. SSA response time for public interaction has dropped to hours instead of weeks to verify and/or certify vital records.

NAPHSIS is currently developing a survey to send to the states asking about data availability, content and format. This survey will address the data issues NAPHSIS has uncovered during the EVVE pilot phase, especially those related to verifications and how to ensure that a state can support EVVE successful verification matches. The survey will also focus on how data elements are electronically stored

and how these data elements are printed on a certified copy. The survey will consider electronic record and paper certificate content and format as it has changed over time.

Measuring Results

Results are measured in several ways. The percentage of successful matched records is the chief tool of the project. The time it takes to process SSA applicants is another important variable. SSA has estimated that use of this proven technology will decrease the average time it takes to verify a claimant's age from 10.6 days to a matter of minutes. Money saved through these efficiencies, revenues gained by states through electronic verification of records, and the numbers of fraud detections are all important quantifiable results.

Partnerships/Collaborations

The SSA has been a full and equal partner in the EVVE project. In demonstrating both the cost efficiencies and the fraud-prevention qualities of the EVVE project, SSA has taken the lead as the federal agency that is responsible for marketing this project to other federal agencies.

EVVE will save time, energy and money as it makes the required government interactions faster, more secure and efficient for the citizen. That's what e-government is all about," said Mark Forman, OMB's associate director for information technology and e-government.

Can Other Governments Replicate This Project?

Other federal government entities are interested in participating in the EVVE project. The State Department (Passport), Railroad Retirement System, OMB, Homeland Security, Department of Transportation, and Department of the Interior are among those that have expressed interest.

The EVVE concept can be an important project for state-to-state and intra-state data exchange. NAPHSIS has an EVVE project funded by the Department of Transportation to electronically verify vital records for state motor vehicle offices. NAPHSIS also participates in another pilot project to connect state voter records to state motor vehicle and vital records agencies.

C-1. Tax and Revenue: Electronic Express Filing

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The Electronic Express Filing system has provided Indiana taxpayers with a new menu of options to do business with the Indiana Department of Revenue. This system blends traditional and automated approaches to providing services to taxpayers, adding functionality such as five methods for filing returns electronically, three methods of making a payment electronically, and direct deposit of refunds. Options are described as follows.

- **Internet filing** allows taxpayers to send the data directly to the department or print a return with a barcode for filing by mail.

- **Electronic filing with federal tax return** allows taxpayers to file their returns with the department through professional tax preparers.

- **TeleFile** allows taxpayers to file simple returns by telephone.

- **Two-dimensional barcode filing** allows taxpayers using tax preparation software to generate two-dimensional barcodes containing demographic and financial data on tax forms and associated schedules for filing by mail. Once received by the department, the two-dimensional barcode on the form can be simply scanned, eliminating data entry and reducing processing time and cost.

- **Voice response inquiry** allows taxpayers to quickly check the status of their return 24 hours per day.

- **Credit card payment** allows taxpayers to make tax payments by credit card for both electronic and paper income tax returns.

- **eCheck** allows taxpayers to make tax payments quickly and easily 24 hours per day.

- **Direct deposit** allows taxpayers to have tax refunds deposited directly into their bank accounts.

- **Electronic Data Interchange** (EDI) and **Electronic Funds Transfer** (EFT) allows taxpayers to file business tax returns and remit tax payments via a software program developed by the department.

By creatively applying emerging technology to the revenue industry, the department has responded to taxpayer needs for efficient and convenient communications.

The goal of the project was to increase electronic filing and voluntary compliance by making interactions with the department convenient, efficient and comprehensive. In addition, the department initially projected annual tangible benefits in excess of $17 million.

The department also worked with an Internet bank in the development of a true electronic check that eliminates the need for a paper check. In addition, the department worked out an arrangement with the Indiana Family and Social Services Administration to allow a tax refund to be credited to a filer's electronic transfer of benefits card known as the Indiana Works Card.

Reason for Automating Through E-Government

After evaluating business operations, the department determined that outdated and limited processing systems, paper intensive information flow, and inaccessible data had disconnected it from taxpayers and obscured its mission and commitment to customer service. To reconnect the department to its customers, far-reaching technological and operational changes needed to be implemented. The department launched an initiative to integrate emerging information technologies as a vehicle to refocus its approach, re-invent customer service, and create the revenue agency of the future.

The Indiana Department of Revenue receives over 2.9 million individual tax returns each year. Approximately 1 million returns are received in the week prior to the income tax deadline. In 1996, 88 percent of the individual tax returns were paper returns, more than 56 percent prepared using a computer. This showed that taxpayers were adopting technology at a rate faster that the department was providing suitable channels for them to file. Paper returns require staff members to key punch the information into a computer. It takes approximately four and a half hours to keypunch and correct a batch of 90 returns, a process that is not just time consuming, but which introduces possibilities for human error. By utilizing an innovative two-dimensional bar code and electronic filing method, the need for manual keyboard entry is minimized.

In addition, taxpayers in Indiana were beginning to demand the electronic service similar to those they were receiving from private sector companies.

Discoveries During Implementation

The most interesting discovery was the link between providing better customer service and revenue maximization and cost avoidance within the department. Although the primary focus initially was to provide better customer service, as the department began to measure the results, it was clear that the impact on revenue maximization and cost avoidance was staggering.

Another discovery was that 44 percent of the Internet transactions occur outside of normal business hours. This indicated that customers are taking advantage of the service 24 x7.

Hurdles to Success

The most important obstacles to the system's success were in the areas of training technical and user staff, obtaining the necessary technical resources, and developing partnerships with software companies.

- **Training Users With No PC Skills**: The department underestimated the learning curve associated with transitioning from a mainframe to a client/server processing environment. Many of the department's personnel had little or no PC skills and had to be trained in using the Windows operating system and applications.

- **Resources and Expertise**: To implement planned strategies toward the use of new technology, the department recognized that existing mainframe technology and skills had to be completely transformed, and that it could not accomplish this major change on its own. Thus, the department selected Accenture to assist in creating the revenue agency of the future. Accenture provided the technology and functional expertise in integrated tax systems and client/server technology.

- **Convincing Software Companies To Partner With The Department**: In August 1998, representatives from the department, Accenture, and Symbol Technology attended the FTA Technology Conference and the NACTP Annual Meetings to discuss the inclusion of the two-dimensional bar-coding into tax preparation software packages. Software companies had to buy into this program for it to be successful. Since the initial success, many additional companies have joined.

Project Timetable

In 1996, the department aggressively implemented the technology and increased electronic filing and direct deposits. Data shows that 2.9 million taxpayers in Indiana have migrated from 88 percent paper in 1998, to 42 percent paper (keypunch) in 2002.

Project Outcome

The results are staggering as electronic filing has increased by an average of 11 percent each year. The department has documented a number of revenue enhancements and cost savings directly attributable to the implementation of the Integrated Tax Filing System. These include the following:

- **Faster Processing at Reduced Cost**: Introduction of the new electronic filing methods has not only sped up the time to refund the taxpayer, it has also greatly reduced the costs of processing a tax return from $1.60 to $.02, saving millions of dollars each year.

- **Faster Issue Resolution**: The new system has empowered frontline workers in the department with the data and tools they need to resolve the taxpayer issues on first contact, regardless of whether that contact is by letter, walk-in, e-mail, or phone. By resolving taxpayer issues sooner, the department is saving the taxpayer time, as well as eliminating the need for follow up letters, calls, e-mails and visits.

- **Elimination of Costs Associated with Paper**: Direct deposit refunds have increased steadily each year to a total of 640,000 this year. The introduction of direct deposit has had the effect of not only getting the refund money into the taxpayers hands sooner, but has saved the department over $50,000 per year by eliminated handling and mailing costs.

- **Increased Revenue:** To date the department has documented over $400,000,000 in increased revenue and reduced costs attributable to implementing the new system.

All citizens of the state of Indiana have benefited in some way from the Integrated Returns Processing System. Of course, taxpayers benefit mostly from lower cost and more helpful government operations. The legislature and budget agency benefit from the additional statistical information available. Professional accountants and other tax practitioners benefit from real-time corrections, faster turnaround in the posting of returns, fewer errors, faster refund generation, and the department's ability to move payments or correct errors faster.

The department's efforts to understand customer needs and improve overall operations have not gone unnoticed. For example, the following comments have been made about the department by the Indiana Taxpayer Advocate and H&R Block respectively:

> *"The Department of Revenue has taken an exciting new approach with the taxpayers as demonstrated by their willingness to communicate with them in innovative and convenient ways."*
>
> *" Your office was truly a full service assistance to the tax payer!—more so than the previous year! Your ability to access and deal with past year as well as current year returns allowed for much less stress from my vantage point. I am also certain that my clients also appreciated your swift and persistent action."*

The Integrated Returns Processing System has fundamentally changed the way the department serves taxpayers. Processes that were performed manually and tasks that were once cumbersome are now automated and focused on helping department personnel assist taxpayers.

