

COMMONWEALTH OF VIRGINIA

Enterprise Architecture (EA)

**Information Technology
Resource Management (ITRM)**

**INFORMATION TECHNOLOGY
INVESTMENT MANAGEMENT
STANDARD**

Reviews

- This publication was originally reviewed and approved by the Director of the Policy, Practice and Architecture Division.
- Initial, online review was provided for agencies and other interested parties via the VITA Online Review and Comment Application (ORCA).

Publication Version Control

Questions related to this publication should be directed to the Director, Project Management Division (PMD).

This following table contains a history of revisions to this publication.

Version	Date	Revision Description
CPM 516-00	09/30/2008	Publication of Information Technology Investment board (ITIB) approved original Standard
CPM 516-01	05/09/2012	This is a major revision which addresses administrative updates necessitated by changes in the <i>Code of Virginia</i> that impact the Commonwealth Project Governance Assessment (CPGA) methodology.
CPM 516-02	1/31/2017	This is an extensive reorganization and rewriting. These changes are necessitated by changes in the <i>Code of Virginia</i> , updates to the Commonwealth Technology Business Plan and the Updated Commonwealth Strategic Plan for IT, and revisions to agency IT strategic planning requirements and processes.

Version	Date	Revision Description
CPM 516-03	8/3/2021	This is an administrative update to reflect changes to the Code of Virginia, and changes to the Commonwealth organizational structures that support ITIM decisions and approval processes.
CPM 516-04	9/6/2024	<p><i>This is an administrative update to align with changes to the Project Management Standard. This includes changes to project classifications and new change request thresholds.</i></p> <p><i>Updates to terminology and graphs, including removing references to Capability and Technology Management (CTM) and replacing with a Cloud-native Enterprise Architecture software.</i></p>

Identifying Changes in This Document

- See the latest entry in the revision table above.

Agency Exception Requests

Agencies that want to deviate from the requirements and/or technology standards specified in this Standard may request an exception using the Enterprise Architecture Change/Exception Request Form. All exceptions must be approved prior to the agency pursuing procurements, deployments, or development activities related to technologies that are not compliant with the standard. The instructions for completing and submitting an exception request are contained in the current version of the Enterprise Architecture Policy (EA 200-03.1).

Agencies requiring deviation from the enterprise architecture requirements ((EA) EA225) and/or technology standards, may request an exception using VITA's Archer application.

Preface

Publication Designation _____

Information Technology Investment Management
Standard CPM 516-03

Subject

Information Technology Investment Management

Effective Date

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Supersedes

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Scheduled Review:

Periodically or as needed.

Authority

[*Code of Virginia, §2.2-2007*](#) (*Powers of the CIO*)

[*Code of Virginia, § 2.2-2011*](#) (*Additional powers and duties relating to development, management, and operation of information technology*)

[*Code of Virginia, §2.2-2699.6*](#) (*Powers and duties of the ITAC; report*)

Scope

This standard is applicable to all Executive Branch state agencies and institutions of higher education (hereinafter collectively referred to as "agencies") that are responsible for the management, development, purchase and use of information technology resources in the Commonwealth of Virginia. This standard does not apply to research projects, research initiatives or instructional programs at public institutions of higher education.

Purpose

The purpose of this standard is to establish guiding principles for creating optimal business value from IT-enabled business investments at acceptable cost and risk.

General Responsibilities

Chief Information Officer of the Commonwealth (CIO)

Agency head of VITA. Develops and recommends statewide technical and data policies, standards and guidelines for information technology and related systems.

Virginia Information Technologies Agency (VITA)

At the direction of the CIO, VITA leads efforts that draft, review and update technical and data policies, standards, and guidelines for information technology and related systems.

VITA uses requirements in IT technical and data related policies and standards when establishing contracts; reviewing procurement requests, agency IT projects, budget requests and strategic plans; and when developing and managing IT related services.

Information Technology Customer Advisory Council (ITAC)

The ITAC advises the CIO on the development, adoption and update of statewide technical and data policies, standards and guidelines for information technology and related systems.

Executive Branch Agencies

Provide input and review during the development, adoption and update of statewide technical and data policies, standards and guidelines for information technology and related systems.

Glossary

As appropriate, terms and definitions used in this document can be found in the COV ITRM IT Glossary ("Glossary"), found at:
<https://www.vita.virginia.gov/policy--governance/glossary/>.

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1. INTRODUCTION

1.1 Intent

The intent of the Information Technology Investment Management (ITIM) Standard is to establish a methodology for the identification, selection, management, and evaluation of information technology (IT) investments in order to maximize the business value of those investments to the Commonwealth. The ITIM methodology uses a lifecycle approach and portfolio management process to minimize risks and maximize the return on IT investments while supporting executive branch agency decisions to maintain, migrate, improve, retire, or initiate IT investments. The standard will define the ITIM methodology, describe the phases of the ITIM lifecycle, establish the basis for measuring the value of an IT investment, identify the required actions associated with each phase, position those actions within a portfolio management process, and assign roles and responsibilities for those actions. Since the Commonwealth and agency IT strategic planning process embodies the ITIM methodology, the standard also defines and describes related portions of that process.

1.2 Organization of this Standard

The ITIM methodology and lifecycle provide the organizational structure for this standard. The following sections describe the components of the methodology, the relation of ITIM to Commonwealth and agency IT strategic planning, and the use of portfolio management as the framework for executing ITIM activities. This standard also identifies the stakeholders and their responsibilities:

- IT Investment Management – describes the ITIM process and lifecycle, Commonwealth business needs, and relation to the IT governance process
- Stakeholders – identifies the stakeholders in the ITIM process
- Commonwealth IT Strategic Planning – describes the IT strategic planning process, Commonwealth Technology Portfolio, and their relation to the ITIM process
- Measuring IT Investment Value – defines the value of an IT investment
- ITIM Phases and Activities – identifies the four phases of the ITIM lifecycle and the activities associated with each phase
- ITIM Portfolio management – incorporates the activities into a portfolio management process that executes the ITIM methodology
- Stakeholder Responsibilities – states the stakeholder responsibilities in each of the four ITIM phases

2. IT INVESTMENT MANAGEMENT (ITIM)

2.1 Purpose

This section defines IT Investment Management, establishes that the business needs of agencies drive IT investments, presents the rationale for adopting ITIM to manage Commonwealth IT investments, and outlines the ITIM process and lifecycle.

2.2 Description

Information Technology Investment Management (ITIM) is a management process that provides for the pre-selection (identification), selection, control, and evaluation of business need driven Information Technology (IT) investments across the investment lifecycle. ITIM uses structured processes to minimize risks, maximize return on investments, and support Commonwealth agency decisions to maintain, migrate, improve, retire, or obtain IT investments. ITIM is the foundation for the Commonwealth's approach to technology management as approved by the Commonwealth Chief Information Officer (*Code of Virginia*, § 2.2-2007).

2.3 IT Investments

IT investments are current (i.e., existing) or planned investments in IT that yield business value by enabling the Commonwealth and agencies to meet their business goals and objectives. The *Code of Virginia* defines Information Technology as “telecommunications, automated data processing, databases, the Internet, management information systems, and related information, equipment, goods, and services” (§ 2.2-2006). This standard interprets “management information systems” to include applications. In recognition of the emergence and adoption of new technologies, this standard extends the code definition to encompass IT services such as Software as a Service (SaaS) and cloud-based computing, IT environments such as social media, and IT related security.

