



COMMONWEALTH of VIRGINIA

Virginia Information Technologies Agency

Lemuel C. Stewart, Jr.
Chief Information Officer
Email: cio@vita.virginia.gov


11751 Meadowville Lane
Chester, Virginia 23836-6315
(804) 416-6100

TDD VOICE -TEL. NO.
711

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MEMORANDUM

TO: The Honorable Timothy M. Kaine, Governor of Virginia
The Honorable Joe T. May, Chair, Joint Commission on Technology and Science
The Honorable John Watkins, Vice Chair, Joint Commission on Technology and Science
The Honorable Kenneth C. Alexander, Member, Joint Commission on Technology and Science
The Honorable John A. Cosgrove, Member, Joint Commission on Technology and Science
The Honorable Janet D. Howell, Member, Joint Commission on Technology and Science
The Honorable Stephen D. Newman, Member, Joint Commission on Technology and Science
The Honorable Samuel A. Nixon, Jr., Member, Joint Commission on Technology and Science
The Honorable Kenneth R. Plum, Member, Joint Commission on Technology and Science
The Honorable Harry R. Purkey, Member, Joint Commission on Technology and Science
The Honorable Thomas D. Rust, Member, Joint Commission on Technology and Science
The Honorable Kenneth W. Stolle, Member, Joint Commission on Technology and Science
The Honorable William C. Wampler Jr., Member, Joint Commission on Technology and Science

FROM: Lemuel C. Stewart, Jr. 

SUBJECT: 2007 Annual Report on Selected Information Technology Efforts of State Agencies and Public Institutions of Higher Education

The *Code of Virginia*, §2.2-2007, directs the Chief Information Officer of the Commonwealth (CIO) to prepare an Annual Report on Selected Technology Efforts of State Agencies and Public Institutions for the Governor and the Joint Commission on Technology and Science.

I am pleased to report that under the auspices of the Information Technology Investment Board, IT investment management in the Commonwealth continues to promote greater efficiencies, accessibility to citizens and customers, and enhanced convenience. Furthermore, by adopting enterprise standards and consolidating the IT infrastructure, the Commonwealth is in a position to leverage and recapitalize the IT infrastructure to truly transform the delivery of government services to citizens.

As always, I would welcome the opportunity to discuss with you any aspects of the Virginia Information Technology Agencies and the IT integration efforts underway.

Attachment

c: The Honorable Wayne Turnage, Chief of Staff
The Honorable Aneesh Chopra, Secretary of Technology
The Honorable Walter A. Stosch, Chair, Senate General Laws Committee

The Honorable Timothy M. Kaine
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The Honorable John S. Reid, Chair, House General Laws Committee
Lisa Wallmeier, Executive Director, Joint Commission on Technology and Science
Glen Tittermary, Joint Legislative Audit and Review Commission staff
Paul Van Lenten, House Appropriations staff
Bill Echelberger, Senate Finance staff
Karen Helderman, Auditor of Public Accounts staff
Paul Nardo, Speaker's staff

**2007 ANNUAL REPORT ON
SELECT INFORMATION TECHNOLOGY EFFORTS
OF STATE AGENCIES AND
PUBLIC INSTITUTIONS OF HIGHER EDUCATION**

§ 2.2-2007 *Code of Virginia*

**SUBMITTED BY
THE CHIEF INFORMATION OFFICER
TO
THE GOVERNOR
AND
THE JOINT COMMISSION ON TECHNOLOGY AND SCIENCE
COMMONWEALTH OF VIRGINIA**

OCTOBER 1, 2007

2007 Annual Report

Select Information Technology Efforts of State Agencies and Public Institutions of Higher Education

Executive Summary

This report is provided by the Virginia Information Technologies Agency (VITA) to address a General Assembly mandate to annually inform the Governor and the Joint Commission on Technology and Science of the efforts of state agencies and public institutions of higher education to increase economic efficiency, citizen convenience, and public access to state government through the use of information technology¹. The report identifies numerous examples of specific information technology initiatives and important enabling processes and trends that have permitted the Commonwealth to increase efficiency, accessibility and convenience for its citizens.

