Commonwealth of Virginia

Strategic Plan for Applications

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I. Message from the Governor

The Commonwealth of Virginia and the nation are currently facing very challenging economic times. As we work through this difficult period, it is crucial that we as a Commonwealth continue to excel at serving our customers, the citizens of Virginia. With increasing demand and decreasing resources, we must think creatively and approach our challenges in an innovative and collaborative way.

Virginia has for many years been a national leader in technology. As we continue our efforts to lead the way in technology, I know that our approach to IT Applications will be a key element for success. Increasing agency productivity by streamlining operations, collaborating across agencies to consolidate efforts while enhancing customer service, and improving our business approach to key issues are all important pieces in continuing this success.

The Commonwealth Strategic Plan for Applications was developed by Commonwealth agency leaders. It offers a comprehensive and innovative approach to IT applications in Virginia for the next four years. The ideas presented in the plan provide a vision for the future that addresses the growing needs of our citizens while simultaneously improving government operations.

I am hopeful that all executive branch agencies will support this plan and work hard to achieve the vision it lays out. As a supporting component of the overall IT strategic plan, this approach should help Virginia continue to lead the way.

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II. Executive Summary

BACKGROUND

Today's environment intensifies pressure on government to deliver more - federal priorities are adding new state responsibilities, entitlement spending is forecasted to grow, a high percentage of our workforce is nearing retirement, and – Commonwealth customers increasingly expect the same services and conveniences found in the private sector.

Improved productivity in service delivery – to citizens, businesses, and other government organizations - is necessary if we are to meet these demands.

APPLICATIONS DEFINED

An application is defined as any program that provides specific support functions directly for business use, or, in some cases, for another application. Applications "apply" information technology to enable and enhance the actions required to carry out business.

The applications used to deliver Commonwealth services play a crucial role in enabling us to meet our missions, and Commonwealth agencies make significant investments in applications in order to perform the vital services of Virginia government.

Enterprise applications are defined as centrally administered applications which act as the authoritative source of data or processing for the Commonwealth. Collaborative applications and services are business applications and services which provide organizations and/or political subdivisions the opportunity to work together, in a substantive, mutually beneficial relationship, with a common integrated solution. Agency specific applications support a unique agency requirement or mission.

OVERVIEW OF THE PLAN

Traditionally, each agency has had sole responsibility for application investments made to support agency functions in ***all*** areas; administrative, support and core mission requirements. However, as a result of the Commonwealth's increasing emphasis on strategic planning, and in alignment with the goals of the Council on Virginia's Future and the Commonwealth's Strategic Plan for Information Technology, a new vision is evolving for applications. This new vision recognizes new approaches and new technologies which can benefit all of us and the customers we serve; and is the natural next step in our information technology maturity.

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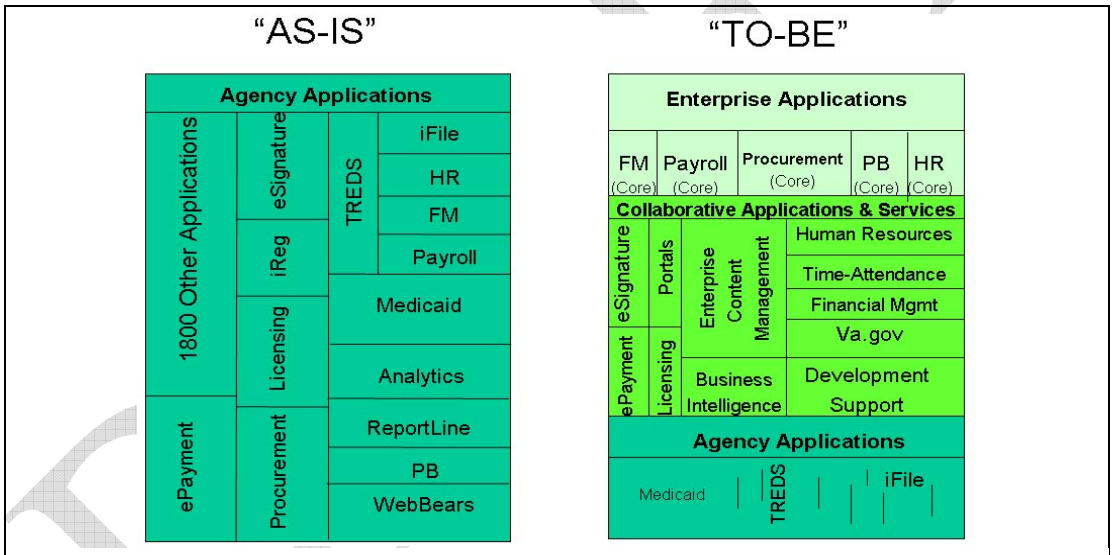
The vision recognizes opportunities to better integrate a number of applications at the enterprise or collaborative level. Additional opportunities exist for sharing technology components common to our business applications, such as customer relationship, e-forms, enterprise content management, and reporting, analytics and data integration.

Enterprise and collaborative services can improve service delivery and potentially free agency resources. By creating channels for developing, managing and operating common tools, we position ourselves to increase focus on core missions as well as new duties and responsibilities yet to be identified.

This plan is a supporting component of the Commonwealth Strategic Plan for Information Technology, and aligns to the Commonwealth's IT goals. As this plan evolves, it will in turn be supported by the development of a Commonwealth Strategic Plan for Data.

1. The AS-IS and TO-BE Vision for Applications



This illustrates the current state and the envisioned future state. The "AS-IS" column shows examples of where the responsibility for providing and maintaining applications currently rests; either enterprise, collaborative or agency. The "TO-BE" column shows that in the envisioned future, while agencies will still be responsible for their mission specific applications, a greater number of application functions can be provided and maintained at the enterprise level or collaboratively. This illustration gives some examples such as Procurement, Human Resources (HR), ePayment, Enterprise Content Management, Business Intelligence, and Portals.

