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2010 Innovations Awards Application

Deadline: March 1, 2010

ID # (assigned by CSG): **10-S-19VA**

Please provide the following information, adding space as necessary:

State: Commonwealth of Virginia

Assign Program Category (applicant): Business/Commerce (Use list at end of application)

1. Program Name: Digital Signatures Enterprise Initiative, Commonwealth of Virginia
2. Administering Agency: Virginia Information Technologies Agency (VITA), Enterprise Applications Division (VEAD); Virginia Departments of Mines, Minerals and Energy (DMME) and Transportation (VDOT)
3. Contact Person (Name and Title): Peggy Feldmann, Chief Applications Officer; Director, Enterprise Applications Division, VITA
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<http://www.dmme.virginia.gov/DMLR/Adobe/21-07.pdf>
http://www.identrust.com/company/press_releases/2009/release_091005.pdf
http://www.virginiadot.org/business/resources/LocDes/Digital_Signature_Initiative_071508.pdf
9. Please provide a two-sentence description of the program.

The Commonwealth of Virginia has launched an enterprise digital signatures program utilizing an innovative funding approach and pilot agencies, leveraging a federal contract. Implementation of the technology through this approach has enabled development of best practices, demonstrated benefits including metrics for government and business, and ensured easy future access to the tools for other Virginia government entities.

10. How long has this program been operational (month and year)? Note: the program must be between 9 months and 5 years old on March 1, 2010 to be considered.

The digital signature initiative was implemented by DMME in mid-2008 and by VDOT in July 2009.

11. Why was the program created? What problem[s] or issue[s] was it designed to address?

Many agency interactions with business in the Commonwealth of Virginia require official seals and wet signatures in order to comply with federal and state requirements. Multiple agencies (including VDOT, DMME, Rehabilitative Services, Game and Inland Fisheries, State Corporation Commission, Business Assistance and Secretary of the Commonwealth) had expressed interest in using digital signature technology to improve business process and provide efficient eGov operations.

The state did not have money to procure an enterprise solution, but an enterprise approach was important to allow for future growth and implementation. It would have been difficult for an individual agency to deal with the procurement; the project has been a great example of the benefits of collaboration. In order for Virginia agencies to establish a fully electronic document submittal process, a legally binding, "low cost" digital signature process had to be established. The solution was needed by many but individual approaches were seen as overly expensive and burdensome for the enterprise.

Due to the fact that DMME and VDOT share some private engineering companies as customers, a common solution was determined to be in both agencies' best interest and their participation as pilot implementers was selected. Their choice proved to be a great combination; DMME wanted the technology for external customers and VDOT for both employees and customers. The two pilot agencies receive thousands of such submissions annually. These include permit applications, maps, design drawings, and supporting documents. DMME and VDOT collaborated with VEAD to identify and implement a solution that in the short term allows them to achieve their business objectives but also lays the foundation for the needed enterprise solution.

The cost of acquiring digital signature technology for small- and medium-sized businesses had traditionally been a barrier to implementation in Virginia. Due to the limited use of digital signatures in Virginia agencies, businesses were hesitant to invest in the technology. Further, DMME had mandated that electronic copies of maps be submitted as part of its permitting and licensing process for mining and well related processes, but there was no way for such documents to be certified as legally binding. As a result, customers continued to send both paper and electronic copies. This increased the cost of doing business for DMME, VDOT and the industry customers they serve. As a result, the agencies have had to handle paper maps and documents, review them, and scan them into digital formats. Commonwealth customers and state employees are required to copy, print, sign, mail, and handle these in paper formats, increasing costs to operate and delaying delivery of customer services, as well as slowing internal agency processes.

The Chief Application Officer serves as the project owner from an enterprise perspective and thus backing for a pilot initiative provided important buy-in and support. VEAD negotiated and created a Memorandum of Understanding (MOU) that allows all agencies to procure / adopt the solution. Again, engaging with the vendor with an enterprise perspective was extremely beneficial. The digital signatures enterprise project was designed to demonstrate the use and application of digital signatures with external parties and internally in the Commonwealth. The use of an external service provider reduced funding roadblocks and provides benefits for both the pilot agencies, industry customers, and ultimately other agencies in need of the technology.