Background

Almost all agency information technology (IT) projects and procurements, as well as several 2007 enterprise initiatives, have a direct impact on improving economic efficiencies, citizen convenience, and/or public access to government services. For example, individual agency information technology (IT) projects often address business process improvements, worker productivity, availability and delivery of citizen services, Web accessibility, and operational efficiencies. In addition, enterprise initiatives address multi-agency collaborative opportunities, consolidations of IT infrastructure, and facilities management activities that improve economic efficiencies of state agencies and enhance their ability to deliver government services to citizens.

This report highlights representative efforts within state government over the past fiscal year to convey the breadth and scope of quality ideas being put into action to improve efficiencies, access and services in the Commonwealth. Also highlighted are the processes instituted by VITA and others that strengthen interagency collaboration and multi-agency planning.

Patterns and Trends for Agency Projects

An analysis of recently completed and currently planned major IT projects shows four general approaches occurring in agencies and institutions of higher education, including collaborating on enterprise solutions, taking advantage of newer technologies, improving access and convenience, and changing business practices. These approaches frequently result in the desired improvements in citizen convenience, government services accessibility, and government efficiency.

Collaborating on Enterprise Solutions

- Colleges and universities are sharing technical solutions for common problems through Virginia-based and national alliances. Both common IT solutions and common policy approaches may result from their work.
 - Recent Internet2 cooperative work, for example, has resulted in a middleware solution to aid universities in tracking identities for access and authorization across multi-organizational initiatives. Their federated identity solution is called Shibboleth.
 - The Virtual Library of Virginia (VIVA) has licensed 500 hours of streaming video from PBS for non-profit public and independent higher education institutions in the Commonwealth. James Madison University helped facilitate licensing and, along with Virginia Commonwealth University, cataloging of the content. The University of

¹ *Code of Virginia, § 2.2-2007. Powers of the CIO. A. 8.*

Virginia (UVA) has agreed to host the streaming video on behalf of VIVA. Access and authorization will be handled via Shibboleth.

- Virginia universities have cooperative initiatives for non-local data storage for purposes of disaster recovery. Virginia Tech and UVA are working on such a solution.
 - VASCAN - Virginia Alliance for Secure Computing and Networking continues to provide training events and explore solutions to such common problems as wireless security and protecting identities.
 - Grant writing, especially involving universities and the federal government, is an area where many universities desire a common and well-integrated solution.
 - UVA and other universities and libraries throughout the world are working with Google to scan select library resources in to a central searching system. The goal, Google reports, is to “create a comprehensive, searchable, virtual card catalog of all books in all languages.”
- Currently, the Virginia Enterprise Application Program (VEAP) is collaborating across the Finance secretariat agencies and consulting with agencies that presently report on the Commonwealth Accounting and Reporting System (CARS) to establish common data requirements for future finance components of the proposed modular systems.
 - The Commonwealth’s Information Technology Investment Board (ITIB) continues to support enterprise and multi-agency collaboration opportunities as the primary ranking criterion in its Recommended Technology Investment Projects Report (RTIP).
<http://www.vita.virginia.gov/ITIB/default.aspx?id=639>
 - Consolidated central services both within and across agencies are enabling efficiencies to accrue from handling of backups, e-mail, desktops, call centers, data storage, telecommunications and networking.
 - Centralized foundation and infrastructure services are constantly improving. Examples include: geographic information system (GIS) base maps; public safety radio networks; central voice over Internet protocol private branch exchange (VoIP/PBX) options; and cost-effective infrastructure services.
 - Use across universities of the same packaged software suite for administrative systems is continuing to increase.
 - At the direction of the ITIB, single-agency implementations of enterprise-applicable solutions are being considered for applicability to other agencies. Those include ticketing, licensing, grant management and emergency notification.

Taking Advantage of Newer Technologies

- Virginia Commonwealth University (VCU) implemented RedSky’s Emergency On-site Notification (EON) to alert the VCU Police Department the moment a 911 call is placed anywhere on campus. EON also provides them with a complete location record of a 911 caller via a personal computer (PC) screen pop-up with an audible alarm, text message, e-mail or printer to speed emergency response. The university selected RedSky’s E911 Manager because it automatically captures location changes for all types of phones, updates downstream databases, and notifies designated public safety officials, saving time and money. VCU received the 2007 award from the Association of Public Safety Communications Officials (APCO) for this effort. ²
- Universities are considering how to use student cell phones as learning, collaboration, reinforcement, and support tools.
- Universities are moving to international markets with their distance learning reach.