APPROACH

Traditionally, all applications have been treated as agency-owned applications, even when others have a stake in their functionality. Our new

applications vision sees giving all a voice as appropriate, based on a three tiered approach: 1) Enterprise applications; 2) Collaborative applications; and, 3) Agency Specific applications. This approach also envisions oversight and governance tailored to each tier, with enterprise applications governed by the enterprise, collaborative applications by those that use them, and agency applications by those that own them. It also includes development of a Commonwealth governance process to ensure all three are managed to achieve optimal balance of our IT investment resources.

A sound and unified governance structure will give everyone a voice in the functionality and services provided by enterprise and collaborative services. To be effective, the governance structure requires transparency of the applications portfolio. Transparency illuminates opportunities for collaboration which are not visible today. An enhanced governance structure will allow us to make the right investments, in the right places, for the most efficient and effective use of our resources.

This plan does not identify specific application initiatives; those initiatives will flow from agencies, collaborative group planning processes, and the mining of our current portfolio. However, as proposed application investments come forward, the plan provides guidelines on how they may converge to realize the benefits of the vision.

We face many challenges in fulfilling this vision; in some cases, we will be changing how we think about the way we provide services, and shifting our view of applications as isolated and discreet to considering what functions may be shared as services or portable components. Before we buy or build applications, we will need to seek a Commonwealth-wide view to see if there is opportunity to save money, time or effort by leveraging needs we hold in common with each other.

Developing a responsive venue for collaboration will take time, effort and cooperation. We will need to sort through and determine where sharing is possible, where our mission-specific and data privacy boundaries lay, and what we hold in common. We will need to craft the structures which will enable and foster collaboration, from governance to data standards. We will need to ensure security and data integrity at every step. It is possible that in some cases, business process changes may be needed in order to take advantage of new and emerging technologies; these issues will be addressed through implementation management. In rising to meet these challenges, we can deliver on the promise of this vision.

The purpose in developing the Commonwealth Strategic Plan for Applications is to provide the Commonwealth with a future vision, insight into its benefits, and to serve as a guideline for consideration of future investments. Most importantly, this plan is intended to deliver a roadmap

for success in meeting the challenges on the horizon. The keys to meeting our challenges are outlined in the goals, objectives and strategies in this plan.

Vision: Enabling Government by providing effective, efficient, necessary and secure applications to meet the needs of citizens, businesses and government

Goal 1: Provide delivery mechanisms that allow customers to serve themselves

Goal 2: Provide applications that deliver efficient and effective services

Goal 3: Provide (utilize) a framework for application governance, planning and management

Goal 4: Provide secure, confidential, trusted and reliable applications

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III. Introduction

The expectations of government to deliver more services, to deliver them better, and more cheaply, presents challenges for all of us across the Commonwealth. We face external challenges of federal mandates adding new state responsibilities, and the forecasted growth of entitlement spending will place greater demands on state resources. Internal challenges such the high numbers of public sector employees nearing retirement age will drive us to seek even greater efficiencies. As our customers increasingly expect the same services and conveniences found in the private sector, we want the quality of our services to keep pace with the quantity.

Increased productivity in service delivery can help us to meet these expectations. Innovation can help us to extend our resources to deliver results.

The applications used to support and deliver these services play a crucial role in enabling us to meet our missions, and Commonwealth agencies make significant investments in applications in order to carry out the business of Virginia government.

It is becoming increasingly difficult to separate applications from business functions; software applications contain the language, rules and logic of agency business, and are essential tools by which operations are carried out. Often, the applications on which our business runs are the centerpiece of business reengineering efforts.

Traditionally, each agency has had sole responsibility for application investments made to support agency functions in ***all*** areas; administrative, support and core mission requirements. However, as a result of the Commonwealth's increased emphasis on strategic planning, and in alignment with the goals of the Council on Virginia's Future and the Commonwealth's Strategic Plan for Information Technology, a new vision is evolving for applications. This new vision recognizes leveraging new approaches and new technologies can benefit all of us and the customers we serve; and is the natural next step in our information technology maturity.

This plan supports the Commonwealth Strategic Plan for Information Technology, and aligns to the Commonwealth's IT goals. As this plan evolves, it will in turn be supported by the development of a Commonwealth Strategic Plan for Data to facilitate implementation.

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The vision provides opportunities to better integrate a number of applications at the enterprise or collaborative level. Additional opportunities exist for sharing technology components common to our business applications, such as customer relationships, e-forms, enterprise content management, and reporting, analytics and data integration (business intelligence). Movement towards sharing these tools and components between agencies supplies new options to gain efficiencies and avoid costs, while preserving, and potentially enhancing agencies' ability to fulfill independent operational mission requirements.

Enterprise and collaborative services can improve service delivery and potentially free agency resources. By creating channels for developing, managing and operating common tools, we position ourselves to increase focus on core missions and new duties and responsibilities.

Enterprise applications are defined as centrally administered applications which act as the authoritative source of data or processing for the Commonwealth. Collaborative applications and services are business applications and services which provide organizations and/or political subdivisions the opportunity to work together, in a substantive, mutually beneficial relationship, with a common integrated solution. Agency specific applications support a unique agency requirement or mission.

For example, the Commonwealth Accounting and Reporting System (CARS) is an enterprise system; it is the authoritative source of financial data and processing for Virginia.

The Department of Business Assistance is partnering with the Departments of Taxation, General Services, and Minority Business Enterprise to develop the Business One-Stop; a portal that provides specific licensing, permitting and registration requirements for the user's business situation and assists with partial completion of the necessary forms, facilitating the formation of new businesses in Virginia. The Business One-Stop is an example of a collaborative service.