Current IT investments are existing IT assets, defined by the Commonwealth IT Resource Management (ITRM) Glossary as “any software, data, hardware, administrative, physical, communications, or personnel resource”. Agencies' existing IT assets formerly were documented in the Commonwealth Enterprise Technologies Repository (CETR); current IT assets now are documented in the application known as Archer, where agencies must maintain certification of their IT assets. Planned IT investments are projects, procurements, and VITA work orders/service requests that will result in the creation of new IT assets.

In this standard, IT assets are categorized as Infrastructure, Applications, or Services. Applications are further categorized as follows:

- Enterprise (systems of record, such as Cardinal, eVA)
- Collaborative (developed by VITA and agencies, such as the Enterprise Data Management (EDM) platform and Service Oriented Architecture (SOA))

- Agency specific (obtained and maintained by the agency)

Similarly, Services are categorized further by provider as VITA/IT Partnership or vendors.

IT projects and procurements are split into two types of investments. IT investments that are procurements are classified as Commonwealth IT investments if the investments' total cost is equal to or greater than \$250,000. IT investments less than \$250,000 are classified as agency IT investments. IT investments that are classified as projects are separated into two thresholds for Governance and Oversight. An agency will either be subject to:

- *Group 1: All IT projects valued at \$250,000 or above will be subject to Governance & Oversight as "Commonwealth-level" IT projects.*
- *Group 2: All IT projects valued at \$1,000,000 or above will be subject to Governance & Oversight as "Commonwealth-level" IT projects.*
 - *Projects valued at \$250,000 to \$999,999 will not be subject to Governance & Oversight; these Limited Oversight IT projects.*
 - *For projects between \$250,000 - \$999,999, agencies will enter high level project details regarding scope, schedule, and budget in CTP and provide status of these projects quarterly.*

If projects and procurements/contracts meet the criteria outlined below, they will be designated high risk and require more oversight and governance.

A High-risk project, as documented in the Project Management Standard (CPM 112-04.8), is any project undertaken by an executive branch agency that is anticipated to either:

- *Cost in excess of \$10 million over the base-term of the project, excluding operations and maintenance costs as outlined in section 3.1;*
- *Cost in excess of \$5 million over the base-term of the project and at least one of the following conditions apply:*
 - *Project that is being conducted by two or more state agencies;*
 - *The anticipated term of the project exceeds five (5) years;*
 - *The agency does not have past-performance within the last 5 years of successful completion of a project of similar cost or complexity.*

Designation as a High-risk project requires the following: All high-risk projects are classified as category 1. Project Managers assigned to High-Risk projects must meet the following criteria:

- *Active Project Management Institute (PMI) Project Management Professional (PMP) or PMI Agile Certified Practitioner (ACP) certification;*
- *Documented risk management experience;*
- *Completion of a Category 1 or 2 Commonwealth project of \$5M or more, or completion of non-COV project with a value greater than \$10M as PM of record.*

The Code of Virginia, §2.2-4303.01(A) defines high risk contracts:

- *"High-risk contract" – means any public contract with a state public body that is anticipated*

- to either:
- i. Cost >\$10M over the initial term of the contract OR
 - ii. Cost > \$5M over the initial term of the contract and meet one of the following criteria:
 - The goods or services that are the subject of the contract are being procured by 2 or more state bodies.
 - The anticipated term of the initial contract, excluding renewals, is greater than 5 years OR
 - The state public body procuring the goods or services has not procured similar goods or services within the past 5 years.
 - Code of Virginia, §2.2-4303.01(B) requires that PRIOR to issuing a solicitation for a high-risk IT contract, a state public body shall submit such solicitation for review by VITA and OAG.

In addition, the *Code of Virginia* defines a “major” IT project as “any Commonwealth information technology project that has a total estimated cost of more than \$1 million or that has been designated a major information technology project by the CIO (§ 2.2-2006). For the purpose of finance and budget reporting, Commonwealth IT projects or procurements whose cost is equal to \$250,000 and less than \$1 million are designated as “non-major” IT projects or procurements. IT investments proposed or underway are documented in the Commonwealth or agency technology portfolio (see section 4.3).

The IT investment categories are summarized below.

IT Investment Categories

- Existing Assets
 - Infrastructure
 - Applications
 - Enterprise
 - Collaborative
 - Agency specific
 - Services
 - VITA
 - Vender
- Projects, procurements, and VITA work/service request proposed or underway that will result in new assets
 - Commonwealth IT Investments (\geq \$250K)
 - Agency IT Investments ($<$ \$250K)
 - Group 1 Commonwealth IT Projects (\geq \$250k)
 - Group 2 Commonwealth IT Projects (\geq \$1M)

2.4 Commonwealth Business Needs

The business needs of agencies drive IT investments in the Commonwealth. To identify those business needs, agencies draw from numerous sources. The Governor of Virginia sets goals that provide overarching guidance and direction for how Commonwealth agencies will meet the Commonwealth's strategic objectives. These goals help focus the agencies on what the citizens need. The Commonwealth goals also form the foundation for both the Commonwealth Strategic Plan for IT and the agencies' Strategic Plans. Federal and State mandates and laws also drive

Commonwealth business needs.

There are also opportunities to provide citizen services that arise when grant funding is made available to the agencies. In addition, some agencies use Consumer Boards to identify the needs of the citizens who use the agency's services. Together, all of these drivers help Commonwealth agencies identify and document business needs, and invest in technology to meet those needs. Figure 1 illustrates the varied sources of business needs.



Figure 1: Sources of Commonwealth business needs

2.5 The ITIM Methodology

ITIM is the Commonwealth's primary methodology for:

1. Identifying the potential business value in proposed IT investments;
2. Selecting IT investments that best meet the business needs;
3. Monitoring the performance of the initiatives for developing and placing the selected IT investments into operation; and
4. Determining if the selected IT investments are continuing to deliver the expected business value.

As shown in Figure 1, the ITIM lifecycle consists of four phases: Pre-Select, Select, Control, and Evaluate. The goal of the Pre-Select phase is to identify, analyze, and document potential IT investments that support agency business needs. The phase addresses the question "what proposed IT investments potentially solve business needs?" The goal of the Select phase is to decide from among the potential investments identified in the Pre-Select phase which investments to undertake. This phase answers the question "which IT investments best meet the business needs?" The goal of the Control phase is to ensure that IT investments are developed

and placed in operation using a disciplined, well- managed, and consistent process. This phase speaks to the question “are the initiatives for developing and placing the selected IT investments into operation performing as planned?” Finally, the goal of the Evaluate phase is to compare the actual performance results and benefits of an investment to the target performance measures established for the investment. This phase targets the question “are the selected IT investments continuing to deliver the expected business value?”

The ITIM methodology is executed on a continuous basis as part of the Commonwealth and agency IT strategic planning process.