Measuring Results

The department established baselines prior to the implementation of the new technology. As part of this process, the department identified areas in which revenue could be enhanced and/or cost reduced, as well as have an impact on customer satisfaction. The project retained this benefit focus throughout so that the project was achieving and exceeding the benefits that had been outlined. The following chart summarizes some of the revenue maximization and cost avoidance dollars that have been realized by the project:

	Benefit Category	Baseline	Actual ('97-'03)	Gain
State Offsets	Revenue Maximization	$ 15,344,040	$ 35,110,722	$ 19,766,682
IND Calculation Error Billings	Revenue Maximization	36,993,758	140,266,775	103,273,017
COR Calculation Error Billings	Revenue Maximization	6,564	173,289,101	173,282,537
Trust Calculation Error Billings	Revenue Maximization	4,346,735	158,343,161	153,996,426
Direct Deposits	Cost Avoidance	317,211	-	317,211
Federal Refund Offsets	Revenue Maximization	-	24,206,059.00	24,206,059
2D Barcode	Cost Avoidance	3,175,387	297,692	2,877,695
Increase Electronic Filing	Cost Avoidance	2,388,910	23,889	2,359,049
In-house Printing	Cost Avoidance	5,625,000	-	5,625,000
Faster Processing of Estimated Payments	Revenue Maximization		1,380,822	1,380,822
Grand Total Revenue Maximization and Cost Avoidance				$ 485,703,676

Partnerships/Collaborations

The Internal Revenue Service (IRS) is among the most important partners. A taxpayer has the opportunity to file both a federal return and a state return under a combined filing program. The IRS has also worked with the department to introduce TeleFile, and to intercept federal refunds for taxpayers that owe Indiana taxes. This program has increased revenue by more than $24 million in the last two years.

Another partner is Accenture, who has worked with the department in utilizing technology to transform the department's interactions with the taxpayer.

During the development of the two-dimensional barcode system, partners included Symbol Technology (who provided the hardware and software), H&R Block, Creative Solutions, the National Association of Computerized Tax Professionals (NACTP), and Access Indiana (which implemented the technology for its customers).

The Federation of Tax Administrators (FTA) brought together all of the groups listed above, as well as representatives from many state and local governmental agencies, software vendors, and anyone else who had an interest in providing uniformity in the bar coding project.

Can Other Governments Replicate This Project?

Twenty-three other state revenue departments are now using the two-dimensional barcode system developed by the Indiana Department of Revenue. These include several large states such as New York, Illinois and Michigan. In 2002, across the nation, states processed over six million barcode returns. This compares with 132,000 barcode returns processed in 1998 when Indiana was the first and only state using the barcode system. The IRS is adopting the Indiana two-dimensional barcode system for two of its forms.

In addition, the underlying system that enables the adaptation of these technologies has been purchased and is in the process of being implemented in the states of Arizona and Connecticut, and by the nation of Malaysia.

The department freely shares information with other revenue agencies and frequently hosts visits. In addition, the department has been asked to present their solutions at tax conventions such as those put on by the FTA and the NACTP.

C-2. Tax and Revenue: VATAX Partnership Project

Government Organization: Virginia Department of Taxation
Respondent's Name: L. Farley Beaton, Jr.
Title: Executive Commissioner for Technology
E-mail Address: fbeaton@tax.state.va.us
Telephone Number: (804) 786-1715

The Department of Taxation (TAX) and American Management Systems (AMS) are engaged in a six-year reengineering initiative that enables TAX to deliver better service to its customers. Called the "Partnership Project," this initiative is not a system, but rather a benefits-funded program that includes over 20 large information technology projects. The Partnership Project introduced entirely new customer services, taxpayer compliance initiatives, new filing channels, a complete modernization of all technology platforms, as well as significant organizational improvements and operational efficiencies.

The Partnership Project is an example of a true "end-to-end" digital-government model that realizes the possibilities for transformation afforded by modern technologies. By using the full range of digital technologies — Internet, imaging and automated data capture, telephony and customer relation management (CRM) — constituent expectations of timeliness, quality and efficiency are met and customer service is raised to a new level.

The Partnership Project Web-enabled the agency and expanded service delivery. Using VATAX Online, taxpayers can file and pay their taxes, register their business, establish payment plans, and access their account history. The project has enabled a "self-service" tax arena and ensures that TAX is strategically positioned for the true citizen-centric, digital-government revolution.

The Partnership Project, however, is much broader than just e-government. The Partnership Project is comprised of over 20 large IT projects spanning a wide range of initiatives, including:

E-Government
iFile for Businesses
iFile for Individuals
iReg (Business Registration)
Policy Library
Secure Messaging
Electronic Payments
Telefile (Return Filing)
Teleplan (Payment Plans)

Compliance
Compliance Repository
Audit Selection

Infrastructure
Auditor Productivity Tools
Automated Collections System
Automated Delinquent Account
Risk Analysis

Customer Relationship Management
Siebel Call Center
Telephony Integration
Imaging Integration
Single View of Customer
Case Management

Channel
Imaging (OCR/ICR)
Remittance Processing
Lifeworks Data Entry System

LAN/WAN Replacement
Agency-wide Lotus Notes
Remote Connectivity
Print Shop
Disaster Recovery

Reason for Automating Through E-Government

TAX recognized the need to improve services. Increasingly, complex tax laws, a growing taxpayer base, demands for better customer service, staff reductions, budget cuts, aging equipment, and outmoded technology presented monumental challenges. TAX was faced with the realization that it would be unable to provide adequate customer service or meet demands for new services without major changes in our business processes and modernization of our technology platform.

TAX is the largest revenue source within the commonwealth, generating $9.4 billion annually to fund government services. There were concerns over the stability of this revenue source. A 1993 audit criticized TAX for not having a plan for replacing outdated technology. In fact, much of the equipment utilized by TAX to process millions of returns and payments annually was obsolete and beyond repair, including tools essential to the core mission like those supporting data capture, remittance processing,

document storage, and mail opening. Operational efficiency was further limited by TAX's reliance on processing paper documents.

The technology infrastructure at TAX had aged and was inflexible. TAX's software systems had themselves become an obstacle to routine maintenance and meeting customer expectations. Recruiting and retaining information technology professionals was difficult. TAX had made only minimal gains at providing commonly expected tools, like e-mail and Internet services.

While the need to modernize was recognized, funding for technology projects was not a priority during the recession of the mid-1990s. If TAX were to improve its technology environment, it would be without a traditional funding source.

At a basic level, the quantitative analysis was simple. The Partnership Project would infuse TAX with desperately needed process improvements and enabling technology tools at no cost to the taxpayer. Once paid for, additional revenue estimated to be $55-60 million would be available annually to fund other needs within the commonwealth.

Discoveries During Implementation

The benefits-funded structure provided the opportunity to make business decisions on initiatives even if they were not envisioned when the contract was executed. This flexibility was critical in making sure that project managers did not miss major opportunities to improve services that surfaced during the multi-year period of the contract.

During the development of the agency's *Vision for the Future*, it was discovered that leveraging the growth and potential of the Internet could favorably affect all aspects of TAX's operations. In order to make this vision a reality, TAX developed an e-government strategy and phased approach, dividing the projects into small parts that could be performed quickly and continually, each allowing TAX to learn from the previous effort and each application building on the other.

TAX learned that the e-government improvements in customer service could occur without waiting until the legacy system was replaced. These applications are initially connected to the legacy system and later integrated with the new replacement system without major rework. The strategy proved to be successful by providing for the implementation of multiple customer-facing applications early in the modernization effort. Today that strategy is paying off with improved operations and better customer satisfaction.

Other discoveries include:

- Usability is key; poor usability will result in poor usage.
- Users are willing to comment on their experience if given the chance (through online surveys).
- Performance is critical; the systems must support the highest anticipated load (i.e. filing due date) easily.
- A pilot for a small segment of the population is key. Collect feedback and improve the application accordingly before opening to the rest of the public. Provide a more complete solution with each iteration, while remaining focused on the user's needs.

Hurdles to Success

Even though the various components of the VATAX Online suite of e-government applications are highly successful as measured by reduced processing costs, increased use (i.e., through the increasing number of accesses and usage) and improved customer satisfaction (i.e. as documented in the VATAX electronic survey results), these efforts were not without challenges.

Problem: Staffing the individual projects with the appropriate business staff to complement and guide the technical staff.
Solution: Rapid prototyping allowed for the efficient use of business resources at key stages of a project including developing the vision and design and testing the application.

Problem: Difficult to anticipate usage as applications build on one another, demand increases, and applications gain exposure by potential users.
Solution: Built a framework of hardware and software that was scalable. For example, during one filing season, demand increased so additional servers were inserted rapidly.

Problem: It was difficult to perform routine maintenance on applications or to implement new releases because the usage was spread throughout the day, 24x7, and there were few opportunities to bring the system down for maintenance or changes.
Solution: Carefully monitored usage to minimize impact on users and required our technical staff to implement during early morning off-hours.

Problem: The implementation of these solutions with connections to other production systems is not simple. This requires talented staff with an understanding of the underlying technical infrastructure and business aspects of the solution.