And, agencies also require mission specific applications that are unique to their line of business, such as Alcohol Beverage Control's Point-of-Sale, or the Department of Social Services' Automated Program to Enforce Child Support. Clearly, responsibility for mission specific applications must rest with the agency that owns them.

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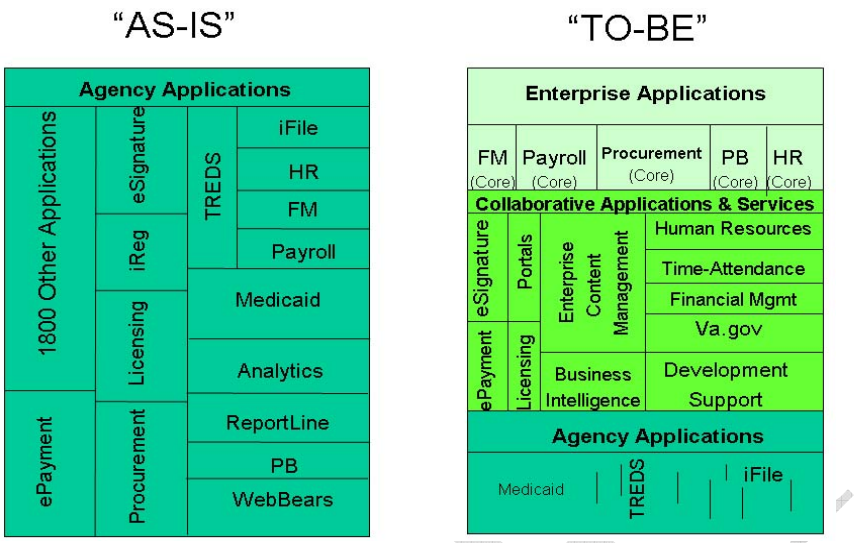
2. The AS-IS and TO-BE Vision for Applications



This illustrates the current state and the envisioned future state. The "AS-IS" column shows examples of where the responsibility for providing and maintaining applications currently rests; either enterprise, collaborative or agency. The "TO-BE" column shows that in the envisioned future, while agencies will still be responsible for their mission specific applications, a greater number of application functions can be provided and maintained at the enterprise level or collaboratively. This illustration gives some examples such as Procurement, Human Resources (HR), ePayment, Enterprise Content Management, Business Intelligence, and Portals.

Our vision includes governance which will allow enterprise applications to be governed by the enterprise, collaborative applications by those that use them, and agency applications by those that own them. It also includes development of a Commonwealth governance process to ensure all three are managed to achieve optimal balance of our IT investment resources.

Sufficient planning and investment in enterprise and collaborative services will help to ensure that these services successfully meet the needs of all who use them, and prevent unnecessarily using individual agency resources on duplicative applications. Enterprise applications should be funded by the enterprise, collaborative applications by those that use them, and agency applications by the agency.

This particularly applies to agency developed or purchased applications that compensate for needed functionality which is missing in enterprise or collaborative applications. In today's environment, everyone requiring such additional functionality must develop or purchase it themselves and maintain it internally. This vision leverages the opportunities that exist

when five, or twenty, agencies have the same need, and can pool resources to develop and maintain such a system collaboratively. Exercising this opportunity frees agency resources to focus on the agency's core mission(s).

A sound and unified governance structure will give everyone a voice in the functionality and services provided by enterprise and collaborative services. To be effective, the governance structure requires transparency of the applications portfolio. Transparency will illuminate opportunities for collaboration which are not visible today. An enhanced governance structure will allow us to make the right investments, in the right places, for the most efficient and effective use of our resources.

This plan does not identify specific application initiatives; those initiatives will flow from agencies, collaborative group planning processes, and mining our current portfolio. However, as proposed application investments come forward, the plan provides guidelines on how they may converge to realize the benefits of the vision.

We face many challenges in fulfilling this vision; in some cases, we will be changing how we think about the way we provide services, and shifting our view of applications as isolated and discreet. We will have to consider those functions which may be shared as services or application components. Before we buy or build applications, we will want to seek a Commonwealth-wide view to see if we can save money, time or effort by leveraging needs we hold in common with sister agencies.

Developing a responsive venue for collaboration will take time, effort and cooperation. We will need to sort through and determine where sharing is possible, where our mission-specific and data privacy boundaries lay, and what we hold in common. We will need to craft the structures which will enable and foster collaboration, from governance to data standards. We will need to ensure security and data integrity at every step. In rising to meet these challenges, we can deliver on the opportunity of this vision.

The purpose in developing the Commonwealth Strategic Plan for Applications is to provide the Commonwealth with a future vision, insight into its benefits, and to serve as a guideline for consideration of future investments. Most importantly, this plan is intended to deliver a roadmap for success in meeting the challenges on our horizon. The keys to meeting our challenges are outlined in the goals, objectives and strategies in this plan.

Applications need not be mandated in order for the Commonwealth to realize these benefits. Business leaders are realizing and voluntarily

incorporating these efficiencies and capabilities into their portfolios. Finite resources coupled with increased demand mandates greater efficiency and productivity in our business processes.

The benefits of carrying out this strategy include:

- Providing Customer-Centric Services to citizens, businesses, and government entities making the services easier to use, more accessible, and more cost efficient.

- Improving Business Processes to provide the services Virginians want and need in the most cost effective manner.

- Enhancing Workforce Efficiency by creating and supporting innovative government services and processes using modernized information technology.

- Managing Enterprise Information by making state-managed data available to all levels of government, customer, and businesses as appropriate.

- Improving Collaborative Partnerships to allow government entities, businesses, and citizens to work together to transform state government services.