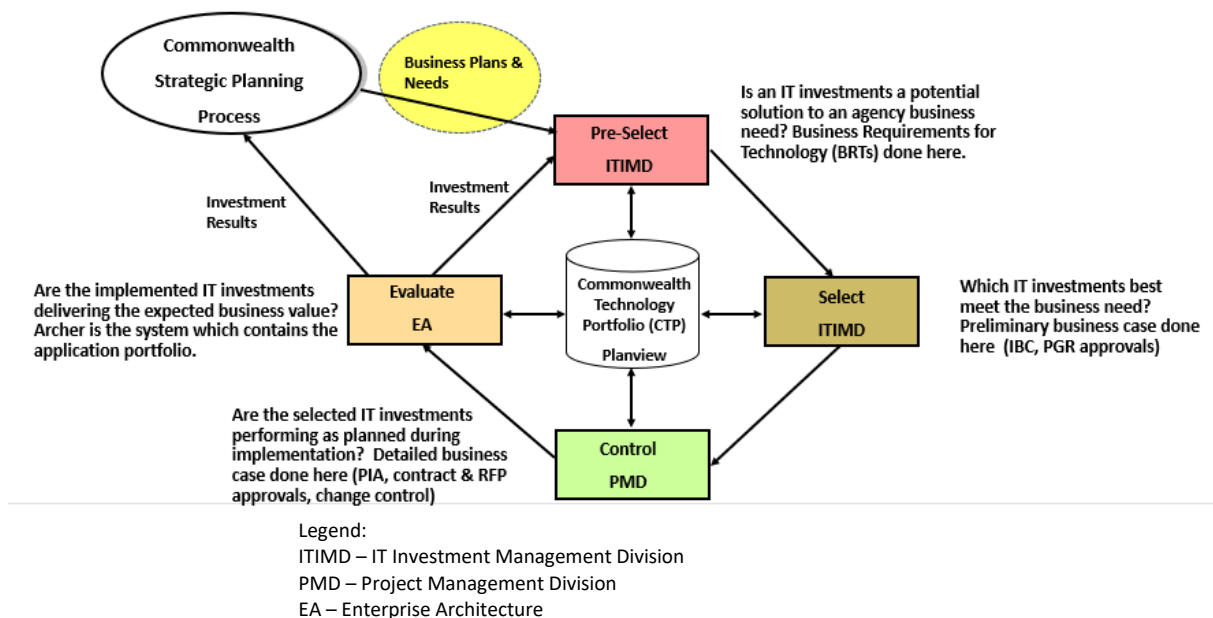


Figure 2: ITIM lifecycle phases and key questions *addressed*

ITIM in the Commonwealth is based on:

- The recognition that the Commonwealth strategic planning process drives technology investment strategies;
- The need to support effective communication about technology investment decisions;
- The concept that technology investments in the Commonwealth support and add value to the business of state government; and,
- The premise that technology investments should be prioritized, executed, and measured based on how they achieve agency strategic goals and objectives, and how they serve the critical business needs of the Commonwealth.

2.6 Relation to Commonwealth IT Governance

As the basis for the Commonwealth's approach to managing IT investments, ITIM is the foundation for the broader Commonwealth IT enterprise governance framework. That framework establishes what types of IT investments can be made within the Commonwealth. The framework also directs how those investments should be managed to ensure they yield business value. The *Code of Virginia* (§ 2-2-2007) provides criteria for reviewing IT investments, while this standard establishes the processes for applying the criteria during the review cycle. Put another way, the *Code of Virginia* states the criteria and this standard describes the processes for implementing the criteria.

The four ITIM lifecycle phases provide a logical framework for review activities of the IT governance groups. ITIM documentation of potential and current IT investments, particularly in the Pre-Select phase, is a key input to the IT governance group review processes.

IT investments should be guided by the requirements and best practices established by the IT governance groups. Those groups and their primary governance activity are summarized below:

- Project Management Division (PMD)
 - Governs CIO approved Commonwealth projects and procurement governance requests.
- IT Investment Management Division (ITIMD)
 - Governs the Commonwealth and agency IT strategic planning process and investment business case evaluation.
- Commonwealth Security and Risk Management (Security)
 - Defines the security requirements that IT investments must meet.
- Enterprise Architecture (EA)
 - Manages the process that is focused on building and maintaining an enterprise-wide business, information, solutions and technical infrastructure and architecture.
 - Establishes Commonwealth data standards to which IT investments must adhere.
- Supply Chain Management (SCM)
 - Governs procurements associated with IT investments.
- COV Ramp
 - provides oversight functions and management of cloud based services

3. STAKEHOLDERS

3.1 Purpose

This section identifies the stakeholders who have responsibility for activities, decisions, or governance within the ITIM lifecycle and describes each stakeholder's role.

3.2 Secretary of Administration

Commonwealth Technology Management is governed by the Secretary of Administration who sets technology strategy and reviews and prioritizes major technology investments proposed by

Commonwealth executive branch agencies and institutions of higher education.

3.3 Commonwealth Chief Information Officer (CIO)

The Commonwealth Chief Information Officer (CIO), as established in the *Code of Virginia* (§2.2-2005), is appointed by the Governor, and leads the Virginia Information Technologies Agency (VITA.) On behalf of the Governor, the CIO manages a wide variety of technology activities. In particular, the CIO supports executive branch agency IT investment decisions during each phase in the ITIM lifecycle.

3.4 Information Technology Advisory Council (ITAC)

The Information Technology Advisory Council (ITAC) is an advisory council in the executive branch of state government responsible for advising the CIO on the planning, budgeting, acquiring, using, disposing, managing, and administering of information technology in the Commonwealth. The legislation that created the ITAC is codified in the *Code of Virginia* §2.2-2699.5 The ITAC offers options for assessing and meeting the Commonwealth's business needs through the application of information technology.

3.5 Commonwealth Secretariats

Commonwealth Secretariats coordinate the activities of agencies in the Secretariat to ensure efficient, effective delivery of services. The Secretary, the leader of a Commonwealth Secretariat, is the principal advisor to the Governor on policy related to the services the Secretariat's agencies provide. Through ITIM, the Commonwealth Secretariats support agency IT investment decisions by determining the overall business priorities for their Secretariat.

3.6 Commonwealth Agencies

Commonwealth agencies are defined as any agency, institution, board, bureau, commission, council, public institution of higher education, or instrumentality of state government in the executive department listed in the appropriation act. Agencies are the business owners of IT investments in the Commonwealth, and the key stakeholders in the ITIM lifecycle. All ITIM activities support Commonwealth agency IT investment decisions. Within agencies, the agency head and the Agency IT Resource (AITR) have specific roles in executing ITIM activities, as delineated in Section 8.

3.7 Commonwealth Programs

A program is a group of related projects managed in a coordinated way to obtain business value and control. Programs may include elements of related work outside of the scope of the discrete projects in the program. A program can be established in a variety of ways:

- By an agency to manage a group of projects collectively;

- By a Secretariat to manage a collection of projects that require collaboration across agency or Secretariat boundaries;
- By the Governor to facilitate enterprise-wide (i.e., state government-wide) productivity and technology improvements, shared services, or collaboration across Secretariat boundaries; or
- By the General Assembly.

Where the CIO has an interest or oversight responsibilities for the IT components of a program, PMD will provide oversight on behalf of the CIO.

3.8 IT Governance Groups

As noted in section 2.5, IT governance groups (PMD, ITIMD, Security, EA, CDG, and SCM) are responsible for ensuring that proposed and current IT investments conform to *Code of Virginia* and governance requirements. In addition to the activities stated in section 2.5, the groups periodically review existing IT investments. As a result of such a review, a governance group may identify an operational risk/issue (OR/I) that is documented and presented to an agency. The agency receiving an OR/I must respond with a remediation plan, which may include a Business Requirement for Technology entry in the agency or Commonwealth technology portfolio (see section 6.2.1.3).

4. COMMONWEALTH IT STRATEGIC PLANNING

4.1 Purpose

This Section describes the IT Strategic Planning process and relates the process to other Commonwealth strategic planning efforts. The section also establishes the Commonwealth Technology Portfolio (CTP) as the repository for technology investments and agency IT Strategic Plans for Executive Branch agencies.