Solution: Knowledge transfer from AMS to TAX was critical for the continued growth of our electronic applications. TAX participated in every phase of the life cycle and increasingly took on more and more responsibility to the point where TAX now has responsibility for continued development and maintenance.

Project Timetable

The Partnership Project began in July 1998. Since that time, new technology tools and systems have been rolled out in a phased approach that resulted in almost immediate gains for both employees and the citizens of the Commonwealth. TAX strategically chose to replace back-end systems last, as they were largely transparent to the customers. Customer-facing applications that provided new or improved services received the highest priority.

Project Outcome

The program is self-funded and generated $159.3 million in revenue, exceeding expectations by 30 percent.

Internet applications benefits:

- 42,000 iFile for business users, resulting in $490 million in payments.
- 226,000 taxpayers used iFile for individuals to file their taxes.
- 33,000 new businesses registered using iReg, representing 50 percent of the daily volume.
- TAX and the Virginia Employment Commission (VEC) partnered to provide single access point to register with or pay either agency.
- 14,000 secure messages received from customers; 95 percent receive a secure reply within two business days.
- 300,000 documents viewed online by customers using the policy library.
- 452,000 returns filed through Telefile.

The Total Automated Capture System (TACS) includes return and correspondence processing utilizing advanced recognition technology. TAX is one of the first state revenue agencies to process 2D barcodes at track scanning speeds.

- 5,000,000 documents have been imaged.
- Online access to returns and correspondence allows questions to be resolved in one phone call.
- Errors requiring manual review reduced by one-third.

The CRM solution captured and categorized 330,000 customer contacts. By tracking the contact purpose, it is now possible to predict inbound contacts based on outbound notices.
The collections system resulted in:

- 17,000 self-service pay plans established via Teleplan.
- 650,000 collection and legal action letters issued.
- 633,000 active collection cases are being handled by the system.
- 1.1 million collection case related payments totaling $346 million received.

Advanced remittance technology, electronic key-from-image workflow, and character recognition software improved the process and speed of preparing checks for deposit, reducing manual keying by 20 percent. Remote employee access to all systems allowed TAX to close eight of nine district offices.

Measuring Results

There are a variety of measurement mechanisms in place for the range of initiatives included in the Partnership Project. While the nature of the mechanism varies from initiative to initiative, all measures are designed to quantify results associated with the objectives for the project (meet demands for service, increase voluntary compliance, preserve the commonwealth's revenue system, and improve operational effectiveness). The following examples, while not all-inclusive, demonstrate the impact of this effort.

e-Government
iFile for Individuals
Usage up 43% in most recent filing season
171,250 users responded to online survey
98% found iFile easy to use
99% would use iFile again
Error rates 8% lower than paper returns
Eliminated 226,630 paper returns

iFile for Businesses
Usage up 162% compared to previous twelve months
Over 2,660 users responded to online survey
99% will use iFile for some or all future filings
Eliminated 117,909 paper returns

iReg
Usage accounts for over 50% of all registrations
1,308 users responded to online survey
94% found iReg easy to use
97% would recommend iReg to other businesses
Eliminated 33,855 paper registration forms

Teleplan
Usage up 39% compared to last year

Over $20 million in payment plans established
Default rate 34% lower than traditional payment arrangements
Saved 3,400 man-hours

Channel
Electronic filings up 100% over last two years
Imaged returns up 29% over previous year
Total returns processed up 13% over previous filing season
94% of refunds issued in less than 12 days
Returns requiring manual review down one-third
Peak period temporary staffing down 30%
Peak period payment deposit time reduced 38%
Annual refund interest expense reduced 25%
Customer Relationship Management
Correspondence backlog reduced from 55,000 to total pending inventory of 7,000

Compliance
$159 million in new revenue generated while staffing generally declined
10% increase in auditor productivity

Partnerships/Collaborations

In July 1998, TAX and AMS entered into a six-year partnership that is one of the largest public/private partnership programs in the country. Virginia and AMS are using a proven, partnership approach known as "benefits funding" to cover the project costs. Under this model, the contract was initially funded by AMS, which in turn is compensated as incremental tax revenues associated with innovations are achieved. The funding strategy includes implementation of "Fast Track" initiatives to create an early stream of benefits. Since the partnership was first initiated in July 1998, $159 million in additional tax revenue has been collected from project initiatives and used to offset project costs.

The objectives of the Partnership Project are to help the department deliver better service to its clients and to support the commonwealth's commitment to advancing electronic government. This program has provided a foundation for TAX to enhance performance and service in such a way as to advance the development and implementation of digital government, thus moving Virginia into an attractive place to conduct business in the new global digital economy.

Can Other Governments Replicate This Project?

TAX's benefits-funded model and phased implementation approach are replicable. TAX provided the partnership contract and benefits-funded concepts to over a dozen organizations, many visiting TAX onsite. Four states passed statutes authorizing this type of project, doubling the number of states where this approach can be used to modernize systems. This model allows governments to fund innovation and modernization.

The Partnership Project has been the recipient of:

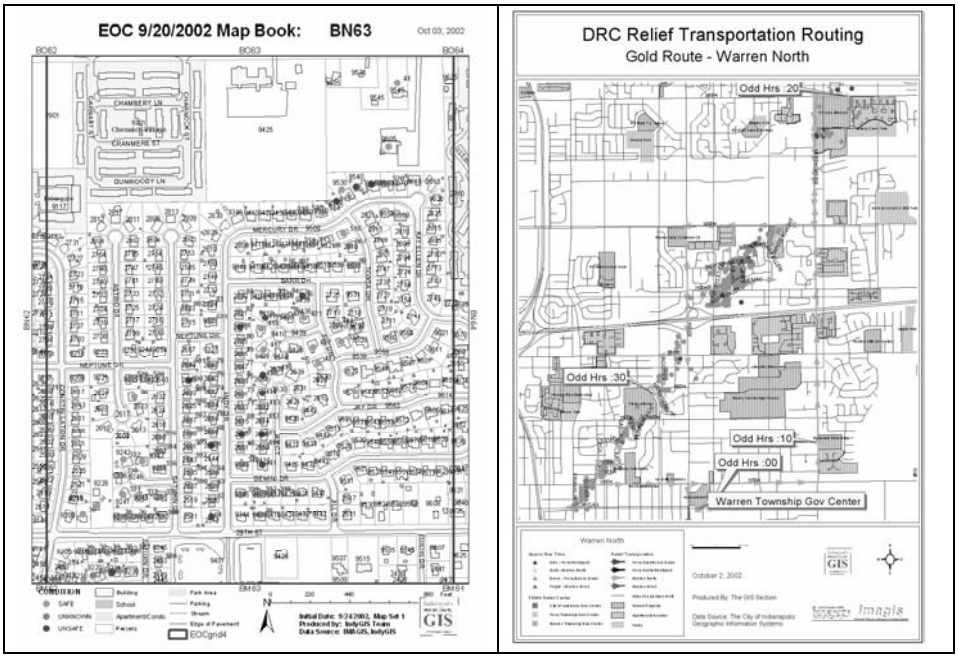
- 2001 Federation of Tax Administrators Award for Management and Organizational Initiative in State Tax Administration
- National Association of State Chief Information Officers 2001 Recognition Award for Outstanding Achievement in Information Technology
- Semifinalist - Innovations in Government Award from the John F. Kennedy School of Government at Harvard University
- The Council of State Governments Eagle e-Government Award of Excellence for recognizing the TAX Web site as one of the best executive branch Web sites in all of state government
- Governor's 2002 Technology Award for Public/Private Partnerships

D. Homeland Defense and Public Security: Indianapolis GIS Tornado Response System

Government Organization: Indianapolis/Marion County
Respondent's Name: Jennifer Ruby
Title: Senior Planner
E-mail Address: jruby@indygov.org
Telephone Number: (317) 327-5696

The system was created to address a county-wide emergency due to tornado damage and to get the appropriate relief for the county and its citizens. The objectives were to build the database, aid in the collection and verification of data and aid in tracking the mitigation efforts of local, state and federal governments and non-profit organizations.

ESRI's Global Information System (GIS) software – ArcGIS 8.2 – was used for data collection, mapping and grid creation. The tornado response information was posted to the city/county Web site (www.IndyGov.org) using the existing ArcIMS applications and creating unique map services for the tornado event. Data was entered into an Access database and linked to the map book number.



Above are two examples of the tornado response maps. The map on the left shows storm damage, with each structure noting safety condition by color codes. The map on the right depicts the storm track in relation to emergency bus transportation routes and the locations of offices accepting applications for assistance.

Maps were distributed in various forms. The EOC used a combination of poster-sized maps, map sets bound in notebooks and electronic maps available via CD-ROM in PDF and TIFF formats. Field inspectors primarily used the bound map sets. The public could access maps at IndyGov.org.