² VCU Recognized for New Benchmark in E911 Response With APCO Award; BALTIMORE, Aug. 6, 2007 /PRNewswire/

- VITA, with its IT infrastructure partner, has made a new wide area networking (WAN) backbone available to agencies that reduces delays and enables end-to-end transmission priorities. This solution is called Multiprotocol Label Switching or MPLS.
- Several agencies are incorporating global positioning system devices to drive efficiency and accuracy improvements in field-based data entry and emergency management system improvements. Example agencies include the Virginia Department of Transportation for maintenance services data entry and emergency road services, the Department of Forestry for mapping and field data collection, and the Department of Health for inspection and epidemiological data entry.
- Agencies are moving away from inflexible legacy databases and increasing the use of modern, state-of-the-art tools, such as the Virginia Department of Social Services' Systems Partnering in a Demographic Repository (SPIDER), which provides real-time data sharing among localities, state agencies, and federal agencies across disparate systems, greatly improving citizen service.
- Many agencies and universities are considering potential telecommunications cost savings by providing part of their communications across geographically dispersed business units and campus buildings via VoIP.
- University campuses, libraries, public spaces, conference rooms, police cars, and other areas are being equipped with secure and open wireless access to countless systems and resources.
- Agencies are considering central document management strategies and opportunities such as the Library of Virginia's Web archival system and the Virginia State Police's archive system.

Improving Access and Convenience

- Three separate Internet one-stop efforts focus on proofs of concept for citizen assistance Internet systems.
 - Aging (over 65) and disabled (over 18) adults will be served by a Department of Aging Web site that enables the finding of assistance avenues based on citizen-provided qualifying information, for example, the "No Wrong Door" initiative. This project, in addition to being notable for improving accessibility, also won an award for innovative use of technology as a tool for more efficient and effective business processes. This 2007 Intergovernmental Solutions Award was made by the American Council for Technology (ACT)
 - The Department of Business Assistance uses structured citizen interviews at its site to locate forms needed by those who want to start new businesses in Virginia.
 - TurboVet assists veterans in identifying services and assistance for which they may qualify and associate forms needed to initiate claims processing.
- The Council on Virginia's Future Web site was a finalist in the 2007 Intergovernmental Solutions Award competition sponsored by ACT. This Web site provides citizens with easy access to government performance information.
- Agencies have moved to implement Web site standardization and technology accessibility requirements, thus improving accessibility for people with disabilities and for the general public.
- Numerous systems currently being developed or modified will improve the anywhere/anytime accessibility of information, data entry and notification capabilities via Web interfaces that will assist citizens, the state's workforce, police, students, faculty, and other groups.
- 24x7 access to reporting systems, data entry systems, and information stores is now common and continues to grow as a result of the ongoing efforts of agencies and universities.
- Proven tools for improving citizen convenience and public access are being rolled out to more areas of the state. Tools include: wireless access; toll booth vehicle Smart Tag capabilities;

and integrated student, staff, finance, and classroom capabilities within universities and across community colleges.

Changing Business Practices

- Business process reengineering that may enable high-dollar returns or improved citizen service is a key focus of numerous efforts currently underway.
 - Virginia's Department of Forestry has re-engineered its wildfire suppression, water quality law enforcement, and forest health integrated management process to enable field use of map-quality GIS tools. Improved public safety and other advantages of this effort resulted in the program being awarded finalist status in the 2007 Intergovernmental Solutions Awards competition sponsored by ACT.
 - VEAP now is working on common performance budgeting systems and financial data requirements across agencies that currently use CARS and related central systems.
 - Virtual servers are being deployed to take advantage of cost savings possible through infrastructure consolidations.
 - Mobility enhancements are enabled by the build out of radio towers across the Commonwealth for public safety use and the installation of public safety vehicle equipment that communicates using the towers.
 - Regional State Police units are better able to share information regardless of geography as a result of the centralized Law Enforcement Management System (LEAMS).
 - Numerous agencies and higher education institutions work to continuously improve business processes as they install and adapt state-of-the-art central information systems.
 - The centralizing of criminal images across law enforcement agencies improves officer convenience and citizen safety by permitting quick electronic access to needed identifying information. Law enforcement officers statewide cooperate to centralize needed images as part of felony and misdemeanor criminal history filings. Images, including mug shots, scars, tattoos, and other physical identifiers, are being made available through central criminal image systems.
- The Commonwealth received three 2006³ NASCIO honorable mentions for projects that improved business processes:
 - In the category Government to Business, the Electronic Permitting System of the Virginia Department of Mines, Minerals and Energy was honored.
 - In the category Information Communications Technologies, the Governor's Commonwealth Interoperability Coordinator's Office (CICO), which coordinates interoperable communications efforts across localities, regions, and state agencies, was honored for its program, Improving Communications to Save Lives.
 - In the category Data, Information and Knowledge Management, the Department of Mines Minerals and Energy was honored for its Mine Mapping System project.
- Mechanisms such as the Public Private Education Facilities and Infrastructure Act (PPEA) and other cooperative public/private ventures are enabling efficiencies to be considered as a result of willingness of the private sector to provide up-front investments in the Commonwealth's future.