- Providing Leadership and Governance by establishing appropriate processes to understand and guide the direction, value, and potential agency and enterprise solutions for application investments.

IV. Applications Environment: Planning and Governance

The Commonwealth has made great strides in governance and oversight of application investments. Our ranking as best managed State reflects that effort. There remains more to be accomplished.

To quote the Auditor of Public Accounts' (APA) report on IT Governance, December 2007: "Everyone has some small piece of control with no one determining direction or overseeing spending. The Commonwealth has left these responsibilities divided among many entities at many levels with no one entity having control or authority to make decisions… IT operations within the Commonwealth are complex, and management and oversight responsibilities for these operations are fragmented and diffused. "

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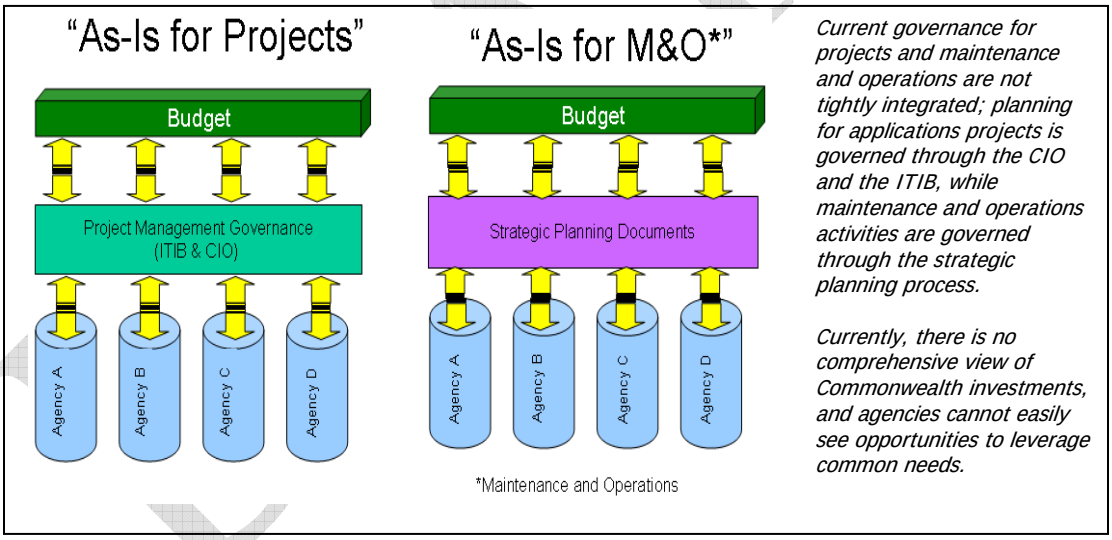
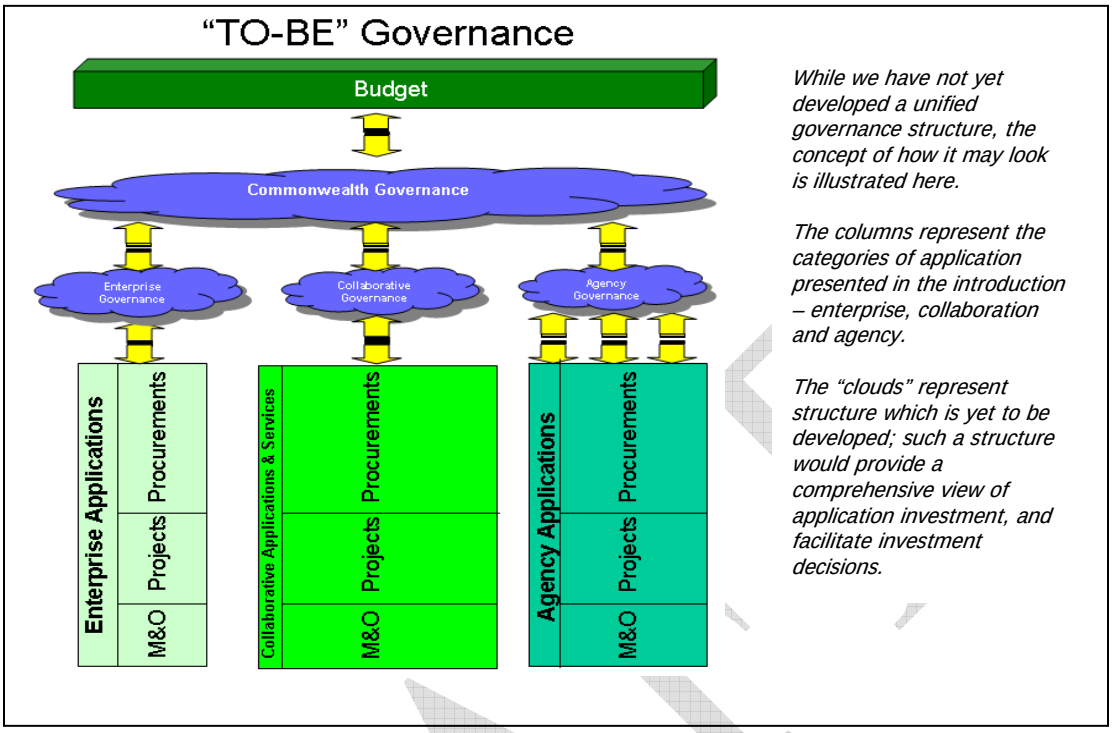
An improved and unified governance structure will provide agencies and the Commonwealth with a comprehensive view of proposed investments, to include projects and maintenance and operations. All benefit from a structure which allows us to measure maintenance and operations within the larger context of Commonwealth IT priorities, and allows us to see opportunities which leverage solutions to meet our common needs. Unified governance is necessary in order to choose the most efficient solution and maximize our resources when planning application investments.