4.2 Description

Commonwealth agency strategic plans, the Commonwealth Strategic Plan for Information Technology, and the Governor's Priority Initiatives are used to ensure that IT investments directly and measurably support business goals. Both the Commonwealth strategic planning process and the ITIM process align with the Commonwealth budgeting cycle.

Agencies within the executive branch develop and implement strategic plans and budgets designed to support the achievement of Commonwealth long-term objectives and the fulfillment of agency missions and mandates. Strategic planning is a management tool used by agency leaders to determine and communicate what the agency wants to accomplish in the upcoming budget biennium, to provide guidance to all agency departments, to track the agency's overall performance, and to make course corrections to help the agency achieve its strategic goals.

Updates to the Commonwealth and agency strategic plans occur in conjunction with key budget events; for example, the submission of the Governor's budget to the General Assembly or the

passage of the Appropriation Act. Ad hoc strategic planning updates are allowed during the year to support changing business priorities with agency head and Commonwealth CIO approvals.

In developing their IT Strategic Plans, agencies rely on several external sources of information as well as internal documentation. These sources and the agency IT Strategic Plan are described in the following sections.

4.2.1 Commonwealth Technology Business Plan

The Commonwealth Technology Business Plan is intended to be the link between the Commonwealth's business priorities and the Commonwealth Strategic Plan for Information Technology, providing business guidance and direction to executive branch agencies' collective technology initiatives. Please see Appendix B for link to resource document.

4.2.2 Commonwealth Strategic Plan for Information Technology

The Commonwealth Strategic Plan for Information Technology specifies the strategic Mission and Vision for information technology in the Commonwealth, and strategic goals for information technology, including objectives, measurements and initiatives that are intended to deliver on that Mission and Vision. The strategic goals align to and support the initiatives identified in the Commonwealth Technology Business Plan and the long-term business objectives identified in the Roadmap for Virginia's Future.

All Commonwealth agency strategic plans are expected to fully align with the strategic goals, objectives, measurements, and initiatives identified in the Commonwealth Strategic Plan for Information Technology. *Please refer to Appendix B of this document for a link to the plan.*

4.2.3 Commonwealth Enterprise Architecture

Commonwealth Enterprise Architecture (EA) is a fundamental factor in developing and monitoring strategic planning for information technology. To ensure that EA and information technology support the business of the Commonwealth, an EA process model has been adopted that continually integrates and synchronizes appropriate technologies so that they best serve the business of state government and the citizens of the Commonwealth. In this process model, business needs drive what is done in the Commonwealth and enterprise architecture determines how information technology supports those business needs. For more information about EA, *please refer to Appendix B of this document for a link to the plan.*

4.2.4 Enterprise Information Architecture

Enterprise Information Architecture (EIA) promotes the governance, asset management and sharing of the Commonwealth's data assets. The Commonwealth Data Governance team is

responsible for implementing EIA strategies under four domains: Data Governance, Data Asset Management, Data Standards, and Data Sharing. The Commonwealth Data Governance team operates within these domains through collaboration with data stewards, business leads, technical leads, security staff and other stakeholders across the enterprise. Information about the EIA and Commonwealth Data Governance team can be found in *Appendix B of this document*.

4.2.5 Agency IT Strategic Plan

The agency IT Strategic Plan (ITSP) is a collaborative effort between the business and IT leaders within the agency and is comprised of the following sections: IT Summary, Agency Operational Risks/Issues, Agency Business Requirements for Technology, Active Portfolio, and IT Budget Estimation Tables. The ITSP is the primary tool for communicating how agency business needs drive IT investment decisions, and how the agency's IT investments support the business goals and objectives of the agency and the Commonwealth. The ITSP provides a detailed view of agency IT investments, identifies the alignment of each individual IT investment to the agency's service area objectives and "as-is" business architecture, and provides additional information for each investment (i.e., costs, start and end dates, service area owner, etc). *A link to ITSP planning resources is available in Appendix B of this document*.

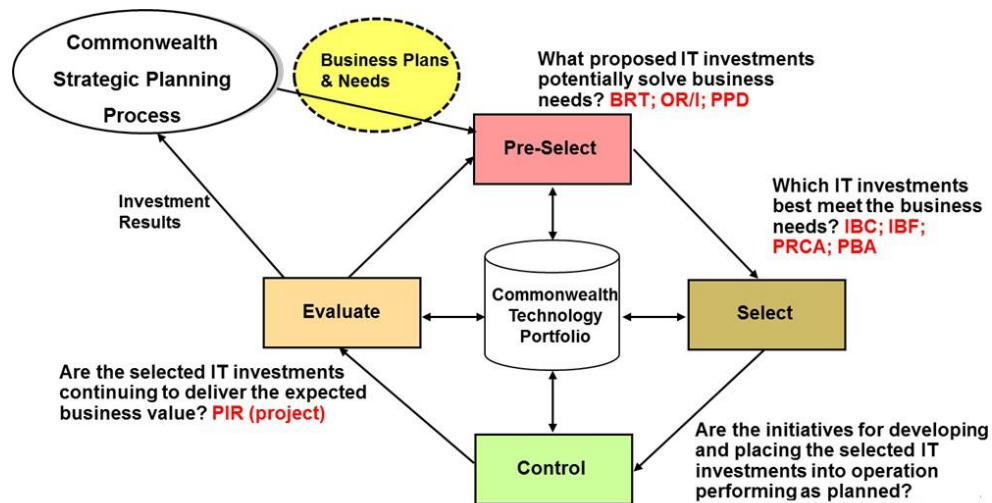
4.3 Commonwealth and Agency Technology Portfolios

Commonwealth and agency technology portfolios are repositories for information on IT investments. The portfolios are central to the effective functioning of the ITIM methodology. A portfolio management approach to the ITIM life cycle is described in section 7.

4.3.1 Commonwealth Technology Portfolio

The Commonwealth Technology Portfolio (CTP) is the Executive Branch repository for technology investments planned or underway, and is an aggregated view of individual agency projects, procurements, and *current operational environments* supporting Commonwealth and agency business strategies. The CIO has established a Commonwealth IT portfolio management tool to assist stakeholders with planning, executing, and documenting all IT investments. *The current tool is Planview Enterprise One, a full spectrum portfolio and work management solution that contains a Portfolio and Resource Management (PRM) component and an Enterprise Architecture software component*.

Figure 3 illustrates the central role that CTP plays in the ITIM process.



Legend:

- BRT – Business Requirements for Technology OR/I – Operational Risk/Issue
- PPD – Project or Procurement Determination
- IBC – Investment Business Case
- IBF – Investment Biennium Funding
- PRCA – Project Risk/Complexity Assessment (initial)
- PGR – Procurement Governance Requests
- PIR – Post Implementation Review (for projects)

Figure 3: ITIM lifecycle phases and key questions addressed.

4.3.2 Commonwealth Technology Portfolio (CTP): Planview Portfolio Resource Management (PRM) and Enterprise Architecture software Components

The Portfolio Resource Management (PRM) component in Planview is the repository for capturing and managing all Commonwealth investments: projects, procurements, and agency IT Strategic Plans.

All IT procurements equal to or greater than \$250,000 as well as Executive Branch agency IT Strategic Plans are subject to Commonwealth oversight and governance and must reside in CTP. For the purposes of governance and oversight, projects must reside in CTP that have an estimated cost of:

- \$250,000 or more (for Group 1 agencies), or
- \$1,000,000 or more (for Group 2 agencies)

Enterprise Architecture software is the repository for cataloging and managing agency IT operational assets, including applications, data, and software tools used by executive branch agencies to support their businesses. Agency entries in Enterprise Architecture software must be kept accurate and up to date as changes occur. Certification of the data in the Enterprise Architecture software is required at intervals determined by EA.

