COMMONWEALTH of VIRGINIA

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MEMORANDUM

TO: The Honorable Mark R. Warner, Governor of Virginia
            Members of the Joint Commission on Technology and Science

FROM: Lemuel C. Stewart, Jr.

SUBJECT: 2005 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 (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 IT 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 VITA and the IT integration efforts underway.

Attachment

c: The Honorable William H. Leighty, Chief of Staff
     The Honorable Eugene J. Huang, Secretary of Technology
     The Honorable Walter A. Stosch, Chair, Senate General Laws Committee
     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, House Speaker's Staff

2005 ANNUAL REPORT ON
SELECTED 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**

NOVEMBER 2005

2005 Annual Report
Selected Information Technology Efforts of
State Agencies and Public Institutions of Higher Education

Executive Summary

This report addresses 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 technology. 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

The *Code of Virginia* (the *Code*) requires the Chief Information Officer of the Commonwealth (CIO) to report annually to the Governor and the Joint Commission on Technology and Science (JCOTS) on technology efforts in the Commonwealth of Virginia that are helping to improve efficiency, access and convenience. The following citation from the *Code* specifies the reporting requirement.

> *§ 2.2-2007. Powers of the CIO.*
> *A. In addition to such other duties as the Board may assign, the CIO shall:*
> > 8. *Report annually to the Governor and the Joint Commission on Technology and Science created pursuant to § 30-85 on the use and application of information technology by state agencies and public institutions of higher education to increase economic efficiency, citizen convenience, and public access to state government.*

Almost all agency information technology (IT) projects and procurements, as well as several 2005 enterprise initiatives, have a direct impact on improving economic efficiencies, citizen convenience, and/or public access to government services. For example, individual agency IT projects often address business process improvements, worker productivity, availability of and delivery of citizen services, web accessibility, and operational efficiencies. In addition, enterprise initiatives are addressing multi-agency collaborative opportunities, consolidation of IT infrastructure, and facilities management that improve economic efficiencies of state agencies and enhance their ability to deliver government services to citizens.

This report highlights only the most representative efforts within state government, 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 result in modernizing and streamlining IT infrastructure and service delivery, promoting collaboration among agencies, facilitating collaboration at all levels of government, and supporting the IT transformation efforts underway to expand citizen services and recapitalize IT for the Commonwealth. Following are discernable patterns and trends of interest.

Collaborating on Enterprise Solutions

- The Commonwealth's Information Technology Investment Board (ITIB) identified enterprise and multi-agency collaboration opportunities as primary ranking criteria in the Recommended Technology Investment Projects Report (RTIP) for 2005.

- Consolidated central services both within and across agencies are enabling efficiencies to accrue from handling of email, data storage, and networking.

- Agencies, universities and community colleges are taking advantage of national consortium efforts and reaping the benefits and efficiencies of such multi-state efforts in areas including procurement contracts, transportation contracts, unemployment and workforce systems, and fingerprinting systems.

- Foundation services and infrastructure including GIS base maps, public safety radio network improvements, central VoIP/PBX, and other important elements are rapidly being put into place.

- Use across universities of the same package software suite for administrative systems is increasing. Moreover, the schools are working jointly with the vendor to develop real-time interfaces with central state systems such as eVA.

- Data systems are being integrated and expanded in criminal justice, transportation, education, social services and administration areas in such a way as to improve and increase citizen access to services and information.

- Efforts being implemented for one agency are being considered for applicability to other agencies including ticketing, licensing, emergency notification, geographic information systems (GIS), and other applications.

Taking Advantage of Newer Technologies

- 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 voice over Internet protocol (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.

- Use of specialized imaging systems to improve speed of access, and therefore, citizen convenience and workforce efficiency, is also on the rise.

- Virginia's research institutions have formed a consortium to operate a regional node on a new national high-speed research network, the national LambdaRail.

Improving Access and Convenience

- Numerous systems currently being developed or modified will improve the anywhere/anytime accessibility of information, data entry and notification capabilities to citizens, the state's workforce, police, students, faculty and other groups by use of web interfaces.

- 24x7 access to reporting systems, data entry systems, and information stores is now common and continues to grow due to the efforts of agencies and universities.

- Proven tools for improving citizen convenience and public access are being rolled out to more areas of the state, including: wireless access; toll booth vehicle smart tag capabilities; and integrated student, staff, finance, and classroom capabilities within universities and across community colleges.

- Web site standardization and accessibility requirements will make state web sites and services delivered via the web more accessible to the disadvantaged and easier for the general public to use.

Changing Business Practices

- Business process reengineering may enable high dollar returns in several instances, including real estate management, laboratory management, remote fingerprint search from non-police office locations, centralized data storage across multiple systems, and evaluation of PPEA infrastructure and enterprise applications proposals.