Today we have solid processes for planning projects and maintaining existing applications. Tomorrow these processes must be integrated, unified and transparent to provide a comprehensive view of our portfolio, and to highlight opportunities for leveraging resources to meet common needs. While not part of this document, the vision for the future recognizes the need to develop this unified structure for governance.

3. Current State of Governance



4. A Potential Unified Governance Structure



V. Customer-Centric Business Processes: AS-IS and TO-BE

There are multiple channels through which customers can interact with government. Whether customers are citizens, businesses or other governmental agencies, and whether those customers choose web self-service, or assistance through service counters or the telephone, they expect comprehensive, accurate and up-to-date information about their needs and interactions.

The following provides a high-level view of current processes for accessing Commonwealth services through the web; a description of the possible "AS-IS" state, and how the applications vision will transform the way government business is transacted; the possible "TO-BE" state. While some agencies are closer to the "TO-BE" vision than others, this view is presented to clarify a common direction for the Commonwealth.

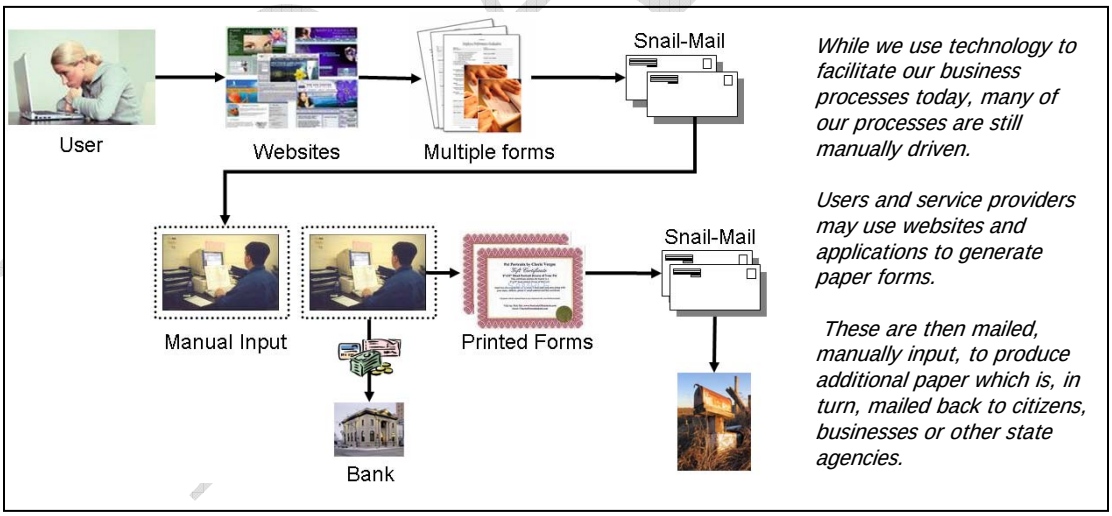
AS-IS

- Customers of the Commonwealth access services through a multitude of government websites, organized as government is structured (Branch,

Secretariat, etc) and often not in the manner in which a customer thinks of services

- Service providers to walk-in or telephone customers have an agency-limited view of customer history and needs
- Customers or service providers must find the form(s) they need, determine what must be filled out, and submit to the appropriate agency(s), via snail mail or customer service center
- Personal and financial information is repeated on each form
- Application tracking is not possible
- This process is repeated for each required service
- Agencies process paper forms, usually by keying the data into an electronic agency system
- Data is maintained with agency silos and current data is not made available to sister agencies

5. "AS-IS" Process



TO-BE

- Customers of the Commonwealth (citizens, businesses and other government agencies) can access services through a "one-stop shop" web portal.

- We have a 360° view of the customer and are able to deliver citizen-focused services with increased efficiency.

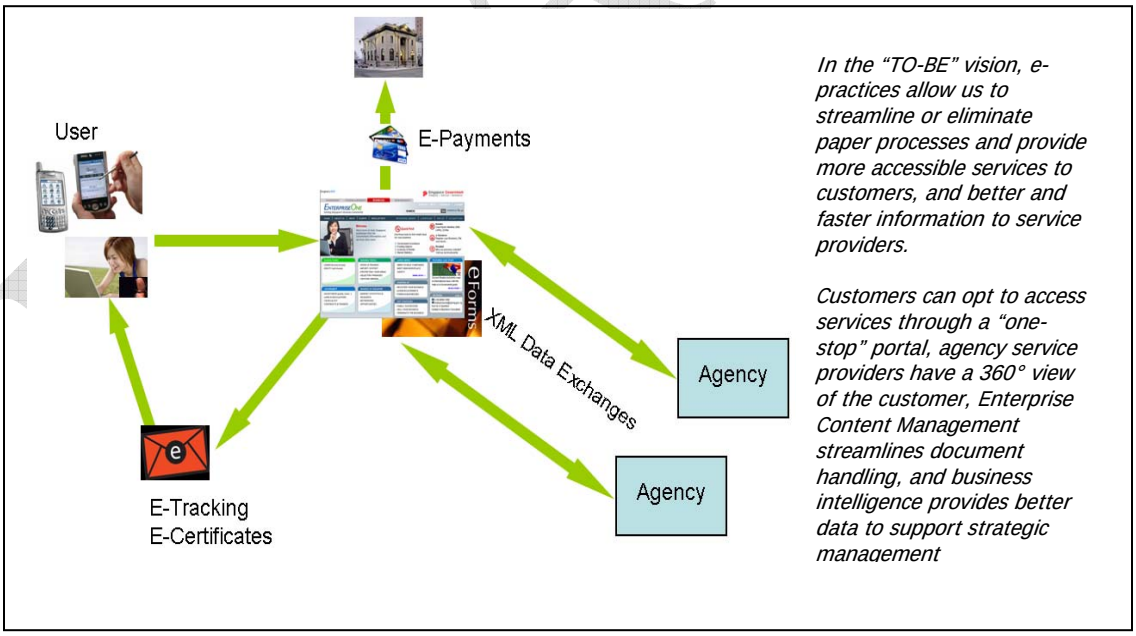
- Customers and service providers enjoy seamless and integrated links to information and services provided by the "agency of contact" though links to partner agencies.