4.3.3 Agency IT Portfolio

The Commonwealth Technology Portfolio (CTP) is a best practice of keeping a single repository for all the IT investment information the agency needs to manage. All of an agency's asset and IT investment management information must be documented in CTP or as directed by oversight and

governance.

5. MEASURING IT INVESTMENT VALUE

5.1 Purpose

This Section defines the value and risk of an IT investment and describes the use of value and risk to make IT investment decisions.

5.2 What is Value?

Value is a measure that demonstrates how an IT investment contributes to improved constituent service levels, agency operational efficiencies, and the strategic goals of the Commonwealth. IT investments may have multiple value measures in one, two, or all three value categories. In turn, a value measure may apply to more than one category.

The Commonwealth uses the measurement of an IT investment's value as a way to quantify agency business benefits and track them throughout the IT investment lifecycle. Measuring IT investment value with a focused, standardized set of evaluation criteria allows the Commonwealth to forecast value during investment business case development and investment selection.

5.2.1 Constituent Service

Constituent service is the measure of how well an IT investment helps the citizens of the Commonwealth. This can include offering financial benefits such as lower cost of interaction, reduced fees, or quicker reimbursements. It can also include service improvements such as reduced wait times, improved access, new services leading to constituent benefits, or a greater focus on constituent needs.

5.2.2 Operational Efficiency

Operational efficiency is the measure of an IT investment's capability to reduce agency operational and inventory costs, or provide other financial benefits such as streamlined supply chains, new revenue streams, higher productivity, error reductions, faster merging of administrative processes, or an improvement in agency performance against *agency* performance measures.

5.2.3 Strategic Alignment

Strategic alignment is the measure of an IT investment's support for Commonwealth goals and objectives as expressed in the individual agency strategic plans, the Commonwealth Strategic Plan for Information Technology, the Governor's Initiatives, federal and state mandates, and the Commonwealth's Enterprise Architecture. It also includes the applicability of the investment across the enterprise.

5.3 Investment Risk

Like value, risk is an inherent characteristic of an investment. The COV ITRM Glossary defines risk as an uncertain event or condition that, if it occurs, could have a positive or negative effect on an investment's objectives. Several factors can contribute to investment risk, including the following:

- cost of the investment, either absolute or as a percent of the agency or secretariat budget
- source and stability of the investment funding
- complexity of the investment
- degree of investment stakeholder support
- degree of familiarity with the investment's underlying technology
- importance of the investment to meeting Commonwealth or agency business objectives or mandates

Investment risk can arise in any of the ITIM phases.

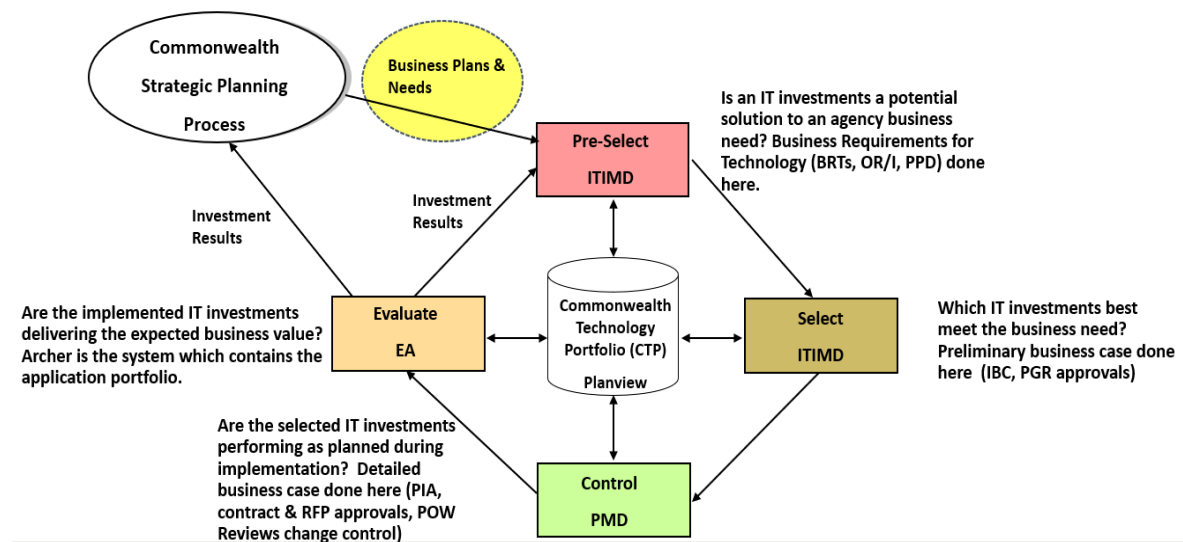
5.4 Using Value and Risk to Make IT Investment Decisions

One of the primary goals of ITIM is to support value-based, risk-adjusted agency IT investment decisions, and the use of value and risk can be tracked across the entire ITIM cycle. In the Pre-select Phase, the value of a potential IT investment in serving an agency business need is compared to the IT investment's risks. In the Select Phase, IT investments are ranked based on their proposed value relative to risk and the investments with the best ranking chosen for implementation. In the Control Phase, IT investment values are refined and risks are mitigated in conjunction with asset delivery. And in the Evaluate Phase, IT asset performance is measured against value metrics to determine if the investment is meeting the agency's business needs.

6. ITIM PHASES AND ACTIVITIES

6.1 Purpose

This Section will define and describe the four phases of the ITIM lifecycle (pre-select, select, control, and evaluate) and establish the activities required in each phase. Execution of the lifecycle activities typically occurs annually as part of Commonwealth and agency strategic planning and budgeting processes. Figure 4 provides an overview of the details presented in this section, including the forms used to enter IT investment information into *CTP*.



Legend:

- BRT – Business Requirements for Technology OR/I – Operational Risk/Issue
- PPD – Project or Procurement Determination IBC – Investment Business Case
- IBF – Investment Biennium Funding
- PRCA – Project Risk/Complexity Assessment (initial)
- PGR – Procurement Governance Requests
- PIR – Post Implementation Review (for projects)

Figure 4: ITIM phases and related CTP investment forms

6.2 Pre-Select Phase

The purpose of the Pre-Select phase is to identify, analyze, and document potential IT investments that support agency business needs in the context of Commonwealth business needs. The Pre-Select phase allows agencies to define business objectives, associate costs with the potential IT investments needed to meet those business objectives, and document a range of performance measures for their potential IT investments.

Completion of the Pre-Select phase answers the question “What proposed IT investments potentially solve agency business needs?”

6.2.1 Pre-Select Phase Required Activities

Execution of the Pre-Select phase involves the following activities.

6.2.1.1 Identify Business Needs

A key outcome of the agency IT strategic planning process is the identification of new business needs that can be met with potential IT investments. The agency may identify additional IT investment opportunities from the Commonwealth Strategic Plan for Information Technology, the Commonwealth Technology Business Plan and the Governor's Priority Initiatives.

6.2.1.2 Prioritize Business Needs

Agencies frequently will not have the resources to undertake all of the IT investment opportunities identified in their strategic plans, therefore, agencies must review and rank potential IT investments according to their business priorities. In determining business priorities, agencies may draw information from their Agency Strategic Plan, their Secretariat, and other appropriate mandates and directives.