EOC 9/20/2002 Property Damage Inventory by Grid Map

ID/Map	Address	Building	Damage	Assessment	Estimate	Condition	Comments
588	2510 SATURN DR	SFR	ROOF/REAR PORCH	MAJOR	$8,000	SAFE	
590	2527 SATURN DR	SFR	ROOF/DECKING/DOOR	MINOR	$6,000	SAFE	
591	2535 SATURN DR	SFR	ROOF/N WALL/	MAJOR	$18,000	SAFE	
592	2543 SATURN DR	SFR	ROOF/SIDING/WINDOW	MAJOR	$12,000	SAFE	
593	2601 SATURN DR	SFR	ROOF/DECKING/RAFT	MAJOR	$18,000	SAFE	
594	2602 SATURN DR	SFR	ROOF/GUTTERS	MAJOR	$10,000	SAFE	
595	2609 SATURN DR	SFR	ROOF/DECK/SIDING	MAJOR	$28,000	SAFE	
596	2610 SATURN DR	SFR	ROOF/DECK	MINOR	$5,000	SAFE	
597	2617 SATURN DR	SFR	ROOF/DECK/INTER	MAJOR	$35,000	SAFE	
598	2625 SATURN DR	SFR	ROOF/GUTTERS	MINOR	$6,000	SAFE	
599	2633 SATURN DR	SFR	ROOF/GUTTERS	MINOR	$6,000	SAFE	
600	2643 SATURN DR	SFR	UPPER STRUCT GONE	DESTROY	$80,000	UNSAFE	POSTED
601	2649 SATURN DR	SFR	ROOF/DECK/DOORS	MAJOR	$12,000	SAFE	
602	2723 SATURN DR	SFR	ROOF/DECK	MINOR	$5,000	SAFE	
652	9216 STARDUST Dr	SFR	ROOF/SIDING/WINDOW	MAJOR	$20,000	SAFE	
653	9220 STARDUST Dr	SFR	ROOF/GUTT/STRUC	MAJOR	$30,000	SAFE	
654	9224 STARDUST Dr	SFR	TOTAL ROOF/OUTER	MAJOR	$60,000	UNSAFE	TOTAL ROOF SYSTEM
667	2810 TODDA DR	SFR	ROOF/SIDING	MINOR	$5,000	SAFE	
721	2910 WHITE KNIGHT BLVD	APT-8-UNITS	ROOF & STRUCT	MINOR	$10,000	SAFE	COUNTRY LAKE TWNHMS
	Grid Map ID: BN64						
118	2817 BLACK KNIGHT BLVD	APT-8-UNITS	ROOF & STRUCT	MINOR	$20,000	SAFE	COUNTRY LAKE TWNHMS
119	2829 BLACK KNIGHT BLVD	APT-8-UNITS	ROOF & STRUCT	MINOR	$20,000	SAFE	COUNTRY LAKE TWNHMS
120	2903 BLACK KNIGHT BLVD	APT-8-UNITS	ROOF & STRUCT	MINOR	$20,000	SAFE	COUNTRY LAKE TWNHMS
121	2932 BLACK KNIGHT BLVD	APT-8-UNITS	ROOF & STRUCT	MINOR	$30,000	SAFE	COUNTRY LAKE TWNHMS
196	9661 CHIVALRY CT	APT-8-UNITS	ROOF & STRUCT	MINOR	$30,000	SAFE	COUNTRY LAKE TWNHMS
197	9705 CHIVALRY CT	APT-8-UNITS	ROOF & STRUCT	MINOR	$30,000	SAFE	COUNTRY LAKE TWNHMS
722	2931 WHITE KNIGHT BLVD	APT -8-UNITS	ROOF & STRUCT	MINOR	$30,000	SAFE	COUNTRY LAKE TWNHMS
	Grid Map ID: BP64						
43	10101 E 38th St	SCHOOL	ROOF/BUSES/CARS	MAJOR	1,000,000	SAFE	John Marshall Middle School
49	10003 JOHN MARSHALL DR N	APT-MULTI/SFR	40% DEMOLISHED	MAJOR	$400,000	UNSAFE	AMBER WOODS
50	10017 JOHN MARSHALL DR N	APT-MULTI/SFR	WINDOWS	MINOR	$10,000	SAFE	AMBER WOODS
51	10035 JOHN MARSHALL DR N	APT-MULTI/SFR	20% DEMOLISHED	MINOR	$400,000	SAFE	AMBER WOODS
52	10039 JOHN MARSHALL DR N	APT-MULTI/SFR	75% DEMOLISHED	DESTROY	$900,000	UNSAFE	AMBER WOODS
	Grid Map ID: BP65						
44	10302 E 38TH ST	CHURCH	DEMOLISHED	DESTROY	2,000,000	UNSAFE	ROCK OF FAITH CHURCH
58	10256 JOHN JAY DR	APT-MULTI/SFR	MINOR ROOF	MINOR	$1,000	SAFE	AMBER WOODS
53	10057 JOHN MARSHALL DR N	APT-MULTI/SFR	60% DEMOLISHED	DESTROY	$700,000	UNSAFE	AMBER WOODS
54	10061 JOHN MARSHALL DR N	APT-MULTI/SFR	WINDOWS	MINOR	$10,000	SAFE	AMBER WOODS

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The above report is an example of the data collected and distributed to the Federal Emergency Management Agency (FEMA) along with the map books.

Reason for Automating Through E-Government

On September 20, 2002, a series of tornados, some as powerful as F3, struck 32 counties in Indiana. There were no fatalities, but thousands of buildings and trees, and hundreds of power poles were damaged. Two high-voltage transmission towers were destroyed in Marion County, leaving 70,000 homes without electricity. More than 990 buildings in Marion County reported damage.

In Indianapolis, an emergency was declared within hours, starting the processes to open a local EOC, calling in Indiana's State Emergency Management Agency (SEMA) and FEMA. Within three days, there were both state and federal declared emergencies.

A damage database was designed to collect information on the tornado damage and the safety of structures and to support the clean-up efforts. The information was used to estimate costs for FEMA to

declare a disaster. The information was also combined with the emergency bus routes and the emergency assistance offices to support the disaster relief effort.

The city-county GIS team voluntarily showed up at the EOC. They designed the damage database for making the financial estimate needed for FEMA to declare a disaster. The GIS team coordinated the collection of damage reports made by three city departments and two towns outside of the Indianapolis mapping jurisdiction. The team geocoded the damage locations, verified and corrected errors using many sources, including field checking. They created a map grid, printed map sets and created CD-ROMS of PDF versions of the maps for emergency responders. For the public, the team posted the maps to the Internet. The team also created numerous map products to support the clean-up and disaster relief effort.

The use of GIS to effectively manage an emergency event was an innovation for Indianapolis and Marion County.

Discoveries During Implementation

- **Simple solutions sometimes provide the best results.** In an emergency, communication and coordination are most important. GIS was instrumental in assisting in clear and consistent communication and coordination. The GIS team was able to provide consistent and accurate information to multiple agencies simultaneously.

- **Emergency preparedness table-top exercises proved to be extremely valuable** for planning and most notably in developing the relationship and rapport between the GIS and emergency management staff.

Hurdles to Success

Initially, coordinating data flow was difficult. The system was put in place for displaying the information, but not for collecting information from the field. A consistent standard for data collection needed to be developed. This was accomplished by creating a format for required information in an Excel spreadsheet that the building inspectors and field crews used to supply data to the GIS team.

Project Timetable

Although GIS had participated in emergency preparedness tabletop exercises, the problem was a storm event and the solutions were created on the fly. Since this was the first operation of its kind in Marion

County, the project was initiated with the natural disaster and the solution was formulated by a team effort in the days following the event. The GIS team had been planning and coordinating with the EOC for almost a year (specifically following the events of 9/11) in anticipation for such an event.

Project Outcome

- **The effort assisted local emergency management, public safety, public transit, public works, and field inspectors do their jobs more safely and effectively.** Within one calendar day, the GIS team created a spreadsheet format for addresses, street intersections, extent of damage, value of damage, etc. One day after the event, GIS staff began creating basemap sets for the EOC and field crews. Within three calendar days, storm track and damage maps were made available. One week after the event, the storm track and special aid bus routes to disaster relief centers were posted to the Internet for public viewing.

- **FEMA and nonprofit agencies, such as the Red Cross, which came from out-of-state to assist, were able to determine priorities for which facilities and locations needed their resources.** The FEMA team leaders commented that this was the best GIS response they had ever seen.

Measuring Results

Results are measured by the speed with which Indianapolis and Marion County were able to respond to immediate and longer-term issues associated with the damage and to receive financial relief from SEMA and FEMA. The city and county were able to recover $1.9 million that was spent on the recovery effort. GIS assisted in the disaster declaration, and created hundreds of maps and dozens of map books for FEMA, SEMA, the Red Cross, and various city departments to support the relief effort. Maps were posted to the Internet to assist residents with their transportation needs to designated relief centers in affected areas of the city. GIS made the coordination between these departments and agencies run more smoothly. They were able to share information quickly, allowing decision makers to more effectively perform their duties. The speed of the recovery saved time and money for all those involved.