12. Describe the specific activities and operations of the program in chronological order.

- 2008 DMME submits funding request to Governor's Productivity Investment Fund (PIF) to establish a digital signature submission process.
- 2008 VDOT identifies a similar technology submission requirement mandating the use of digital signatures for electronic documents/maps.
- 2008 VITA Enterprise Applications Divisions supports concepts and agrees to support an enterprise pilot of digital signatures through the PIF process.

- 2008 DMME establishes an industry pilot with coal, and gas industry customers to submit maps electronically with digital signatures provided by federal ACES certificates.
- 2009 VDOT establishes an internal system to digitally sign maps and plans created by VDOT staff and VDOT project contractors using digital signatures with the enterprise vendor.
- 2010 eNotary program leverages the digital signature approach in Virginia.
- 2010 Pilot phase ends; VEAD is evaluating plans for opening the solution to other agencies.

13. Why is the program a new and creative approach or method?

The enterprise approach, use of pilot agencies and support through the Governor's Productivity Investment Fund enabled adoption of needed technology that benefits both industry and government. The approach also provided a platform within Virginia government to share ideas and to gain senior leadership support for this innovative technology. By pursuing development of best practices through a small user base and then offering a proven approach and demonstrated metrics to other potential agency users, adoption of the technology across the enterprise is expedited. This system is also one of the very first applications to utilize digital signatures by professional engineers to sign and seal documents, which traditionally require hard and/or wet seals. It is also innovative in that engineers and business partners who work with DMME and VDOT (and sometimes the federal government) may utilize the same digital signature technology when submitting electronic documents.

The program itself includes necessary elements for government adoption of the technology. PKI-based digital signatures offer valuable benefits in terms of accessibility, security and usability, all of which are requirements for government programs. In terms of accessibility, documents which would have been scanned in the past can now be quickly posted to the Internet for public use. Since these are in electronic formats, OCR is not required to index and search such documents. In terms of security, documents can be validated and provided with irrefutable evidence that they have not been modified. By providing electronic copies, users throughout the Commonwealth can electronically submit, copy, access and transfer documents from state agency to corporation, agency to agency, and corporation to corporation. By providing access to digital document formats, documents can be quickly stored and managed more cost effectively than paper files.

The project has already had a very positive impact for the two pilot agencies. When implemented fully, the digital signature solution along with eNotary capability is expected to have a significant impact on automation of government-to-citizen processes.

14. What were the program's start-up costs? (Provide details about specific purchases for this program, staffing needs and other financial expenditures, as well as existing materials, technology and staff already in place.)

Staff time to coordinate development and approval for use of the system was incurred by both pilot agencies and is estimated to be valued at approximately \$30K. VEAD staff provided analysis and project management for the project, estimated at approximately \$25K.

VDOT invested approximately \$100K, \$50K each for 400 seat licenses for the IdenTrust and Adobe tools.

15. What are the program's annual operational costs?

Operational costs are minimal and actually generate measurable costs savings in staff time for participants. License renewal will cost \$60K in two years and biennially thereafter.

16. How is the program funded?

At this time there are no hard costs. VDOT used its existing budget to purchase the software tools through the enterprise contract negotiated by VEAD, which represented savings to the agency and the enterprise (detailed later in this entry).

17. Did this program require the passage of legislation, executive order or regulations? If YES, please indicate the citation number.

The pilot program did not require official validation. However, following the initial implementation Virginia Governor Tim Kaine's Executive Order #65 mandated that Virginia agencies take advantage of the benefits of digital signature technology to the fullest extent possible. Newly-inaugurated Governor Bob McDonnell's Executive Order #1, "Establishing the Chief Job Creation Officer and the Governor's Economic Development and Job Creation Commission," and Executive Order #2, "Establishing the Governor's Commission on Government Reform and Restructuring," each strongly support economic development initiatives and the use of technology to reduce costs of government operation and government burden upon business. The digital signature initiative aligns closely with these goals.

18. What equipment, technology and software are used to operate and administer this program?

DMME and VDOT, working with VEAD (formerly the Virginia Enterprise Application Program), established and signed a Memorandum of Agreement with IdenTrust based on the Federal General Services Administration (GSA) Access Certificates for Electronic Services (ACES) X.509 Digital Certificates. This solution utilizes Public Key Infrastructure (PKI)-based digital signatures.

