

Commonwealth of Virginia

2019 Commonwealth Technology Business Plan

June 2019

Introduction

The previous edition of this plan, published in June 2016, stated that a “confluence of opportunities for technology” made that the right time to move beyond the backroom “IT operations” view of technology to a bolder vision of technology as the enabler of far reaching solutions. December 2018 marked a major step in realizing that vision, with the completion of the move from one long-term supplier to the new multi-sourced infrastructure environment. The end goals of that effort: service delivery quality, ease of doing business; flexibility; evolution and innovation; agency choice; service and spend transparency; in a stable infrastructure, directly support the five Business Technology Strategies that remain the core of this updated version of the Technology Business Plan.

This edition of the plan updates the environmental considerations and desirable plan attributes that underlie the plan’s development, as well as reaffirms the importance and relevance of the original seven plan initiatives. The original initiatives have been reduced to five and renamed Technology Business Strategies to better provide action oriented strategic guidance as the commonwealth enters a new era of IT in state government and reinforces how essential it is to continuously incorporate agile, secure IT into the business of state government.

ENVIRONMENTAL CONSIDERATIONS

Any planning effort logically begins with consideration of those significant environmental factors which affect the plan’s development and will substantially impact how the plan is actually carried out. In the context of this Technology Business Plan, six such “external realities” have been identified and are outlined below.

Financial Outlook

The financial outlook in the previous version of the plan noted that while economic growth nationally and in Virginia remained modest, the improving financial outlook presented an opportunity to reconsider the role of technology in meeting the state’s business needs. Since then, the national and Virginia economies have continued to grow at a modest pace. As a result of that steady growth, FY 2018 revenue collections exceeded the forecast. The general fund revenue forecast for FY 2019 and FY 2020 continues to indicate above-trend growth along with additional revenues attributable to federal tax reform driving the stronger growth. As Governor Northam stated in his December 2018 address to the Money Committees, “A growing economy and federal tax changes have come together to create a unique opportunity to strengthen our balance sheet, provide targeted tax relief to those who need it the most, and make historic investments that will position Virginia for future downturns and improve our ability to keep pace with a changing world.”

The current financial position provides a solid financial basis for appropriately funding the newly implemented multi-sourced infrastructure environment, expanded broadband/wireless connectivity, and agency technology improvements.

Continued Population Growth

According to official population estimates released by the University of Virginia's Weldon Cooper Center for Public Service, Virginia's population has grown by 6.5% since the 2010, passing 8.5 million residents in 2018. The statewide population growth rate has slowed down from 13% over 2000-2010 decade, which is consistent with trends at the national level. Despite the slowing growth rate, Virginia's population is projected to increase 9% by 2030 and make Virginia the 10th largest state by 2040. It should also be noted that the population growth is not distributed equally across the state.

Population growth, even modest, inevitably adds to demands for public services. To meet these demands in a responsive, cost effective manner will likely require investing in new or expanded technologies. For example, state and local governments are facing pressure to extend and increase the capacity of the Commonwealth's broadband infrastructure.

Diversity of Virginia's Population

In addition to growing, Virginia's population is becoming more demographically and geographically diverse. Figures from the Weldon Cooper Center show that slightly less than half of the population growth from 2010 to 2014 came from migration into the state, increasing the diversity of the state's population. The figures also reveal a rural-urban divide in population growth, with 2010-2020 projections showing about 8% growth in metropolitan areas, in contrast to a projected 2% decline in non-metropolitan areas. Further, it is projected that the state's elderly population will nearly double in size between 2010 and 2030, accounting for about 1 in 5 Virginians. Initially, this growth will be disproportionately concentrated in the rural counties.

Over the next 20 years, as the "Baby Boomer" population cohort reaches retirement age, the increasing percentage of older Virginians will further add to online service requirements. This cohort is more technology savvy than prior seniors, and their use of technology at home is significant. This will contribute to the demand for high speed internet access throughout the state, and increase pressure to extend that service into rural areas.

Aging of the State Government Workforce

As a corollary to the aging of Virginia's population in general, the state government workforce is also on average getting older. Data from the Department of Human Resource Management (DHRM) yield the following telling statistics:

- The average age of a state worker has increased 10.4% in last 20 years.
- State workers' average years of service has increased 17.6% in last 20 years.

When an experienced state worker retires or otherwise leaves state employment, more than just manpower is often lost. All too frequently substantial institutional knowledge and in-depth understanding of long-standing systems and processes leaves as well. Technology can play a key role in capturing such institutional knowledge and in-depth understanding.