Partnerships/Collaborations

The GIS team coordinated the collection of damage reports made by three city departments (Department of Metropolitan Development, Department of Public Works, and Department of Parks and Recreation) and two towns (Beech Grove and Lawrence) outside of the Indianapolis mapping jurisdiction. The GIS team also shared information to coordinate efforts with SEMA, FEMA and the emergency assistance offices.

Can Other Governments Replicate This Project?

Although this effort was done only for Indianapolis/Marion County, any city or county throughout the state and country could use it. The response effort provides a model for how local governments provide information to FEMA and how emergency response agencies recover from a disaster, such as a tornado, flood or other natural or man-made catastrophe.

E. Human Resources: Virginia Online Unemployment Claims Filing

Government Organization: State of Virginia
Respondent's Name: Coleman Walsh
Title: Acting Assistant Commissioner for Field Operations
E-mail Address: cwalsh@vec.state.va.us

In order to relieve local field offices from the increasing staffing and cost burden of receiving manual unemployment insurance claims, as well as to provide unemployed workers a more convenient way to file claims, the Virginia Employment Commission (VEC) launched an online claims filing service in May of 2002. The online service features a seamless integration of intuitive Web screens that the filer must complete and the administrative application through which the VEC staff process the unemployment claims. Most importantly, the online service includes safeguards to help prevent the filing of fraudulent claims while still providing users the convenience of online filing.

The service has been an unqualified success and resulted in cost savings benefits to the state agency as well as the claimants who use the system. Via a Web-based application, unemployed workers may submit their initial and follow-up claims 24x7.

Reason for Automating Through E-Government

- **Unemployed workers were losing millions of dollars annually by spending more than two hours on average in filing their claims manually.** Workers were only able to submit claims for unemployment insurance benefits by traveling to VEC field offices and manually completing claims forms. Filers often endured long waits causing frustration at spending time filing claims forms instead of searching for another job. Customer satisfaction surveys for the online service documented more than 4,500 filers that would not have submitted an unemployment claim but for the availability of the online service. In one of those survey responses, a single mother of several children indicated that

she would not have been able to get her family to a field office in order to submit a claim but was able to use the online service from home.

- **VEC needed to respond to increasing demands on the staff responsible for manually taking and processing the unemployment claims**. The VEC has a central office in downtown Richmond and 39 local field offices throughout Virginia. The agency employs approximately 1400 full- and part-time people, about 500 of which are assigned to UI benefits processing. The VEC will process more than 450,000 unemployment claims in 2003. The severe, negative impact of the September 11, 2001 terrorist events on Virginia's economy, particularly in the northern Virginia area where the Pentagon was attacked, only served to magnify the time burden of the filing process on the staff.

  The VEC staff identified a Web-based unemployment claims filing service as the solution in order to address the two issues identified above. The staff reached that conclusion after reviewing the regulatory requirements (including federal and state laws) for submitting initial unemployment claims and determining what types of claimants would be able to use an automated process. The staff also focused on security and authentication issues, with a particular concern about the potential for fraudulent online claims filings.

  In order to address the fraudulent claims filing issue by better authenticating the potential online claims filers, the VEC integrated its online service with state and federal government entities. First, the VEC partnered with the Virginia Department of Motor Vehicles (DMV) in order to interface with DMV's driver database. That interface provided a real-time confirmation of the online filer's identity. The VEC also interfaces with the database of occupations maintained by the U.S. Department of Labor, Employment and Training Administration and the service requires the user to select the job title from that database of the last work position held.

Discoveries During Implementation

The VEC was surprised by the overwhelming usage of the online service. Of all initial claims filed with the VEC monthly, almost 20 percent of those claims are now filed online. That percentage represents more than 36,000 online claims for 2003 so far.

User satisfaction with the online service also has been overwhelmingly positive. The online service includes a user survey that asks filers several questions about their satisfaction with the Web-based filing process. Of the online filers, 95 percent rated the application's ease of use and convenience as either "excellent" or "good" in the survey.

Hurdles to Success

During the development of the claims filing service, the staff identified two additional user filing needs that were not part of the initial project. First, the staff recognized the need for a Spanish version of the service in order to serve the large Hispanic population in Virginia. Second, the staff determined that online filers also needed the capability to submit their continuing claims filing information electronically. Both of those features are now available with the online service through enhancements.

Project Timetable

The VEC initially identified the need for the online service more than three years ago. In January of 2002, the VEC staff met with staff of the Virginia Information Providers Network (VIPNet) to outline the filing forms and business processes that needed to be Web-enabled. VIPNet is a state entity that assists other Virginia government entities in providing information and services via the Internet. The VEC launched the online service in May of 2002, including the Spanish version. In June of 2003, the VEC added the continuing claims filing capability.

Project Outcome

The Web-based unemployment claims filing service is providing unemployed workers a more convenient way to file their claims while improving the efficiency of the VEC staff in processing those claims. The online filings are freeing up the VEC field staff to be able to spend their time with claimants who need in-person assistance with their claims or in finding new employment.

Measuring Results

The VEC has quantified two significant cost savings.

- **The agency has shown a reduction in staff time required to process the unemployment claims** as unemployed workers use the automated service in lieu of visiting a local VEC office and submitting their claim information through a staff person. That time savings equated to more than $270,000 annually based on the associated labor costs.

- **The VEC has also quantified a cost savings for the claimants who file online.** Those unemployed workers are able to save an average of more than two and half hours of travel, wait, and

filing time. By factoring that time savings with average worker wage rates, the online claimants are saving more than $2 million annually.

Those current cost savings are based on initial service adoption rates of ten percent of all claims. As online filings now approach and exceed 20 percent of all filings, those savings will continue to increase.

Partnerships/Collaborations

The VEC partnered with the following entities:

- The Virginia Information Providers Network (VIPNet) – Web development
- The Virginia Department of Motor Vehicles (DMV) – user authentication via DMV's customer database
- The U.S. Department of Labor, Employment and Training Administration – job codes database interface

Can Other Governments Replicate This Project?

All states accept and process unemployment claims filings in accordance with the requirements of the U.S. Department of Labor. Thus, the business processes and forms that must be Web-enabled are very similar from state to state. The programming services provided by VIPNet are available from similar entities in other states and can be funded through Department of Labor grants to the state employment commissions for unemployment services projects. The VEC developed the initial claims filing service, including the continuing claims and administrative features, for a total of $449,000.

F. General Government: Earnings Statements on the Web

Government Organization: Chief Financial Officer, FL Dept of Financial Services
Respondent's Name: John Bennett
Title: Chief, Bureau of State Payrolls
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The Web-based Employee Earnings Statement Project provides all state employees with better and earlier access to their payroll information than previously available. Employees may review their payroll information prior to payday and retrieve prior period earnings information 24 x 7, in a secure environment.

Providing easier and quicker access to this information has reduced the number of inquiries to state personnel and payroll offices, as well as reduced paper usage. The success of this project paves the way to bringing data from the existing legacy computer systems to state employees via the Internet. This project is another example of the many uses of the Internet as a means for disseminating information. Any large company or government entity could distribute their payroll information in this manner.

Prior to this project, the Florida Department of Financial Services, Division of Information Systems and Division of Accounting and Auditing produced approximately 350,000 printed earnings statements per month at a monthly cost of about $90,000. A decision was made to develop an improved method of delivering the same information at substantially reduced costs. This was accomplished with the creation of a Web-based employee's earnings statement.

Reason for Automating Through E-Government

There were two primary reasons for the creation of this system. The first was to save cost. In 1998, the state of Florida produced 5,546,970 printed earnings statements for the year. The approximate annual cost to produce and distribute the statements was $1,546,200 per annum.

The second reason for the development of this system was to improve customer service to state employees. It was anticipated that this service would give state employees instant online access to their earnings information.

Discoveries During Implementation

Many meetings were held to discuss and brainstorm the feasibility of the project. During the course of these meetings, an assessment of available human resources was made, as well as an assessment of the existing technological infrastructure. Lastly, the project was evaluated against other projects in order to assign it a priority.

By April 1999, a decision to proceed had been made and the first meetings were begun to discuss project design, timelines and resource allocation. By December 1999, a prototype design had been developed, tested and refined. The project was then introduced as a Beta test in January 2000. The innovations employed in this process involved the use of technology. Specifically, the ability of desktop computers to access content delivered via the Internet. The approach provided a simple and affordable means of access to information of all types. Further, it provided leverage against existing mainframe knowledge, skills and development infrastructure by using the mainframe as a Web server. By innovating in this way,

the project saved time and resources by using the data as it resided in the existing data warehouse, while maintaining the secure environment that the mainframe provided.

Hurdles to Success

Problems encountered were in the areas of design and presentation, Web site navigability and Web site security. The design and presentation problems included online page size, font selection and the application of proper online data submission techniques. Problems with website navigability and website security were closely related in that previously entered data should not remain in the memory cache when the site visitor was no longer at the site.

The design and presentation problems were solved through a process of trial-and-error. Several versions were produced and made available for review by decision makers until an acceptable version was found.