19. To the best of your knowledge, did this program originate in your state? If YES, please indicate the innovator's name, present address, telephone number and e-mail address.

No as far as the digital signatures technology; it leverages federal GSA initiatives. The enterprise approach is believed to be original to Virginia. It mirrors venture capital investments in the private sector.

20. Are you aware of similar programs in other states? If YES, which ones and how does this program differ?

West Virginia is currently establishing a similar program for its mining related map submissions.

21. Has the program been fully implemented? If NO, what actions remain to be taken?

The pilot phase has ended successfully and the two pilot agency participants and their employees and customers are receiving daily benefits. The program's expansion to the eNotary program portends another innovative and business-friendly adoption. Currently, VEAD is evaluating plans for opening the solution to other agencies, and the need is well known; the contract is established.

22. Briefly evaluate (pro and con) the program's effectiveness in addressing the defined problem[s] or issue[s]. Provide tangible examples.

Industry customers submitting maps and plans now save significant time and money by submitting them electronically rather than on paper. Electronic submittal requires a means to apply a verifiable digital signature for documents and an electronic seal such as a Professional Engineer's seal. The average cost for the industry to create/print a Professional Engineer-sealed paper map is over \$16 per hardcopy map. A standard signed paper document is estimated to cost over \$10 per document. DMME estimates that it receives at least 500 signed/sealed maps and plan documents per month.

In the first year of implementation, adoption by industry was rapid. 25% of submissions were made using digital signatures by the end of the first year. Today, DMME receives almost 95% of such submissions electronically using the digital signature initiative.

Estimated printing cost savings to customers based on 300 paper maps monthly at \$16 per map, would equal \$4800; 200 plans at \$10 each would be \$2000. The yearly cost savings would be \$6800 *12 or \$81,600 per year. These documents have been traditionally sent by certified mail at a cost of \$5.44 per document, or nearly \$32,000 per year, in addition to the printing costs. The cost for digital certificates to support digital signatures to the customers would be \$60 per year per customer for an unlimited number of electronically submitted documents. These numbers are conservative due to the fact that users must frequently submit three to four revisions of a document in the review and approval process.

DMME considers the cost savings a significant value to the customers, but it also represents savings to DMME in terms of time and effort. Savings are conservatively estimated to be approximately \$5 per map/document to handle scanning, filing and receiving paper documents.

23. How has the program grown and/or changed since its inception?

Virginia's new eNotary program for the Secretary of the Commonwealth has already leveraged the digital signature solution offered by the enterprise approach to provide a valuable new government-to-business and – citizen benefit. This program will significantly enlarge the scope of potential eGov applications as adoption spreads to new users. VEAD continues to work with agencies to plan adoption and implementation.

24. What limitations or obstacles might other states expect to encounter if they attempt to adopt this program?

While use of the PKI digital signature protocol ensures industry acceptance, security and accessibility, states that implement the technology as one-off agency projects could unnecessarily increase cost of implementation for the enterprise.

Widespread industry adoption might be considered a possible obstacle, but the high percentage and short timeframe of adoption indicated by customers of the Virginia pilot agencies indicates that business interests understand the benefits and are eager for the opportunity to participate.

Avoidance of cost to business through use of the federal approach is viewed as a key component of the success of the Virginia program. As many business interests interact with multiple Virginia government entities – as well as with multiple states and the federal government – use of a non-enterprise product could significantly reduce industry adoption, thereby lessening the value of the initiative.

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2010 Innovations Awards Application Program Categories and Subcategories

Use these as guidelines to determine the appropriate Program Category for your state's submission and list that program category on page one of this application. Choose only one.

Infrastructure and Economic Development

- Business/Commerce
- Economic Development
- Transportation

Government Operations and Technology

- Administration
- Elections
- Information Systems
- Public Information
- Revenue
- Telecommunications

Health & Human Services

- Aging
- Children & Families
- Health Services
- Housing
- Human Services

Human Resources/Education

- Education
- Labor
- Management
- Personnel
- Training and Development
- Workforce Development

Natural Resources

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- Energy
- Environment
- Environmental Protection
- Natural Resources
- Parks & Recreation
- Water Resources

Public Safety/Corrections

- Corrections
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- Public Safety

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This application is also available at www.csg.org.