- Customers authenticate themselves, or are authenticated by service providers, by supplying information which is validated against an Identity Management Service. Once authenticated, the customer is presented with a list of the appropriate services available

- Customers select the service(s) and respond to specific prompts for necessary information not already available such as banking/credit card information, and specific data elements necessary for each service.

- Standard "messages" are sent to the applicable agencies, providing the information electronically. Return messages provide a notice to the customer or service provider with the status of each service request, including tracking numbers.

6. "TO-BE" Process



Clearly, not all data can be shared; but ***appropriately*** shared data will mean fewer forms, fewer counter visits and phone calls, and a better customer experience. Sharing common business components and common data will provide flexible, reusable building blocks for shared functionality. Enterprise Content Management allows us to capture,

manage, store, preserve, and deliver content and documents related to organizational processes, and give customers and service providers better and faster access to information and services. Business intelligence provides more transparency and enhanced analysis to management through reports and dashboards. Together they allow us to "unlock" the knowledge contained within our data.

VI. Example story of Applications that support Customer-Centric Processes: AS-IS and TO-BE

This story is one example of the potential for the "TO-BE" - exploring the prospective future functionality of Virginia's Business One Stop from a customer perspective .The functionality described up through the pre-population of the most essential state forms is already in place. The collaborative effort of Business One Stop is being led by the Virginia Department of Business Assistance. This joint effort is progressing to make the additional possibilities of e-forms, authenticated, shared data - and a seamless customer experience - a reality.

Mike is considering going into business as a contractor. He visits the Virginia Business One Stop for preliminary research. He finds links to exploratory informational resources, such as checklists for deciding whether owing a business is "right for you", and he gets tips and links for researching his market and writing his business plan.

Mike uses the One Stop and its links to help him structure and write his business plan. His plan is complete, he's secured his operating capital, and he's ready to set up his company. The One Stop portal presents him with a simple list of qualifying questions to ensure he is ready to proceed; such as type of business he wants to start, and links him to the application for a Federal Employee ID number.

He then proceeds to set up a secured account through the portal; his name, address, and his account profile data will flow to populate the e-forms he'll need for the different state and local agencies with which he will register and apply for licenses.

Once he's set-up his account, he's free to move into the One Stop business set-up wizard, although he may save his data and return to log in and complete his set up at any time. As he moves through each element of the wizard, he's provided with "Tips and Help" that can direct him to answers for any element he's unsure of or unable to answer.

The portal prompts him to select a registered agent for his company, allows him to check the availability of his business name through the State Corporation Commission. The name is available, so he proceeds to

complete a Fictitious Name Filing e-form which will be electronically filed with the Clerk of the Circuit Court in his locality, and pays the fee by credit card. Upon filing, he receives an emailed receipt, and is informed he'll receive verification upon completion of the filing. Based on the number of employees he's anticipating, the wizard tells him if he will require worker's compensation insurance, notifies him he may be eligible for Small, Women and Minority (SWAM) certification, and offers him the option of completing the application.

The portal checks Mike's business against the Department of Professional and Occupational Regulation (DPOR) and prompts him through his licensing requirements. Mike will need a Class B contractor's license, which requires him to take an exam. He can link to the examiner, select a time and location, pay for the exam by credit card, and receive his receipt and registration via email. The licensing e-forms are populated with his account data; he completes licensing-specific information, and pays his licensing fees by credit card. When he electronically routes this to DPOR, he receives notice of receipt, and his One Stop account is updated. He's also prompted to complete his pre-populated registration e-forms for the Department of Taxation and the Virginia Employment Commission.

Based on the business address entered in the account set-up, the wizard links him to his locality's Commissioner of Revenue or Department of Finance and pre-populates his local business registration.

The portal also keeps a list of "action items" for Mike; as he progresses through each step of his business set up; it tracks any outstanding steps he'll need to complete to finish setting up his business.

Rather than negotiating the web sites of the seven departments that Mike needs to work with to establish his contracting business, he's been able to fill out his account profile once, and share his information with each department as needed. The portal saved him time and improved the accuracy of his information by negotiating the steps of the set-up for him, and the portal supplied authenticated data exchange to the service providers, streamlining data collection and ensuring data consistency.

VII. Applications vision, goals, objectives and strategies

Vision: Enabling Government by providing effective, efficient, necessary and secure applications to meet the needs of citizens, businesses and government

Applications are the centerpiece for automating many of our business functions; software applications contain the language, rules and logic of our business, and provide essential tools by which operations are carried out. Applications are not only vital, but integral to the business of the Commonwealth.

As we maintain, upgrade, replace and consider new applications, this vision can inform those investment choices. The goals, objectives and strategies outlined in this plan serve to advise us in our future planning and governance processes and provide us with evaluative criteria to guide our investment decisions.

As we move forward to enhance or replace applications, opportunities to realize this vision will emerge. Enterprise systems will be used to support common administrative functions. Applications containing similar business functionality will move toward a common solution. The Commonwealth will see opportunities to migrate from duplicative, "siloed", applications toward standardized, interchangeable, reusable technologies. For example, many applications require confirmation of social security numbers; a procedure which could be written once, and provided to agencies as a web service.

Incorporating many of the e-practices found in the commercial sector can expand our options for providing customer-facing services to all Commonwealth customers; the public, businesses and other government agencies. These practices not only reduce our cost to conduct business, but are expected by a culture which demands services when and how it best serves them.