Web site navigability was greatly influenced by web development standards available at the time, as was the security. Special code was written to delete the memory cache so that vital information was no longer viewable. Timers were also added to force a closing of the Web page after five minutes usage.

In addition, it was discovered that the Web site could function differently depending on what web browser was used or how a user's Web browser was configured. In researching current best practices, code and processes were developed that minimized differences among browsers. Code was also developed that would alert the user if the browser they were using was incompatible with the Web site.

Further, from the user standpoint, it was discovered that several state agencies fully supported this system immediately, while other state agencies were reluctant for a variety of reasons. Some of the reasons for reluctance were that some state agencies do not allow employees to have access to the Internet, some agencies have a significant percentage of their employees who do not have access to computers, and several other agencies were simply not ready for the change.

Project Timetable

The project identification began in November 1998. It took about ten months to accomplish planning and development of the new system. In September 1999, the systems testing began and lasted approximately four months. In January 2000, the project was introduced for beta testing. In May 2000, beta testing was successfully completed and the new system was made available to all state agencies.

Project Outcome

The specific project objectives were the reduction of operating costs associated with the printing and distribution of employee earnings statements for each payroll processed. The goal was the replacement of printed earnings statements with the online version. The solution was the development and implementation of an online repository of employee earnings statements to replace the printed versions.

Once the solution was implemented, the new service gave employees instant access to their earnings information. Now, the day after a payroll is processed (i.e., biweekly or monthly), an employee can view their earnings statement even though the pay date is several days away. This system also provided employees with an electronic, historical archive of the details of payments received.

To date, 18 state agencies have opted to use this new system in lieu of receiving printed earnings statements. The participating agencies have a combined total of 44,435 employees. However, Web site visits total over 143,000 per month. This is because usage of the Web site is not limited to employees of participating state agencies. Phone calls and e-mails indicate that employees from all state agencies are using the Web site on a regular basis. In addition, the Bureau of State Payrolls actively promotes the Web site to employees and state agency personnel as well as payroll officers during the regular course of its business activities.

Measuring Results

The state now produces and distributes 44,435 fewer earnings statements per month. Results are measured in two categories. The first measure is the total number of state agencies that use the new system. For information purposes, the decision-making authority to use the online earnings statement system versus printed earnings statements is the executive management of individual state agencies. In the first month of implementation, two agencies participated. This number has grown to 18 agencies.

The second measure is the total number of earnings statement Web site visits. Total site visits were 437 in the first month this statistic was collected. Currently, earnings statement Web site usage exceeds 143,000 visits per month.

Partnerships/Collaborations

The project would not have been possible without the cooperation of other state agencies. Their acceptance of the project, from premise to actuality was an essential component of success. This project would not have been possible without the partnership of several groups within the Department of

Financial Services. Specifically, the most critical partnership was between the Division of Information Systems and the Division of Accounting and Auditing.

Can Other Governments Replicate This Project?

With the availability of technology, this project should be easy to implement, regardless of the accounting mechanisms used to produce the data. Using standard project development techniques, other governments can easily replicate this project. In fact, several state governments have already made inquires regarding this project. In addition, the technology and expertise needed to implement the project are readily available within most government entities.

Governments contemplating similar projects need to consider the following:

- Targeted Audience
  - Current employees
  - Retired employees
- Project Scope
  - Limited to governmental wages paid
  - Consider including expense reimbursements
  - Is other employee information to be included (e.g., W-4)
- Resources
  - Technical resources
  - Human resources
  - Availability of data
- Project Costs
  - Development costs
  - Implementation costs
  - Maintenance costs

G. Procurement: eVA – the Commonwealth of Virginia's Electronic Procurement System

Government Organization: Division of Purchasing and Supply, Virginia Department of General Services

Respondent's Name: Ron Bell

Title: Director, DPS

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The commonwealth's electronic procurement solution (eVA) is a hosted web based procurement solution that supports the commonwealth's decentralized procurement environment through an electronic procurement portal on the Internet. This portal allows commonwealth entities and vendors to access information needed for conducting business, including solicitations and awards. The portal hosts tools such as central vendor registration, an electronic mall for online buying, Quick Quote (small purchases less than $30,000), and competitive sealed and unsealed bidding and negotiations (purchases $30,000 and above). These tools, combined with a purchasing data warehouse and analytical reporting, enable the commonwealth to leverage its buying power through increased competition and effective negotiations. Through the procurement portal, the commonwealth is able to conduct business in a decentralized manner while capturing the efficiency and effectiveness of a centralized organization. eVA enables commonwealth entities to obtain goods and services easier, faster, and at the best value.

eVA is used by 141 state executive branch agencies, 30 public universities and the Virginia Community College System, 284 local government entities, and three legislative branch organizations. Over 6,086 state employees use the application. Over 12,000 vendors, many with multiple locations, have registered on eVA, regularly accessing the site for bid opportunities, to receive emall orders, and submit bid responses. Although not required, 749 vendors have submited catalogs or have connected their catalog web sites to eVA. Vendor- and eVA-hosted catalogs provide over 4,000,000 items to eVA shoppers, including technology, MRO, vehicles, fuel, services and construction. Since March 2001, eVA has processed over 138,000 orders amounting to over $886 million.

Reason for Automating Through eGovernment

- **The commonwealth has a highly decentralized procurement environment.** The Department of General Services, Division of Purchases and Supply (DGS/DPS) is the commonwealth's central purchasing agency. The Agency Procurement and Surplus Property Manual (APSPM) is published by DGS/DPS under the authority of The Virginia Public Procurement Act (VPPA) Section 2.1-442 of the Code of Virginia. It establishes the policies and procedures to be followed by state agencies and institutions in fulfilling procurement and related logistical responsibilities within their delegated limits. State agencies and institutions have unlimited authority for purchase transactions using statewide term contracts and for the purchase of services. State universities and local governments must follow the VPPA, but are allowed to establish policies and procedures specific to their public body.

- **Neither decentralization nor centralization of procurement activity optimizes the procurement process.** Decentralization ensures that procurement is closer to the customer and thereby increases responsiveness to customer requirements. At the same time, decentralization

frequently promotes inefficiencies and increased costs for those processes that are decentralized but lend themselves to a uniform centralized solution.

- **Due to its decentralized procurement environment, the commonwealth lacks visibility over the approximate $5 billion in procurements transacted annually.** If the commonwealth had this information, procurement patterns could be effectively analyzed to determine how best to leverage the commonwealth's buying power and to obtain the best value for goods and services.

- **eVA's goal is to create a virtual procurement organization that embodies the beneficial aspects of both decentralized and centralized models.** Specifically, eVA:
  - Provides a common face of government to state vendors through a single registration point, one location to see all business opportunities, a single point for the submission of electronic bids, and standardized electronic distribution.
  - Provides a robust data warehouse and analytic reporting capability that provides all purchasing organizations in the Commonwealth with procurement patterns, spend by vendor, last price paid for commodities, and access to all statewide and organization specific contract pricing.
  - Increases competition for individual and statewide procurements.
  - Increases the visibility of small, women-owned, and minority-owned businesses.
  - Reduces the time required to order and receive goods and services.
  - Enables Virginia to succeed by obtaining goods and services easier, faster, and at the best value.

- **eVA addresses all aspects of the materials management process.**
  - Automated requisitioning and associated approvals (entered online by requestors or via an interface from state inventory systems) enables eVA to reach the lowest level of an organization.
  - For requirements that can be sourced using online catalogs the order is immediately transferred to the vendor. For requirements that must be procured the requisition flows into a robust formal procurement module that supports sealed and unsealed bids and proposals, evaluations based on price, best value, or solicitation specific criteria.
  - Once awarded the procurement either generates an electronic catalog available to all eVA users or an individual order that is electronically sent the vendor.
  - Transaction information is aggregated into a data warehouse that provides for Web-based report development and distribution to all or specific eVA buying groups.
  - Once received the good or service may be received online within the eMall and vendor performance may be captured and associated with the solicitation.

In future product phases, payment processing is planned. eVA will receive invoices electronically, match them to receipts, and issue payment authorizations to Virginia's electronic funds transfer application. The surplus of goods and the resale of those goods to either commonwealth entities or back to the vendors will also be supported.

Discoveries During Implementation

The most significant discovery is that the challenge to achieving success is it is not about the technology, it is about changing the culture. The technology exists to accomplish end-to-end procurement and meet all of the business needs. The greatest hurdle is convincing buyers and suppliers of the need to conduct business electronically and to get their buy-in to change the existing process. This issue combined with the age-old issue faced of "not invented here" has become the most significant challenge to Virginia achieving success.

Virginia has met this challenge and overcome it by involving all of the different groups upfront in the design of eVA. This has fostered an ownership for the solution and greater support in changing the procurement process.