- Mechanisms including the Public Private Education Facilities and Infrastructure Act (PPEA) and other cooperative public/private ventures are enabling efficiencies to be considered due to a willingness of the private sector to provide up-front investments in the Commonwealth's future.

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

Agency	Project Formal Title	Economic efficiency	Citizen convenience	Public access to government
Education				
Christopher Newport University	Web Accessible Integrated System		X[1]	
Finance				
Accounts	Lease Accounting System Replacement	X		X
Public Safety				
State Police	Mobile Computer Terminal Upgrade Project	X		
Transportation				
Transportation	Comprehensive Environmental Data Reporting System	X		X
Transportation	EZ Pass – Reciprocity	X	X	
Transportation	Asset Management System	X		
Transportation	GEOPAK Software for Civil Engineers	X		
Transportation	Web Inventory Management System	X		

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[1] Each X is a designation by VITA that the project illustrates a significant and easily identified strength for the characteristic noted in the column heading. However, these projects may be complex and may offer numerous examples of each of the three criteria specified in the *Code* as being of interest to the General Assembly. The absence of an X, therefore, does not indicate a total absence of economic efficiencies, citizen convenience attributes, or public access to government features in a particular project.

Table 2
Representative Projects (Planning or Implementation Stages)

Agency	Project Formal Title	Economic efficiency	Citizen convenience	Public access to government
Administration				
Elections	Campaign Finance Management System [e-filing]		X	
General Services	Seat of Government Voice Over Internet Protocol (VoIP) [capitol area telecommunications	X		
General Services	DCLS Laboratory Information Management System [statewide access to lab reports plus other process automation]	X	X	X
General Services	Real Estate Portfolio Management [contributes greatly to planning and management]	X		
Commerce & Trade				
Professional & Occupational Regulation	Electronic Access to Government Licensing and Enforcement System	X	X	X
Virginia Employment Commission	Customer Contact Centers [multiple methods of access for unemployed]	X	X	X
Education				
Community College System	Administrative Information System	X	X	X
George Mason University	Telecommunications Infrastructure Project [enables but does not provide wireless and streaming]		X	
Jamestown/Yorktown Foundation	Ticketing Improvements [upgrade to handle 400th anniversary traffic]		X	
Longwood University	Purchase and Install Enterprise Resource Program		X	X
Norfolk State University	Residence Hall Connectivity [wired and wireless computing and telecommunications]		X	
Old Dominion University	Digital Library [preliminary proposal for a central digital library for all universities]	X	X	X
Radford University	Voice Over Internet Protocol (VoIP) Telephone System Project	X		
Radford University	Storage Area Networks Project [central data and image computer storage]	X		
University of Mary Washington	Administrative System Implementation - Bring On Banner		X	X
University of Virginia	Student Systems Project [student information system enhancement]		X	X

Agency	Project Formal Title	Economic efficiency	Citizen convenience	Public access to government
Virginia Commonwealth University	Administrative Systems Replacement		X	X
Virginia Commonwealth University	Modernization of Communications Infrastructure (telephony replacement)	X		
Virginia State University	Distance Education Initiative		X	X
Virginia State University	Student IT Services [wireless enhancements]		X	
Finance				
Accounts	Lease Accounting System Replacement		X	
Accounts	Commonwealth Integrated Payroll/Personnel System (CIPPS) FINDS Web [enhanced online capabilities for state payroll and decreased mainframe use]	X	X	
Planning & Budget	Lease Accounting System (LAS) Replacement PPEA - Enterprise Application Project (Phases 1 and 2)	X	X	X
Taxation	Public/Private Partnership Project [comprehensive reengineering of tax systems including online filing]	X	X	X
Health & Human Resources				
Mental Health, Mental Retardation, & Substance Abuse Services	Health Insurance Portability and Accountability Act (HIPAA) Security Rule			X
Rehabilitative Services	Implement Core Integrated Case Management System [central system across DRS agencies and locations]	X	X	
Social Services	Child Care System [based on national model]		X	X
Social Services	PPEA--Integrated Social Services Delivery System [reengineering of existing processes; integration of systems; web enablement]	X	X	X
Social Services	Child Support Payment Processing Modernization [also addresses DSS database simplification]	X	X	X
Social Services	APECS - IMS to DB2 Reengineering Project [database simplification moving hierarchical to relational]	X		
Natural Resources				
Environmental Quality	Document Management Implementation	X	X	X
Game & Inland Fisheries	Point of Sale License System	X	X	X

Agency	Project Formal Title	Economic efficiency	Citizen convenience	Public access to government
Museum of Natural History	Adventure Classroom		X	X