6.2.1.3 Develop Business Requirements for Technology (BRT)

The initial step in documenting a business need is to enter a Business Requirement for Technology (BRT) in the Commonwealth or agency portfolio. The BRT enables agencies to identify and document unmet business needs before it can be determined what type of IT investment is required. BRT's permit the Commonwealth or agency portfolio to separate identification of business needs from establishment of specific IT investments. Documentation of new and unmet business needs in the Commonwealth or agency IT portfolio enhances the role of the portfolio as the repository for all current or potential IT investments and provides visibility to all possible IT investments during the IT strategic planning process.

BRTs are subdivided into two types, requirements for new technology and requirements for existing technology. Business Requirements for New Technology (BRnT) document requirements that are new to the agency, such as implementing support for new business functions or adding new functionality to an existing application. In contrast, Business Requirements for Existing Technology (BReT) document requirements for supporting existing technology investments, such as application release upgrades or service contract renewals. Subdividing BRTs into two types simplifies documentation of each type of IT investment, since the information required to make informed investment decisions differs between the two types.

6.2.1.4 Respond to Operational Risk/Issues (OR/I)

A BRT also may be entered in the agency or Commonwealth portfolio in response to receiving an Operational Risk/Issue from one of the governance groups. For example, the Enterprise Architecture group may send an agency an OR/I informing the agency that that it is using a software version that is no longer supported. In response, the agency may generate a BRtE documenting their intent to upgrade to the current software version.

6.2.1.5 Determine if Proposed IT Investments are Projects, Procurements, or Both

In addition to identifying and initially documenting a new or unmet business need, the BRT establishes a vehicle for recording further details of the business need and research on potential solutions, including an IT investment. If it appears that an IT investment will address the business need, the investment is ready for review and ranking in the select phase of the ITIM lifecycle. To facilitate that review, the final step in the Pre-select phase is to determine if the investment will take the form of a project, procurement, or both. The CTP has a process which leads to an initial determination.

6.3 Select Phase

The purpose of the Select Phase is to decide from among the potential IT investments identified in the Pre-Select Phase, and IT investments in the current Commonwealth and agency technology portfolios, which IT investments best support:

1. The agency's mission, strategic goals, and mandates.
2. The Commonwealth Strategic Plan for Information Technology.
3. The Governor's Priority Initiatives.

In the Select Phase, all current and proposed IT investments are analyzed and ranked by their business value, in conjunction with the Commonwealth budget development cycle, to determine which investments are to be initiated or continued. For proposed IT projects, an Investment Business Case (IBC) is prepared. For proposed IT procurements, a Procurement Governance Requests (*PGR*) is prepared. The IBC and *PGR* for proposed IT investments are initially evaluated and scored by the agency. The scores from the proposed IT investments are then analyzed along with the scores from the agency's on-going IT investments. Based on the agency internal analysis, the agency ranks all its IT investments and subsequently selects the IT investments to include or retain in the Agency IT portfolio and by reference in their IT Strategic Plan. Once the agency selects its IT investments, proposed investments that qualify as Commonwealth investments are submitted for evaluation and approval at the Commonwealth level.

Completion of the Select Phase answers the question "What IT investments best meet the business needs?"

6.3.1 Select Phase Required Activities

Execution of the Select phase involves the following activities.

6.3.1.1 Develop and Approve Proposed IT Investments

After proposed IT investments are identified based on business needs and documented in BRTs, initial project or procurement documentation is prepared. For agency IT investments, this documentation is developed according to established agency procedures, which follow best practices as documented in the Commonwealth project management policies, standards, and guidelines. For Commonwealth IT projects or procurements, documentation is developed in CTP building on the previously entered BRTs. For IT projects, this documentation includes the Investment Business Case (IBC) and the initial Project Risk/Complexity Assessment (PRCA). For an IT procurement, a Procurement Governance Requests (*PGR*) is prepared. Additional documentation for either includes Investment Biennium Funding (IBF) covering the appropriate funding period(s). For Commonwealth procurements, the *PGR* is reviewed by the governance groups and approved by the CIO.

For a proposed Commonwealth IT project, the IBC is evaluated and scored based on established Commonwealth criteria. At the agency level, it is highly recommended that the agencies use the Commonwealth's evaluation and scoring criteria, as established by the CIO. The results of the agency evaluation and scoring activities should be documented in the agency portfolio tool.

Commonwealth IBCs must be evaluated and approved by the CIO prior to inclusion in CTP. ITIMD administers the evaluation and approval process using the Commonwealth IT portfolio management tool workflow. The final output from this evaluation and approval process is a decision on whether a proposed investment is either granted Investment Business Case Approval (IBC), a project portfolio category for projects that have received approval of the project's investment business case from the CIO. IBC approval authorizes the agency to expend funds in preparation for obtaining project initiation approval.

For proposed IT procurements, the *PGR* is reviewed by the CIO if the value is equal to or greater than \$250,000.

6.3.1.2 Analyze and Rank Investments

The next requirement in the Select Phase is to analyze all the approved IT investments in the portfolio and rank them in order by business value. At the agency level, the final output from this activity will be an agency-ranked investment portfolio reviewed and approved by the agency approving authority.

At the Commonwealth level, PMD uses the measurement of an IT investment's value as a way to quantify agency business benefits, and, on a quarterly basis, will make a recommendation to the CIO on the rank order for all Commonwealth IT projects that have been granted Project Initiation Approval (PIA) approval status. The analysis and ranking must follow the *CTP* workflow.

6.3.1.3 Select Investment Portfolio

The final requirement in the Select Phase is to select and approve the IT investment portfolio. The agency portfolio will be approved by the agency approving authority. Commonwealth IT investments entered in the CTP will be approved by the CIO. In particular, major IT projects will be ranked by business value by ITIMD and submitted to the CIO quarterly. In turn, the CIO will approve or disapprove priorities and funding for major projects and submit a report to coincide with the production of a file of major IT projects for inclusion in the Governor's Budget and the Appropriation Act.

6.4 Control Phase

The purpose of the Control Phase is to ensure, through timely oversight, quality control, and executive review, that IT investments are developed and placed in operation using a disciplined, well-managed, and consistent process. During this process, the progress and performance of IT investment initiatives are regularly monitored against projected cost, schedule, and performance metrics, in accordance with the investment's planned review schedule. When issues or problems are identified, corrective action is taken.

The Control Phase is characterized by decisions to continue, modify, or terminate IT investment initiatives. Decisions are based on reviews at key milestones during the IT investment lifecycle and reviews conducted on pre-defined periodic schedules. The focus of these reviews changes and expands as the IT investment moves through the investment lifecycle, and as projected investment costs and benefits change.

Completion of the Control Phase answers the question "Are the initiatives for developing and placing the selected IT investments into operation performing as planned?"

6.4.1 Control Phase Required Activities

Execution of the Control phase involves the following activities.

6.4.1.1 Plan and Execute IT Investments

After an investment is initiated in the Control Phase, it must be planned and executed in accordance with Commonwealth standards. Commonwealth IT projects that have received IBC approval are governed by the Commonwealth Project Management Standard. Commonwealth IT procurements are governed by the VITA IT Procurement: Authority and Delegation Policies. These procurements are initially documented in the Procurement Governance Review (*PGR*) form in CTP, where it is reviewed by ITIMD, then Supply Chain Management (SCM), Enterprise Architecture (EA), the Project Management Division (PMD), Security, and *COV Ramp*. A recommendation is then made to the Commonwealth CIO for approval or disapproval. To execute a procurement, the Procurement Governance Request (*PGR*) must be approved by Commonwealth CIO. The *PGR* documents the proposed procurement method, estimated cost, and funding source.