Hurdles to Success

- **Government Transition:** Virginia is the only state that limits its governor to one four-year term. eVA was begun under Governor Gilmore's administration. The schedule was aggressive to ensure that the project would be well underway prior to his leaving office in January 2002. eVA was just nine months old when Virginia elected a new governor of a different political party. eVA's executive committee developed a summary and decision brief outlining eVA's potential and frankly discussing the challenges. Prior to the new administration taking office, the team was briefing the governor-elect's transition team on the benefits of the system. They asked for an up or down decision. If the new administration was to continue the project, the project team needed their full and visible support. If they wanted to end the project, all the team asked was that they do it quickly. The business case for eVA is strong. The transition team knew, given Virginia's budget problems and the continued economic downturn, that they needed to streamline administrative processes. They also clearly understood one of eVA's key potential benefits: knowing what Virginia government buys and from whom. The administration was actively trying to figure out how tax dollars were spent, without much success. eVA provided them a means to jump-start administrative efficiencies and begin to capture information critical in a time of scarce resources.

- **Funding:** Virginia did not have funds to apply toward the development or implementation of a statewide e-procurement system. The project began with an estimated budget requirement of $25 million over five years, but no funds. The Department of General Services assigned existing staff to develop, evaluate and award a contract for an electronic procurement solution. The team held focus groups with agencies and vendors to determine application requirements and gain ideas and acceptable means for funding the project. In 2000, many reverse funding models existed. Most were very costly to vendors without providing them compelling value. The eVA team spent many days in focus group sessions with vendors and potential system integrators discussing "what if" funding strategies. How would the strategy be received by both government entities and vendors? In the end, a shared risk revenue model was created. Vendors would be charged minimal registration and transaction fees. Vendors could receive e-mail or e-fax notifications of bidding opportunities and gain on-line access to agency spending and last price reports. All vendors could look for bid opportunities and registered vendors could respond electronically to solicitations with no additional charges. Vendors were given a year with no transaction charges to give them time to experience the benefits and determine if price adjustments were necessary. Many have found the efficiencies of eVA and the new customer accounts they can serve have more than made-up for the fees.

- **Changing Virginia's Culture:** Changing well-established habits is hard, often frustrating work. Virginia's legislature first convened in 1619; Virginia prides itself on tradition. All of the stakeholders hold fast to doing business the "old fashioned way" with personal contacts, long-standing relationships, and lots of paper. Change was not just asked of the vendors and Virginia public bodies, but of the purchasing department. The Division of Purchases and Supply has completely restructured the way it delivers statewide contracts, procurement oversight, and support of buyers, end users, and vendors.

Project Timetable

eVA is a phased project indentifed in May 1999. It began delivering value on March 1, 2001 with the implementation of the eVA emall for seven "early adopter" agencies and vendor self service registation. Immediately following this initial phase, agencies and vendors were implemented with the majority of the state and local governments fully using eVA emall and reporting features by December 2001. The data warehouse and advanced user and data administration tools were implemented in December 2001. eVA's functionality continued to grow with the implementation of Quick Quote in July 2002, and requisition and order import and export interfaces in August 2002. Competitive sealed and unsealded bidding and negotiations was unveiled by Governor Warner, the first week of January 2003. The project team is in the process of configuring agencies for this activity.

Project Outcome

Single Source Access to Virginia Government: Prior to eVA, vendors were required to visit over 140 buying locations, to review bid opportunities or submit their bids. Their sales organizations processed purchase orders from each agency frequently with different formats and requiring different price lists. Today, eVA enables vendors to electronically visit over 340 commonwealth entities every day for business opportunities and receive orders electronically all day, every day, without leaving their offices.

- Vendors may interface with eVA via the eMall's "punchout" capability that allows buyers to access vendor's production configuration and ordering Web sites via the electronic malls' requisition creation process.
- At Virginia's central business opportunity site, vendors may now register at one location, be notified of all bid opportunities for the goods and services they sell, have catalog items seen by over 6,000 buyers daily, and submit bids without ever leaving their home or office.
- Since March 2001, eVA has processed over 138,000 transactions totaling over $886 million in orders.
- eVA provides robust interfaces that enable commonwealth entities with enterprise resource planning (ERP) systems to import or export purchase transaction data via a middleware solution that translates the data based on the individual entity's unique data structure. The eVA interface options enable ERP entities to protect their existing technology infrastructure and investments while receiving the benefits of faster, easier, and more cost effective purchasing via eVA.

- **Ability to Analyze the Commonwealth's Expenditures:** eVA includes a purchasing data warehouse that captures detailed information/data for transacted procurements. This purchasing data warehouse, and the analytical reporting tools included therewith, provides visibility and information necessary to enable the Commonwealth to leverage its buying power and to obtain the best value for goods and services.

- **Multi-Jurisdictional Support:** The application provides each commonwealth entity the opportunity to tailor their accounting, approval workflow and business rules based on their entity's policies and business practices. Configuration is completely data driven requiring no "agency specific" programming. The result is 342 commonwealth entities receive the benefit of their combined buying power while maintaining their individual identities and business practices.

- **Service Offering:** eVA is a service offering providing access via any standard Web browser.
  - Virginia did not purchase hardware or software nor require a large technical staff to support the operation of eVA. These activities are outsourced to our service provider, AMS.
  - The commonwealth did not spend precious citizen dollars to create this offering. Fees for eVA are collected on a per order basis.
  - Entities and vendors access and utilize eVA via any standard Internet browser, thereby accomplishing a significant savings as users are not required to purchase or install any unique hardware, software or related technology support services.

Measuring Results

- **The effective use of eVA is a component of all agency performance plans.** The governor requires cabinet and agency heads to establish measurable performance goals. Monthly, the eVA report card is issued. This report card measures key usage indicators including the number and amount of orders placed with registered and non-registered vendors, the number of quick quotes (automated informal bids) awarded, and the percent spent through eVA based on individual agency usage targets. The report cards are provided to cabinet officials for distribution to the agencies within their secretariat.

- **The eVA program also has measurements that must be met.** These include the delivery of enhancements and increased services within the scheduled timeframe, the number of vendors registered and fully electronically enabled, and the total amount of transactions processed for the contract period.

- **eVA uses metrics such as savings from spend management and from placing orders electronically to quantify the success of the solution.** Recent quantified annual savings from spend management using the purchasing data captured in the eVA data warehouse is $25 million. Another $6 million in savings is estimated from placing orders electronically instead of manually.

Partnerships/Collaborations

From the very beginning, eVA has been a collaborative project between commonwealth of Virginia agencies, universities, local governments, and suppliers. During the design of eVA, input was requested from these groups in meetings and over the Internet. Virginia held conferences, such as the one in Northern Virginia teleconferenced to Richmond, Virginia, so the widest possible audience could participate. Today the eVA Program continues to meet with users, both buyers and suppliers, to obtain

their input as the program evolves because eVA is designed to grow with technology and is constantly being enhanced based on their input.

There is also a strong partnership between the ASP, AMS and the commonwealth of Virginia. Although contractually based, the project still could not be successful unless there was a strong collaboration and team effort between the contractor and Virginia. By being flexible within the framework of the contract, both partners have helped each other to succeed.

Can Other Governments Replicate This Project?

eVA cannot be duplicated using a cookie cutter approach. However, eVA is flexible and able to adapt to different organizations. This was one of the primary reasons Virginia contracted with AMS as their solution could support different organizations and their unique business rules. All state governments have distinct business units and rules that vary among these units.

H. Other: Virginia Live Help – Online, Real-Time Customer Service

Government Organization: State of Virginia
Respondent's Name: Tracy Smith
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The official state portal of the commonwealth of Virginia is the first in the nation to offer live, real-time customer assistance to its users through Internet instant messaging. VIPNet has implemented a Web-based, interactive application provided by LivePerson to enable VIPNet customer service representatives to “chat” directly with visitors who request assistance. The application allows the user to click a “Live Help” button on the Virginia home page to initiate the live conversation with a customer service representative.

VIPNet customer service representatives can “push” the user’s browser to a Web site that will fulfill the visitor’s needs. Customer service representatives use “canned” responses to answer commonly asked questions for speed and consistency. Customer service representatives may carry on multiple chats simultaneously.

Reason for Automating Through E-Government

- Citizens are becoming increasingly reliant upon the Internet as their primary resource for government information and services. Citizens expect immediate access to those resources but are often frustrated in trying to locate government information that is organized for government users, not citizens. In the past, telephone and then e-mail communications with government may have been adequate means of providing citizens with assistance in locating and accessing online resources. Today, however, citizens want an instantaneous answer.

- As the providers of Virginia's Internet portal to government information and services, the VIPNet staff was faced with a deluge of telephone and e-mail-based inquiries. Responses often required additional information from the citizen in order to provide the appropriate response. For example, a typical citizen e-mail to the portal seeking assistance required the VIPNet staff to spend several minutes composing the reply. Additional exchanges may have been required. Depending on the customer's access to the Internet, hours or days may have passed before a satisfactory conclusion occurred.

- The VIPNet staff explored a variety of automated and traditional methods for providing better, more efficient customer assistance. Certain technological solutions, including other "chat" type products, were prohibitively expensive or too difficult for a small staff to implement and operate. Non-technological solutions, such as doubling the customer service staff size, were also impractical or too expensive.