Pervasiveness of Technology

As noted in the Commonwealth Strategic Plan for IT, the introduction of new technologies is now a common feature of today's marketplace, and it is widely accepted that the overall pace of technology change has increased during the decade. This in turn has created a proliferation of technologies which impacts both government and citizens. The pervasiveness of technology brings both opportunities and challenges to state government, for example:

- State employees and organizations are leveraging tools that originated in the consumer market to communicate, collaborate, and share knowledge in the workplace as well as with citizens
- Proliferation of social media has created expectations of instant information and given government greater opportunity for transparency
- As technology has spread through citizen's day to day lives, government is increasingly in possession of more sensitive data that needs to be protected. Security and risk management are now top priorities for VITA.
- The emergence of cloud technologies is enabling the Commonwealth to leverage cloud services models to speed up delivery of flexible business solutions, reduce operations and maintenance requirements, provide service elasticity to support increased citizen needs at peak time, and allow for a more resilient environment in the case of a disaster or service outage.
- The Internet of Things represents the addition to the internet of smart devices, such as sensors, security cameras, and automobiles. The Commonwealth strategic plan for IT comments "The availability of such ubiquitous data sources has the potential to "disrupt" many aspects of state government information technology use. At a minimum, all such devices implemented by state government will need to be secured, managed, and supported."

DESIRABLE PLAN ATTRIBUTES

As noted in the first edition, the above-outlined environmental considerations strongly suggest a Technology Business Plan that is pragmatic, focused, and takes advantage of available resources and initiatives for optimum impact. During the update process, the following attributes were reaffirmed:

- *Drive off recognized business priorities*—Virginia has a well-established process in place for developing and maintaining agency-level strategic (business) plans. Working from a higher-level summary of the Commonwealth’s overarching business priorities, as set by the Governor’s administration and the General Assembly, was a key to creating a supportive, yet focused, Technology Business Plan and remains a key element of the updated plan.
- *Focus on key leverage points*—State agencies cover a wide range of missions and associated constituent services. Finding common points of interest that could then be leveraged for a variety of specific purposes will not only enable the Technology Business Strategies to have the broadest impact, but those impacts can be the basis for identifying best practices that could be shared across state government. One leverage point that should continue to be encouraged is identifying areas for collaboration across state agencies and Secretariats.
- *Push agencies toward best practices* – In addition to identifying best practices, the plan should propose actions and opportunities that encourage and support agencies adoption of best practices. Similar to the previous Productivity Investment Fund, establish a fund (e.g., Innovation Incubation Fund, Innovation Process Improvement Fund) to fund development or adoption of best practice process improvements.

TECHNOLOGY BUSINESS STRATEGIES

Strategy 1—Implement programs and tools that enable all citizens to interact with government safely and securely, and when, how, and where they want to interact.

Background: As consumers, citizens are increasingly accustomed to being able to access the goods and services they require via a full range of means—walk-in, phone-in, or “surf-in”—providing the opportunity to conduct business any time of the day or night, and anywhere they might be, that suits their needs and desires. Their expectations are no less of the public sector—and government has clear efficiency and effectiveness motivations as well for meeting those expectations.

Re-engineered business processes can improve internal operations as well as providing a more satisfying customer experience. Newer and expanding forms of interaction, such as social media, need to continue to be further explored and applied. With the proliferation of mobile devices, there is a need to articulate and promote a strategic approach to incorporate services for mobility (phone and tablet) while maintaining security within new applications.

Strategy 2—Improve information sharing and governance to support decision making from data already collected.

Background: A number of the Commonwealth’s priorities and their associated strategies emphasize increasing the efficiency and effectiveness of government services through improved sharing of information, both across state agency boundaries and among all levels of government and associated non-governmental organizations.

Finding and implementing ways to improve data sharing and information flows among existing/legacy systems can significantly improve the effectiveness of such systems while also extending their useful lives. Critical to this effort is updating the *Code of Virginia* to support, rather than disallow, data sharing. Equally, important, state government needs to build on information gathering and sharing to develop data analytics. Emphasis should be placed on identifying the right analytical tools, information architecture, and training to enable agencies to transform existing data (whether internal or shared) into quality and actionable information. The July 2018 appointment of the Commonwealth Chief Data Officer (CDO) reinforces the Commonwealth’s commitment to this strategy. The CDO’s code-based duties include:

- Establish business rules, guidelines, and best practices for the use of data... in the Commonwealth
- Assist state’ regional, and local public entities with the application of the Government Data Collection and Dissemination Practices
- Encourage and coordinate efforts to access and share data across all levels of government to improve the efficiency and efficacy of services, improve outcomes, and promote data-driven policy making, decision making research, and analysis

Improved data flows and data analytics can lead to streamlining processes and opportunities and are to be explored, particularly where such improvements pay for themselves. When investing in new applications, select assets which can easily be set up to exchange data and information with other assets.

Strategy 3 – Expand technology platforms to include tools that support productivity and Virginia’s goal of remaining the best-managed state.