An integrated, unified and transparent governance structure is necessary to support our ability to properly plan for and manage the Commonwealth's application portfolio.

As the number of collaborative applications expands, many of their users will be the same. We must develop procedures and capabilities which reduce the identity management burden. We will reduce risk by increasing data accuracy and by reducing duplicative identity data and processes.

Technology and information are powerful enablers, but their potential can only be fully realized through a common vision, collaboration, and a unified governance structure. The keys to the successful realization of this vision are outlined in the goals of this plan.

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Goal 1: Provide delivery mechanisms that allow customers to serve themselves

As consumers and businesses have embraced evolving technologies, their expectations of interactions with government are changing. Internet and web-based services are exploding in the private sector, and citizens and businesses have the same expectation of government. Our vision for the Commonwealth's web presence includes providing robust service capabilities in addition to the information and printable forms available today. Today's users demand not only service via the browser, but also through smart phones. Common solutions will enable us to meet these needs faster and less expensively.

The Commonwealth must embrace the same e-practices available in the commercial sector and make it possible for customers to serve themselves when and how they wish; for example, encouraging customers to sign up for electronic notifications and statements instead mailing paper. And many of the application services that make these transactions possible can be shared by multiple agencies, reducing costs for all.

In addition to the traditional service channels of walk-in service centers, "snail" mail and phone calls, customers expect the ability to conduct business via the web, manage their own data, option into subscriptions and "push" services, and choose "paperless" options. In expanding the service options provided to citizens, businesses, organizations and government agencies, these services can be made easier to use, more cost-effective, and, most importantly, more customer-facing and accessible.

Objective 1.1: Improve customer self-service opportunities, making services convenient, cost efficient and accessible

- Strategies:

1.1.1 Consumer Friendly Forms

1.1.2 Digital Signature

1.1.3 Intuitive User Interfaces

1.1.4 Actionable Information

1.1.5 Emerging Technologies

Objective 1.2: Develop collaborative opportunities which deliver accessible, reusable, efficient and modern services for an e-culture

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↳ Strategies:

1.2.1 Enterprise Applications

1.2.2 Collaborative Services

1.2.3 Centers of Excellence/Competency Centers

1.2.4 Data Standards

1.2.5 Facilitate Collaborative Services between agencies

Objective 1.3: Manage enterprise information by making all appropriate state-managed data available to all levels of government, citizens and businesses

↳ Strategies:

1.3.1 Master Data Management

1.3.2 Data Governance and Standards

1.3.3 Information Transparency

1.3.4 Identity and Access Management (Security)

Goal 2: Provide applications that deliver efficient and effective services

The first aim of any Commonwealth agency is to deliver on its core mission, and its applications are expected to deliver what the business needs, when it needs it.

Efficient and effective services start with analyses of business processes; it then becomes possible to identify opportunities for leveraging commonalities. Common business practices can often use common business applications and standard tool sets (both functional and technical). By doing so, they can share policy and practice through a service oriented architecture and web services. Duplicative components can be eliminated, and agencies can reduce costs through collaborative solutions.

Middle and smaller sized agencies will have the opportunity to leverage economies of scale; collaborative services can make technologies affordable when otherwise the resources to implement would not have been available. By collaborating, we can reduce costs by sharing the licensing, infrastructure and human expenses.

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Service-oriented architecture has the potential to "join up" government through interactive business components that are usable across application and enterprise boundaries. Reuse of these services results in a lower total cost of ownership to the Commonwealth.

Data management, records retention and archival compliance with agency and state policies will be driven by business needs. Electronic content management provides automation of these processes, and delivers the ability to scan, store retrieve and share documents.

Business intelligence and data mining must be used to enhance our planning and decision making. By employing forecasting and intuitive displays of our information, we empower our knowledge workers with not just data, but information and insight.

Objective 2.1: Manage enterprise information by making all appropriate state-managed data available to all levels of government, citizens and businesses

- Strategies:

2.1.1 Master Data Management

2.1.2 Data Standards

2.1.3 Information Transparency

2.1.4 Identity and Access Management (Security)

Objective 2.2: Develop collaborative opportunities which deliver accessible, reusable, efficient and modern services for an e-culture

- Strategies:

2.2.1 Enterprise Applications

2.2.2 Collaborative Services

2.2.3 Centers of Excellence

2.2.4 Data Standards

2.2.5 Facilitate Collaborative Services between agencies

Objective 2.3: Improve business by identifying, developing and reusing cost efficient processes, technologies and services

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- Strategies:

2.3.1 Business Architecture

2.3.2 Business Process Mapping

2.3.3 Emerging Technologies

2.3.4 Service Oriented Architecture

Goal 3: Provide (utilize) a framework for application governance, planning and management

Gartner Group defines governance as "The processes which ensure the effective and efficient use of IT in enabling an organization to achieve its goals".

Enterprise applications should be governed by the enterprise, collaborative applications by those that use them, and agency applications by those that own them. All should be managed to achieve optimal balance of IT investment resources.

This optimal balance can be achieved through the establishment of a unified governance framework that provides a clear view of Commonwealth application investments as a whole, for new projects and maintenance and operations. A governance framework will be developed which will establish appropriate processes to understand and guide the direction and value of investments in enterprise and collaborative applications, as well as agency application investments.