Public Safety

Agency	Project Formal Title	Economic efficiency	Citizen convenience	Public access to government
Corrections	Automated Offender Sentence Calculation System (part of offender management program)	X		
Corrections	Offender Management System Program (centralized system across prisons)	X		
Criminal Justice Services	Grants Tracking [a grants management system with multi-agency implications]	X	X	X
Emergency Management	IT Infrastructure for the Joint Virginia Emergency Operations Center			X
State Police	Enhancement of the Automated Fingerprint Identification System21 - Wireless Access [Adds a new wireless access and data entry capability for police in the field]			X
State Police	Rewrite the Automated Workflow for Fingerprint Submissions [addition of sex offender registry and more]	X	X	X
State Police	Sex Offender Registry/Livescan Interface for Mugshots	X		
State Police	Statewide Mugshot and Other Images Repository	X		
State Police	Upgrade of Virginia Criminal Information Network software	X	X	X
State Police	Consolidated Billing System	X		
State Police	Conversion of Master Fingerprint File to Electronic Archive [local police access to electronic master file]			X
State Police	Criminal Justice Information System Master Name Index [access speed improvement]	X		
State Police	Statewide Agencies Radio System	X	X	X

Technology

Agency	Project Formal Title	Economic efficiency	Citizen convenience	Public access to government
VITA	Commonwealth Technology Portfolio (Version 2)			X
VITA	Virginia Readiness, Response, and Recovery GIS [a mapping support system for emergency response use]	X	X	X
VITA	Virginia Base Mapping Program Road Centerline Project	X		X
VITA	PPEA - Enterprise Messaging/E-mail System	X		

Agency	Project Formal Title	Economic efficiency	Citizen convenience	Public access to government
VITA	PPEA - Comprehensive Statewide Network Services	X		
VITA	PPEA - Enterprise Customer Care Center [cost effective/ employee convenience]	X	X	
VITA	PPEA - Enterprise Desktop Management [cost effective management and support]	X		
VITA	PPEA – End-to-end Systems and Process Management	X		
Transportation				
Motor Vehicles	Integrated Systems Redesign	X	X	X
Motor Vehicles	Weigh-in-Motion System		X	
Transportation	EZ Pass Implementation		X	
Transportation	American Association of State Highway and Transportation Officials Bridgeware Implementation [use of nationally developed solutions]	X		
Transportation	Hampton Roads Smart Traffic Center Software Integration		X	
Transportation	Asset Management System [more integrated workflow solution]	X		X
Transportation	Inventory Management System [new web-based system with statewide accessibility]	X		X
Transportation	Roadway Network System [database architecture simplification]	X	X	
Transportation	Pinners Point - Midtown Tunnel Traffic Management System		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 Information Technology Investment Board (ITIB), the CIO, and the Virginia Information Technologies Agency (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:

- VITA, in partnership with agencies, has developed a new, statewide business architecture, which will help to improve understanding of the Commonwealth's business and to identify opportunities for new, multi-agency solutions.

- VITA now coordinates a common IT strategic planning process across agencies that is integrated with each agency's strategic business planning.

- VITA reviews procurements and projects from an enterprise architecture perspective.

- VITA has encouraged the use of the PPEA process to develop central solutions to address the needs of multiple agencies. In October 2005, the Virginia Information Technology Investment Board voted unanimously to recommend Northrop Grumman for a potential 10-year partnership agreement to modernize the Commonwealth's information technology infrastructure and services. If approved by Governor Warner, the partnership will be managed by VITA and will provide a streamlined 21st century infrastructure with no additional taxpayer dollars above current funding levels. The recommended agreement includes the hardware, voice and data networks, operating systems, e-mail, security, help desk services, and data center facilities. Complete information on the PPEA process including up-to-date status is maintained at http://www.vita.virginia.gov/ppea/ppea.cfm.

- On September 30, 2005, the Enterprise Applications PPEA business owners John Bennett, Secretary of Finance, and Sandra Bowen, Secretary of Administration, in collaboration and consultation with Eugene Huang, Secretary of Technology, and Lem Stewart, Chief Information Officer, announced the decision to enter into the negotiation phase for the PPEA Enterprise Applications project with the CGI-AMS team. The Enterprise Applications PPEA is focused on administrative, financial, human resources, and supply-chain management business functions and processes and how best to re-engineer and re-solution those processes across state government.

- VITA's service and infrastructure mandates have strengthened the Commonwealth's technology infrastructure planning and provision, thus providing greater efficiencies.

- VITA is providing central hosting of utility applications, which enables cost-effective options for small to large agencies.

- VITA provides statewide geospatial data including digital orthophotography, road centerlines, and addressing capabilities that support multi-agency geographic information systems application development and use. Example enterprise applications include voter registration and the Virginia Readiness, Response, and Recovery application to deal with emergencies.

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

Conclusion

Under the auspices of the IT Investment Board and the CIO of the Commonwealth, 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. The Commonwealth will promote enterprise-wide collaboration, initiatives, solutions, and investments that provide better and cost effective customer- and citizen-centric services.