Background: The term “best managed” state means that Virginia has identified, implemented and measured sound business practices that contribute to a financially stable government without sacrificing quality services for the citizens of Virginia. To enhance and sustain its leadership, Virginia needs to promote technologies that enable and enhance these business practices and promote efficiencies. This applies to not only the implementation of technology solutions, but existing technology solutions as well.

Cloud computing is a good example of utilizing an emerging best practice technology to promote technology efficiencies. Cloud computing can provide faster, flexible implementation at a lower initial and sustaining cost. In September 2018, the Governor Northam issued Executive Order 19, Cloud Service Utilization and Readiness, which directs VITA to “adopt a model for evaluating and incorporating cloud services where appropriate to support information technology (IT) services. VITA shall also develop governance documents in support of this cloud approach that address requirements for evaluating new and existing IT for cloud readiness.”

Adoption of a cloud centric approach for the Commonwealth requires a responsive network and an investment in a Broadband strategy that meets the business needs of the agencies. To maintain worker productivity, the network must remain responsive. To minimize disruptions and latency issues, ongoing analysis of network usage and performance as well as business requirements that will affect the network is critical.

A concerted focus on leveraging cost-effective, productivity-enhancing technologies that encourage collaboration can increase the effectiveness of state workers while providing a more fulfilling and satisfying work environment and thereby contributing to improved customer service.

Strategy 4 – Support initiatives and investments that make Virginia the leader in IT security and cyber security.

All in the Commonwealth are acutely aware of the security threats in cyber space and to the Commonwealth’s IT infrastructure. In the January 2019 edition of Network News, the Commonwealth CIO, Nelson Moe, stated that security and risk management “is the top priority for Virginia.” He went on to note, “VITA, agencies and our suppliers work diligently to protect the information citizens and businesses entrust to the state.”

Virginia has emerged as a national leader in cybersecurity and cutting-edge technology, with the Governor and the Virginia Economic Development Partnership (VEDP) pursuing the growth of the cybersecurity industry in the state.

VITA's Commonwealth Security & Risk Management (CSRM) Directorate is tasked with that mission, and in doing so, offers significant benefits to agencies of the commonwealth and citizens, including:

- Confidence in the integrity of the data and the systems processes
- Assistance in compliance with laws and regulation involving confidentiality
- A secure environment in which to perform business activities of the commonwealth
- Identification and protection of key business functions and services in the event of disaster
- Monitoring for intrusions and Network "attacks" on commonwealth systems

Becoming a leader in IT security is a necessary step to becoming a leader in the use of IT to proactively address business issues and meet citizen needs.

Strategy 5 – Expand and support enterprise and collaborative IT investments.

A characteristic of well-managed organizations is to develop and deploy enterprise wide investments that are a cost effective and efficient means to address business needs across the entire organization. The Commonwealth Strategic Plan for IT recognizes the benefits of this approach and calls for continuing “to support, and where appropriate, extend the model of enterprise shared services to improve efficiency and effectiveness in commonwealth operations where business functions and data cross departmental boundaries.”

The Information Technology Resource Management Glossary, (COV ITRM Glossary), contains the following definitions for Collaboration and Enterprise:

Collaboration Opportunity

A common business need that establishes the opportunity for organizations and/or political subdivisions to work together, in a substantive, mutually beneficial relationship, towards a common integrated solution. In preparation for the annual RTIP Report, agency IT investments are evaluated as potential Collaboration Opportunities.

Enterprise

An organization with common or unifying business interests. An enterprise may be defined at the Commonwealth level, the Secretariat level, or agency level for programs and projects requiring either vertical or horizontal integration within the Commonwealth, a Secretariat, or agency, or between multiple Secretariats, agencies and/or localities.

Implementing enterprise or collaborative services is not new to the commonwealth, as agencies have participated in enterprise shared, IT services for several years through the Virginia Information Technologies Agency (VITA) and the IT Partnership. The successful move of the

Commonwealth's executive branch information technology (IT) infrastructure to a multisource environment will help Virginia state government create a more agile, transparent and adaptable enterprise infrastructure that supports the expansion of shared services. Implementation of new enterprise or collaborative-shared services is an important tool for addressing multiple agency business needs while managing long-term technology costs.

The concept of enterprise or collaborative is not unique to services but applies to applications as well. Cardinal, PMIS, and enterprise-wide procurements (which include local governments) are good examples. Health records is good example of a collaborative business application need.

RECOMMENDED STEPS FOR PLAN IMPLEMENTATION

In addition to publishing this updated version of the Technology Business Plan on the VITA website, ensure that the plan serves as the starting point for updating the Commonwealth Strategic Plan for IT. Revising, approving, and publishing an updated Commonwealth Strategic Plan for IT should occur contemporaneously with the publishing of the updated Commonwealth Technology Business Plan.