Objective 3.1: Develop governance which supports accountability and agile decision making

- Strategies:

3.1.1 Commonwealth Governance

3.1.2 Enterprise Applications Governance

3.1.3 Collaborative Applications and Services Governance

3.1.4 Agency Application Governance*

3.1.5 Data Governance*

(*In compliance with Federal mandates)

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Objective 3.2: Plan, budget and measure by establishing a unified methodology for selecting, controlling and evaluating application investments

- Strategies:

3.2.1 RTIP

3.2.2 ProSight

3.2.3 Strategic Plans

3.2.4 Application Portfolio*

3.2.5 Application Roadmap*

*(New initiatives)

Goal 4: Provide secure, confidential, trusted and reliable applications

Secure and trusted authentication of application users is a core element in a sound security program. Applications will provide for secure and confidential (i.e., encrypted) information exchange, information integrity, strong authentication of application users, digital signature, operation across different environments, and allow the secure interchange of information at multiple information sensitivity levels.

Single Sign-On can increase security by reducing the multiple data sources that duplicate identity information. This duplication increases the potential for conflicting information about the same individual or resource and prevents us from realizing a 360 degree view of our users. Aggregating data from multiple source systems, validating and synchronizing it through a central directory and securing it through role-based control over access will reduce our risk and increase data integrity.

Objective: Provide secure and trusted authentication of application users

- Strategies:

4.1.1 Secure Identity and Access Management

4.1.2 Single-Sign-On

4.1.3 Master Data Management

4.1.4 Data Standards

VIII. Next Steps

This strategy serves as a starting point and guide. It provides us with the next steps in forming a solid foundation for long-term change and will help to evaluate current and proposed application investments. Agency leaders came together to build this strategy, and agency leadership is necessary to shepherd progress toward the vision.

Continued coordination is essential to incorporate the knowledge of all stakeholders through every phase of planning and implementation. Engagement and cooperation will also ensure next steps reflect the business's perspectives and ideas, and deliver workable, responsive results.

The goals, objectives and strategies of this plan will be incorporated into the Commonwealth's planning processes and will be embedded in the tools used in planning, funding and managing application investments.

An Applications Action Plan will be developed to delineate the steps needed to meet the vision, goals, objectives and strategies as outlined in this strategic plan.

The construction of potential governance models to provide a comprehensive view of investments and support decision-making will be done in cooperation with the business leaders. These models will include organizational structures, roles and responsibilities, policies and procedures. Crafted with stakeholder input, the models will reflect appropriate structures for enterprise, collaborative and agency governance.

Current governance will be reviewed for alignment in support of the Applications Strategy. Potential impact on existing policy, standards, guidelines and the Code of Virginia will be assessed.

In order to gauge our progress, measures will be developed to evaluate performance against the vision. Meaningful metrics will help in tracking what works, movement toward goals, and will support long-term advancement towards the vision.

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A data strategy and governance will be developed to support this Applications Strategic Plan. A data strategy is necessary to guide our efforts. It will outline the precise criteria, specifications and rules for the definition, creation, storage, usage and ownership of data, whether enterprise, collaboratively shared, or agency specific. A successful data governance strategy will provide the policy and structure for data standards and management across enterprise, collaborative and agency levels.

While these next steps are only the beginning, they are the building blocks of a solid foundation for the future of the Commonwealth's Applications. The continued commitment and participation of Commonwealth agency stakeholders in advancing this vision is necessary to keep this plan responsive to the varied missions of agencies and the citizens, businesses, and governmental organizations they serve.

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IX. Appendices

Alignment to Virginia's Long Term Goals

This chart demonstrates the alignment of the goals of the Commonwealth Strategic Plan for Applications with Virginia's Long Term Objectives as set forth by the Council on Virginia's Future.

		1	2	3	4	5	6	7
Virginia's Long Term Objectives Commonwealth Strategic Plan for Applications Goals		Be recognized as the best-managed state in the nation.	Be a national leader in the preservation and enhancement of our economy.	Elevate the levels of educational preparedness and attainment of our citizens.	Inspire and support Virginians toward healthy lives and strong and resilient families.	Protect, conserve and wisely develop our natural, historical and cultural resources.	Protect the public's safety and security, ensuring a fair and effective system of justice and providing a prepared response to emergencies and disasters of all kinds.	Ensure that Virginia has a transportation system that is safe, enables easy movement of people and goods, enhances the economy, and improves our quality of life.
1	Provide delivery mechanisms that allow customers to serve themselves	*Contributing*	*Primary*	*Contributing*	*Contributing*	*Contributing*	*Contributing*	*Contributing*
2	Provide applications that deliver efficient and effective services	*Primary*	*Contributing*	*Contributing*	*Contributing*	*Contributing*	*Contributing*	*Contributing*
3	Provide (utilize) a framework for application governance, planning and management	*Primary*						
4	Provide secure, confidential, trusted and reliable applications	*Primary*	*Contributing*	*Contributing*	*Contributing*	*Contributing*	*Contributing*	*Contributing*

Alignment to the Commonwealth Strategic Plan for Information Technology

This chart demonstrates the alignment of the goals of the Commonwealth Strategic Plan for Applications with the goals of the Commonwealth Strategic Plan for Information Technology.

		1	2	3	4	5
Commonwealth Strategic Plan for Information Technology Goals **Commonwealth Strategic Plan for Applications Goals**		Increase accessibility to government	Facilitate IT collaboration and partnerships	Ensure a trusted and reliable technocal environment	Create a reputation of performance for technology	Increase workforce productivity through the use of technology
1	Provide delivery mechanisms that allow customers to serve themselves	***Primary***	*Contributing*	*Contributing*	*Contributing*	*Contributing*
2	Provide applications that deliver efficient and effective services	*Contributing*	*Contributing*	*Contributing*	***Primary***	*Contributing*
3	Provide (utilize) a framework for application governance, planning and management	*Contributing*	***Primary***	*Contributing*	*Contributing*	*Contributing*
4	Provide secure, confidential, trusted and reliable applications	*Contributing*	*Contributing*	***Primary***	*Contributing*	*Contributing*