The agency planning and executing the IT investment must ensure that the business value of the IT investment is translated into concrete asset performance measures. The

performance measures will be assessed throughout the lifecycle of the IT investment to ensure the Commonwealth is receiving the desired business value.

6.4.1.2 Review IT Investment Execution

The *Code of Virginia* (§2.2-2007) requires proper oversight and governance over the planning and execution of active IT projects and procurements. Stakeholder roles and responsibilities for projects are documented in the Commonwealth Project Management Standard. At minimum, a monthly review of *Category 1 and 2 projects* is required. *Category 3 and 4 projects as well as Group 2 agencies (Limited Oversight \$250k - \$999K) require quarterly reviews.* The CIO will review the performance of Commonwealth major IT projects in a quarterly update to ensure that they are managed on time, on budget, and within scope against a managed baseline. The quarterly update includes:

- IT project status as it relates to cost, schedule and scope
- Significant changes since the last report
- Identification of underperforming projects
- Recommended remediation plans
- Remediation plan status (if required)
- Recommendations to continue, modify or terminate each project

In addition, the following stakeholders review major IT project updates to CTP on a quarterly basis:

- CIO
- Governor
- Information Technology Customer Advisory Council (ITAC)
- Joint Legislative Audit and Review Commission (JLARC)
- Auditor of Public Accounts (APA)
- House Appropriations Committee
- Senate Finance Committee
- Joint Commission on Technology and Science (JCOTS)

6.4.1.3 Complete IT procurements and close IT projects

The final requirement in the Control Phase is to close completed IT procurements and projects and transition them to operational IT assets. Major and non-major IT projects, procurements, contracts and requests for service must be closed out in accordance with Commonwealth standards and guidelines. At this point in the IT investment lifecycle, it is important to document lessons learned, produce final closeout reports, and ensure contractual requirements have been met. Projects and programs also deliver a set of performance metrics for each IT asset at closeout. *These performance metrics must be documented in the Enterprise Architecture software and used by the agency to ensure:*

- *Business requirements continue to be met*
- *System performance is on target*

6.5 Evaluate phase

The purpose of the Evaluate Phase is to have the agency periodically compare the actual performance results and benefits of their IT investments to both the range of target performance measures (initially projected in the Select phase and refined in the Control Phase) and the risks of operating and maintaining the IT asset (i.e., reliability, impact of failure, and cost of failure mitigation). The Evaluate Phase includes agency IT assets that have been in operation six or more months.

In the Evaluate Phase, new IT assets delivered by a completed IT project receive a Post Implementation Review (PIR). The PIR is an evaluation process that compares the expected results before the implementation of a project with the actual performance achieved by the IT asset. In addition, the key performance metrics of the assets are monitored at regular intervals and “out of bounds” performance statistics trigger in-depth review and analysis.

Evaluate Phase performance measurements are collected and evaluated by the agency and reported to agency leadership. The performance measurements are also reported to the CIO for Commonwealth IT investments. These measurements provide a better understanding of investment performance and identify necessary investment adjustments or the need for a replacement investment.

The Evaluate Phase answers the question “Are the selected IT investments continuing to deliver the expected business value?”

6.5.1 Evaluate phase required activities

Execution of the Evaluate phase involves the following activities.

6.5.1.1 Conduct Post Implementation Review

At the end of the ITIM Control Phase, after an IT investment initiative is closed out, the investment becomes an asset and is added to the agency portfolio as documented in *Enterprise Architecture software*. IT assets must be managed to insure they are providing the business value expected by the Commonwealth. A PIR using asset performance measures established in the Control Phase will be completed on all new IT assets delivered by a Commonwealth IT project within 6 – 12 months of the investment becoming an IT asset. The PIR must follow the process documented in the Commonwealth IT portfolio management tool. The PIR review covers the following requirements: business, technical, data governance and standardization, project management, portfolio, and general. While not required, a PIR for new assets delivered by an agency project is highly recommended but is required only for Commonwealth projects.

6.5.1.2 Conduct IT Asset Evaluation

IT Asset evaluations will be performed by the business owner on all agency IT assets and will provide a method for timely identification of suboptimal performance *and obsolescence*. Each IT asset is assigned associated performance criteria, a monitoring schedule for the collection of performance data, and an identified range of acceptable performance. Performance criteria will be based on industry benchmarks, the performance metrics identified by the agency, the agency's

strategic plan, and the Commonwealth performance measurements.

6.5.1.3 Determine Asset Disposition

The final requirement in the Evaluate Phase is to make a determination to maintain, migrate, improve or retire each IT asset. Agencies must decide to:

1. Maintain—continue to sustain IT assets that will meet or exceed the business needs of the agency.
2. Migrate—modify the use of IT assets that will not meet the agency business needs that justified the initial IT investment, but which can be repositioned to address other agency business needs.
3. Improve—reengineer or otherwise modernize IT assets that will not meet the agency business needs that justified the initial IT investment, but which can be used to meet other agency business needs.
4. Retire—withdraw from service IT assets that do not justify maintenance, migration, or improvement due to limited business value.

As part of determining the disposition of IT assets, agencies must analyze gaps between current business needs and the performance of IT assets. These gaps will then be documented as BRTs and added to the overall list of agency business needs to be reviewed in the Pre-Select Phase.

7. PORTFOLIO MANAGEMENT PROCESS FOR ITIM

7.1 Purpose

The previous section detailed the activities required in each phase of the ITIM lifecycle. This section establishes a portfolio management approach and process for conducting the ITIM lifecycle activities. Within the portfolio management process two cycles of activities are delineated. Commonwealth Project Portfolio Management (PPM) is a cycle of activities used for governing and executing Commonwealth IT projects and procurements planned or underway. Commonwealth Asset Portfolio Management (APM) is a cycle of activities used for evaluating the performance of existing IT assets (Infrastructure, Applications, and Services).

7.2 Definition of Portfolio Management and Relation to the ITIM Activities

Section 4.3 introduced the concept of a technology portfolio and identified *the PRM component* of the Commonwealth Technology Portfolio (CTP) as the executive branch repository for new Commonwealth investments of \$250,000 or more and the Capability Technology Management component of the CTP as the repository of all *current IT operational information* the agency needs to manage their technology investments regardless of the cost. A technology portfolio is a necessary concept and management tool to enable effective oversight of the complex arrangement of business needs, potential and current IT investments, and related projects, procurements, and services that fall within the scope of the ITIM methodology.

As illustrated in Figure 6, the Commonwealth uses portfolio management to manage IT investments across the ITIM lifecycle. The portfolio management approach provides a process for executing the ITIM activities in a cycle that aligns with other Commonwealth planning and management processes. Use of a portfolio management process reinforces objectives and strategies of Commonwealth and agency IT Strategic Plans, promotes balancing risk and investment goals, ensures delivery of anticipated business value, and enables consistent application of analytics and evaluation of IT investments.