Tables 1 and 2 below cite representative Fiscal Year 2007 IT projects that impact economic efficiency, citizen convenience, and public access to government. Table 1 includes recently completed projects and Table 2 lists projects in the planning or implementation stages. The designations in the table

³ These awards are typically made after the publication of this report and are, therefore, reported for the prior year. 2007 NASCIO awards will be announced in October 2007.

columns indicate a particular strength of each project with respect to the General Assembly's three characteristics of interest (economic efficiency, citizen convenience, and public access to government).

**Table 1
Representative Projects (Recently Completed)⁴**

Agency	Project Formal Title	Economic efficiency	Citizen convenience	Public access to government
Governor's Office				
Governor's Office – Council on Virginia's Future	Virginia Performs Web site		X	X
Administration				
State Board of Elections	Virginia Election and Registration Information System (VERIS)	X	X	X
Education				
Jamestown -Yorktown Foundation	Ticketing, Scheduling and Resource Management Software Implementation		X	
Virtual Library of Virginia, James Madison University, Virginia Commonwealth University, and the University of Virginia	The Virtual Library of Virginia (VIVA) streaming video sharing using Shibboleth	X	X	X
Health and Human Resources				
Medical Assistance Services	National Provider ID Initiative		X	
Natural Resources				
Game and Inland Fisheries	Automated License Delivery System (Point of Sale or POS system)	X	X	X
Public Safety				
Emergency Management	Virginia Emergency Operations Center (VEOC)	X		
Technology				
Virginia Information Technologies Agency	PeopleSoft Business Planning and Budgeting (EPBPB)	X		
Virginia Information Technologies Agency	VA Base Mapping Program (VBMP) Road Centerline (RCL)	X		X
Virginia Information Technologies Agency	Commonwealth Technology Portfolio (Version 2)			X

⁴ During Fiscal Year 2007

Agency	Project Formal Title	Economic efficiency	Citizen convenience	Public access to government
Transportation				
Motor Vehicles	PCs on the Front Counters	X	X	
Transportation	Electronic Toll Customer Services and Violation Enforcement System	X	X	

**Table 2
Representative Projects (Planning or Implementation Stages⁵)**

Agency	Project Formal Title	Economic efficiency	Citizen convenience	Public access to government
Governor's Office				
Governor's Office – Council on Virginia's Future	Business Climate Survey	X	X	X
Governor's Office - Commonwealth Interoperability Coordinator's Office (CICO)	Improving Communications to Save Lives	X	X	X
Administration				
General Services	Real Estate Portfolio Management	X		
Agriculture and Forestry				
Forestry	Integrated Forest Resource Information System - Forest Protection and Mobile Computing	X		
Commerce & Trade				
Professional & Occupational Regulation	Electronic Access to Government Licensing and Enforcement System	X	X	X
Virginia Employment Commission	Virginia Workforce Network Information System (VWNIS)		X	X
Education				
Community College System	Administrative Information System	X	X	X
Radford University	Radford University Information System Project	X	X	X
Longwood University	Administrative System Replacement	X	X	X
Virginia Commonwealth University	Administrative System Replacement	X	X	X
Virginia Commonwealth University	Modernization of Communications Infrastructure (telephony replacement)	X		