- The Live Help service through Live Person cleared both the hurdles of affordability and practicality. In addition to the chat product's attractive pricing, the service was exceptionally easy to implement from a system and staff training perspective.

The introduction of Live Help has addressed cost and practicality issues. Citizens now enjoy immediate assistance from the VIPNet representatives in finding government information and resources. Because the service is so intuitive and convenient, users spend far less time guessing at and searching for the correct information. Online statistics show that the average elapsed time for an initial reply to chat inquiry is less than 11 seconds. And user exit surveys show a greater than 97 percent satisfaction rate with the Live Help service.

Live Help has reduced the total amount of time customer service representatives spend replying to user phone calls and e-mails by more than 60 percent.

Discoveries During Implementation

Users embraced the Live Help service as their primary means of contacting the state portal almost immediately. VIPNet averages over 350 online chats per month, and those live customer contacts far outnumber the level of e-mails and telephone calls received. User satisfaction with the service also has been unusually high. With most services, users tend to provide survey feedback only to express complaints and concerns. With Live Help, 97 percent of the users have indicated their positive satisfaction with the service.

The other unexpected outcome of the creation of the Live Help service was that the overall customer service response time was reduced so substantially. Although efficiency gains had been projected, the drastic reduction in customer e-mails and phone calls was unanticipated.

Hurdles to Success

There were virtually no problems encountered in the development and implementation of the Live Help Service. VIPNet staff installed the chat service software on their personal computers and learned the chat tools through brief training sessions.

Since the implementation of the Live Help service, the VIPNet representatives occasionally have encountered spikes in use of the service, most of which were attributable to large groups of school children doing Virginia history research projects online. To avoid being overwhelmed by those requests, the staff has adopted the approach of reference librarians: we are here to point you in the right direction to find information, but not to do your homework for you.

Project Timetable

The portal first began to identify the needs for an online chat customer service function as early 2000-2001. Private sector, e-commerce Web sites were then providing online chat as a means of assisting customers trying to make online purchases. The potential application of the technology to Virginia government's customer service needs became clear, but the technology was cost-prohibitive at that time.

However, following further evaluation of potential software solutions in 2001, VIPNet was able to identify and implement an affordable live chat solution by the end of the summer of 2001. As stated above, software implementation and staff training were very straightforward tasks and not very time consuming.

Project Outcome

Live Help has improved customer service response time and satisfaction and reduced the overall VIPNet staff resources needed for customer service.

Measuring Results

By comparing the total VIPNet customer service staff hours required for responding to user phone calls and e-mail messages prior to the implementation of the Live Help service with those total hours for responses phone calls, e-mails, and Live Help chats, VIPNet has documented a 40 percent reduction in total customer service hours. Before the implementation of Live Help, the portal received an average of 900 calls and 500 e-mails per month. After the implementation of the Live Help service, that number dropped to 200 calls and 250 e-mails. Even when the time spent on online chats is included, the time invested by employees dropped from 217 hours per month to 90 hours per month, representing a 60 percent cost savings.

Partnerships/Collaborations

VIPNet partnered with LivePerson, Inc., supplier of the Live Help software.

Can Other Governments Replicate This Project?

As described above, Live Help is an exceptionally easy e-government, customer service solution to implement from both a systems implementation and staff training perspective (the service software loads on the staff's personal computers and the service's chat functions for staff are intuitive). The cost for the service is not just affordable but actually offset by the cost savings for government entities from the reduction in the amount of staff time required for customer service.

In that regard, VIPNet has done studies in conjunction with industry leaders such as LivePerson showing that extending the service to the entire executive branch of Virginia state government (approximately 90 agencies and over 100,000 employees) would create an overall 60 percent savings ($1.4 million annually) in customer service costs. That savings analysis is based on an average customer service salary for Richmond, Virginia, and multiplied by 100 full-time employees providing customer service functions. Those savings are conservative, given that some agencies have 30 or more customer service employees.

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APPENDIX A

Guidelines for Judging

Goals

- Establish guidelines and process:
  - To ensure fairness, impartiality and equity.
  - That is efficient to respect that judges are volunteering their time.
  - That is effective in order to leverage areas of subject matter expertise by the respective judges and provide continuity in the judging process.
- Establish a process that balances the informality of an Association such as the NECCC with the proper degree of formality associated with any judging process.

Guidelines and Process

Members of the NECCC work group on cost savings/revenue maximization projects were asked to volunteer for the panel of 12 judges; including six from the private sector and six from the public sector. There were three rounds of judging. An expert panel of three judges selected the overall winner.

The Initial Round: Reviewing the *short form* nominations resulted in a pool of up to five candidate projects for each category.

- *Short form* nominations were collected and were referred to individual judges in a manner to optimize subject matter expertise and to avoid any conflicts or perception of conflicts.

- Individual judges evaluated and scored nominations using the *judging checklist*.

- The chair called a meeting of the judging panel to review and discuss the results. The decisions reached completed the initial round of judging, and the winners in each category were referred to the previously selected panel of experts for the second round of judging.

- The chair reviewed the process followed to determine that all judging was completed in accordance with the guidelines and process to ensure fairness, impartiality and equity.

The Second Round: Reviewing the *long form* project descriptions selected from the initial round resulted in an “award of merit” winner in each category to be featured in the issue paper and eligible for the third round of judging.

- *Long form* project descriptions were collected from the winners in each category in the initial round of judging and referred to the previously selected panel of industry experts.

- Individual judges evaluated and scored nominations using the separately issued *second round judging checklist*.

- The chair called a meeting of the judging panel to review and discuss the results. The decisions reached completed the second round of judging, and the chair referred the top project in each category to the panel of experts responsible for selecting the overall winner.

- The chair reviewed the process followed to determine that all judging was completed in accordance with the guidelines and process to ensure fairness, impartiality and equity.

The Third Round: A single project was selected as the overall award winner for commendation and award at the NECCC Annual Conference.

- The panel of experts selected the overall winner.

APPENDIX B

Honorable Mention

Functional Area	Title	Contact	State or Local
Education			
	Texas PK-16 Public Education Information Resource	Belinda Dyer bdyer@tea.state.tx.us	State
Health & Medicaid			
	Tennessee Health Licensing Renewal Online	Angela Nordstrom angela@tnanytime.org	State
	District of Columbia License 2000	Aggie Nteta Aggie.nteta@dc.gov	Local
Home. Def. & Pub. Safety			
	Integrated Criminal Justice Information System – Maricopa County	Gary Huish gahuish@mail.maricopa.gov	Local
	Florida Crime Laboratory Automation	Suzanne Livingston suelivingston@fdle.state.fl.us	State
	Georgia Electronic Travel & Pay Stubs	Gary McElroy Gary_mcelroy@pap.state.ga.us	
Human Resources			
	Competency Profile System	Dennis Wilson Dwilson@sao.state.tx.us	State
General Government			
	CentralCashier.com – Manatee County	Mukesh Patel mukesh@flalocal.com	Local
	Online Permitting Services - Indianapolis	Jennifer G. Ruby jruby@indygov.org	Local
	Texas Datacenter Consolidation	Pat Hogan Pat.Hogan@dir.state.tx.us	State
	Texas Internet Occupational License Renewal	Katy Fendrich Cfendrich@bearingpoint.net	State
	BIS on the Web – New York City	Stephen P. Kramer stephenk@buildings.nyc.gov	Local
Procurement			
	Hamilton County eProcurement System	Amy Hoh Amy.hoh@hamilton-co.org	Local
	North Carolina E-Procurement @Your Service	Sharon Hayes Sharon.hayes@ncmail.net	State
Other			
	CRM Initiative - Ohio	Mike Costello	State

Functional Area	Title	Contact	State or Local
		Mike.Costello@dnr.state.oh.us	
	Web Enabled Article 5 Application – Maricopa County	Roseann Osborn Perez roseannosbornperez@mail.maricopa.gov	Local
	Improving the Bid Process for Construction Projects – Olmsted County, MN	Deborah A. Palmer Palmer.deb@co.olmsted.mn.us	Local

APPENDIX C

Revenue Maximization and Cost Savings through eGovernment Workgroup Members

Lawrence F. Alwin, State Auditor, Texas, Co-Chair

Tom Bossie, Metatomix, Co-Chair

Kathy Augustine, State Controller, Nevada

Martha Combs, Account Executive, Microsoft Corporation

Clifford Dias, Senior Manager, Deloitte and Touche

Susan Fitzgerald, President and CEO, Susan Fitzgerald and Associates

Peter Goolsby, NC Office of the Secretary of State, North Carolina

Charles Hibner, Deputy Director, State of Oregon, Division of Audits

Jerry Johnson, Senior Policy Analyst, Department of Information Resources, Texas

Bill Kilmartin, Strategic Alliance Director, Accenture

Michael Langrehr, Crestone International, Inc.

Carolyn Purcell, Retired CIO, Texas

Nancy Rainosek, Manager, State Auditor's Office, Texas

Sue Rogers, Administrator, Loislaw, Source Acquisition Office

Bettye Williams, E-Commerce Manager,

JD Williams, Director, PeopleSoft