⁵ At the end of Fiscal Year 2007

Agency	Project Formal Title	Economic efficiency	Citizen convenience	Public access to government
Education Continued				
Virginia Commonwealth University	Modernization of Communications Infrastructure (progressive e911 implementation)		X	X
Virginia State University	Re-engineer Core Business Processes	X	X	X
Finance				
Department of Taxation	Virginia Tax Online Upgrade		X	X
Health & Human Resources				
Aging and seven partner agencies	No Wrong Door Initiative	X	X	X
Rehabilitative Services	Implement Core Integrated Case Management System	X	X	X
Rehabilitative Services	Integrated Fiscal System	X		
Public Safety				
Motor Vehicles	Customer Contact Center Relocation and Reorganization	X	X	X
Corrections	Phase 2 and Phase 3 of the Commonwealth Offender Record Information System (CORIS)	X		
State Police	Law Enforcement Activity Management System	X		
State Police	Central Criminal Image System	X		
State Police	Statewide Agencies Radio System	X	X	X
Transportation				
Motor Vehicles	Traffic Records Electronic Data System (TREDS)	X	X	
Motor Vehicles	Automated Routing Solution – Hauling Permits	X	X	
Transportation	Roadway Network System	X	X	

Governing from an Enterprise Perspective

The characteristics of interest to the General Assembly may be addressed by multi-agency efforts and centralized services, in addition to being addressed by agency-specific IT projects. Several processes are currently in place in the Executive Branch under the auspices of the ITIB, the Chief Information Officer (CIO), and VITA that facilitate the development and implementation of such enterprise-level solutions. These processes facilitate the Executive Branch's ability to rapidly identify opportunities and reap benefits. Example processes include the following:

- The ITIB, in partnership with agencies, is continuing its development and enhancement of the statewide enterprise business, information, solutions, and technical architectures. These frameworks, policies, and standards help to improve enterprise-level understanding of the Commonwealth's business and to identify opportunities for multi-agency solutions. <http://ww2.vita.virginia.gov/ea/library/ea-documents.aspx>

- On behalf of the Commonwealth, the ITIB and CIO published the *2007-2011 Commonwealth of Virginia Strategic Plan for Information Technology*, which offers technology direction and guidance for state agencies and institutions, and supplies a foundation to base technology investment decisions supporting Virginia's business direction.
<http://www.vita.virginia.gov/uploadedFiles/Library/COVStrategicPlanInformationTechnology07.pdf>

This plan was designed to be incorporated into Virginia's existing strategic planning and budgeting processes, and to be available to state agency decision makers as guidance on the direction of information technology in the Commonwealth as they prepare their strategic plans and budgets.

- The ITIB and the CIO review procurements and projects from an enterprise architecture perspective.
- The ITIB and the CIO encourage the use of the PPEA process to develop central solutions to address the needs of multiple agencies. The Commonwealth, through the ITIB, entered into a 10-year, \$2 billion public-private partnership agreement with Northrop Grumman to modernize the Commonwealth's information technology infrastructure and services. The partnership is managed by VITA and is providing an agile, streamlined 21st century infrastructure. The agreement includes services such as: data centers; personal computing, server, and other hardware; voice and data networks; messaging, security, and help desk services.
- The Commonwealth is working to modernize the state's enterprise applications through VEAP. This effort is currently focused on financial management and performance budgeting processes across state government.
www.vita.virginia.gov/uploadedFiles/ITIB/Meetings/2007/July_18-19_2007/070719_ITIB_VEAP.ppt
- VITA provides statewide geospatial data including digital orthophotography, road centerlines, and addressing capabilities that support GIS application development and use for agencies, local government, private sector companies, and higher education. Examples of enterprise applications include voter registration and the Virginia Readiness, Response, and Recovery application to assist with emergencies.

Even greater efficiencies, accessibility, and convenience will be possible in the future by ensuring that tools and mechanisms are available to encourage enterprise-wide thinking. Centrally coordinated planning, business identification, solution generation, solution evaluation, and solution provision are key to strengthening enterprise-level effectiveness.

Conclusion

Under the auspices of the ITIB and CIO, IT investment management in the Commonwealth continues to promote efficient, accessible, and convenient customer services. Furthermore, having adopted enterprise standards and having consolidated the management of IT infrastructure, the Commonwealth is in a better position to leverage the IT infrastructure to transform the delivery of government services. The Commonwealth will continue to promote collaborative enterprise-wide initiatives and appropriate agency specific solutions that provide cost-effective, customer-centric services.