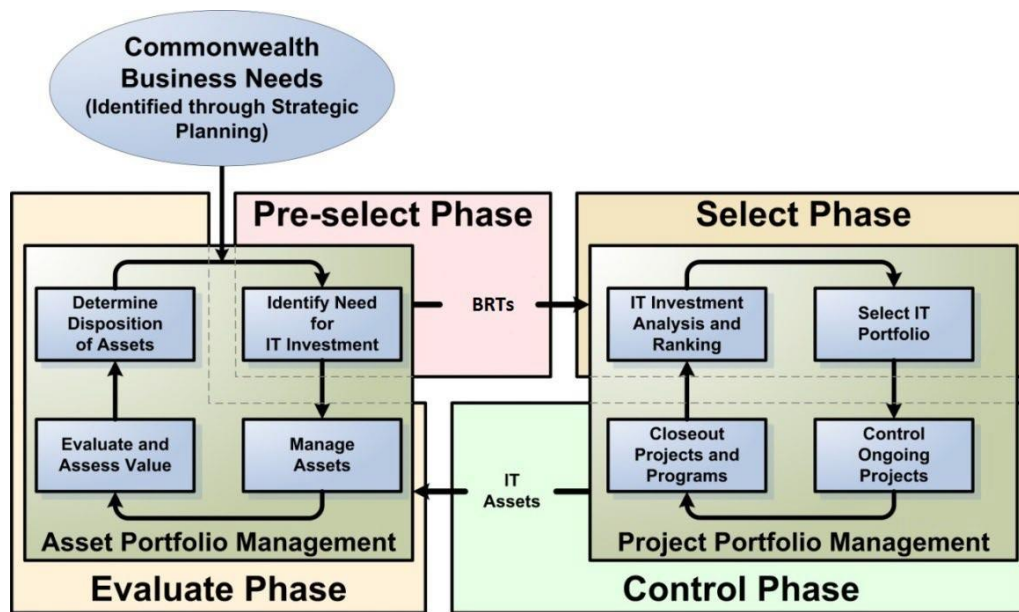


Figure 5: IT portfolio management process within the ITIM lifecycle

7.3 Commonwealth Project Portfolio Management Process

The Commonwealth Project Portfolio Management (PPM) process is a cycle of activities that address *Code of Virginia* (§2.2-2007) requirements and are aligned with industry best practices. Commonwealth executive branch agencies use these activities to govern and execute current or proposed Commonwealth IT projects or procurements. The fundamental objective of the PPM cycle is to determine the optimal mix and sequencing of IT projects and control their delivery to best achieve the Commonwealth's overall goals. PPM supports ongoing measurement of the project portfolio so each related IT investment can be monitored for its relative contribution to business goals and improving business value.

Execution of the PPM process involves conducting the following ITIM activities:

- Analyze and rank IT investments, as described in Section 6.3.1.2
- Select IT investment portfolio, as described in Section 6.3.1.3
- Control projects and procurements, as described in Sections 6.4.1.1 and 2
- Complete procurements and close projects, as described in section 6.4.1.3

7.4 Capability and Technology Management Process

Enterprise Architecture software is a cycle of activities aligned with industry best practices that Commonwealth executive branch agencies use for evaluating the performance of existing IT assets and linking continuing investments in those IT assets to business needs. The objective of the *Enterprise Architecture software* cycle is to realize optimal value from continuing IT investments. *Enterprise Architecture software* supports ongoing measurement of IT investment

performance to ensure the asset's contribution to business goals and improving business value.

Execution of the *Enterprise Architecture software* process involves conducting the following ITIM activities:

- Measure IT asset performance.
 - During this activity agencies systematically collect, record, and report information on the performance of all IT assets, whether managed through the IT Partnership or managed by the agency. All IT assets should have service level performance measures assigned to them, and the performance measures should be directly tied to the business needs of the agency and the value the investment provides to the Commonwealth.
- Conduct IT asset and service evaluation, as described in Section 6.5.1.2
- Determine IT asset disposition, as described in Section 6.5.1.3

8. STAKEHOLDER RESPONSIBILITIES

8.1 Purpose

This Section will define the stakeholder responsibilities in each of the four ITIM phases. These roles and responsibilities are assigned to individuals and may differ from the COV role title or working title of the individual's position. Individuals may be assigned multiple roles, as long as the multiple role assignments provide adequate separation of duties, provide adequate protection against the possibility of fraud, and do not lead to a conflict of interests.

8.3 Commonwealth Chief Information Officer (CIO)

Pre-select

- Define criteria for evaluating Commonwealth IT investments.
- Develop a technology investment management standard.
- Review and approve all state agency and public institution of higher education information technology plans.
- Evaluate and recommend approval or disapproval of the IT components of agency strategic plans or IT investment changes to agency strategic plans.
- Develop the six-year Commonwealth Strategic Plan for Information Technology, update the Plan annually, and submit to the Secretary of *Administration* for approval.
- Plan and forecast future needs for information technology and conduct studies and surveys of organizational structures and best management practices of information technology systems and procedures.
- Assist state agencies and public institutions of higher education in the development of information management plans and the preparation of budget requests for information technology.
- Develop and approve statewide technical standards for information technology and related systems.
- Define the Commonwealth's "as-is" and "to-be" Enterprise Architecture.

Select

- Review agency IT budgets and make recommendations to the Department of Planning and Budget (DPB).
- Build and maintain a Commonwealth Technology Portfolio (CTP) to include investments planned and underway.
- *Review and approve for planning approval all Major and Non-major procurements over \$250,000.*
- *Review and approve for planning approval all IT Projects including both Group 1 (\$250,000 or more) and Group 2 (\$1,000,000 or more) agencies.*
- *Discretionary authority to designate any executive branch agency project to Group 1 or Group 2.*
- Review Commonwealth IT portfolio analysis, accompanying documents, and the recommended Commonwealth IT portfolio and submit the annual Recommended Technology Investment Projects (RTIP) Report, with recommended priorities for funding the projects, to the Secretary of *Administration*, and the Joint Commission on Technology and Science.

Control

- *Review and grant approval or disapproval of Commonwealth IT projects and procurements over \$250,000.*
- Appoint an Internal Agency Oversight Committee (IAOC) for each Major IT project to provide oversight and direction to the project for which they are chartered and participates (or appoints a representative) as a voting member on the Proponent Secretariat Oversight Committee (PSOC) for Major IT projects.
- Approve, as a part of the project plan, the target asset performance measures to be used in the asset's *PIA*.

Evaluate

- Evaluate the needs of agencies in the Commonwealth with regard to (i) a consistent, reliable, and secure information technology infrastructure, (ii) existing capabilities with regard to building and supporting that infrastructure, and (iii) recommended approaches to ensure the future development, maintenance, and financing of an information technology infrastructure befitting the needs of state agencies and the service level requirements of its citizens; and
- Produce a monthly status report on partnership infrastructure projects to provide scope, schedule, cost, risk, and performance measure information.

8.4 Information Technology Advisory Council (ITAC)

Throughout the ITIM lifecycle, advise the CIO on assessing and meeting the Commonwealth's business needs through the application of information technology, establishing priorities for the use of information technology for state agencies in the executive branch of state government, the adoption of statewide architecture, technical, and data standards for information technology and

related systems, and other matters brought to the Council by the CIO.

8.5 Commonwealth Project Management Division (PMD)

Pre-select

- Monitor agency and public institution of higher education implementation of information management and information technology plans and periodically report findings to the CIO.

Select

- Provide ongoing assistance and support to state agencies and public institutions of higher education in the development of information technology projects.
- Review agency IT investments and recommend project or stand-alone IT procurement approval or disapproval to the CIO.
- Participate in review and approve agency IT budget recommendations to the CIO.

Control

- Provide oversight and governance on all Commonwealth IT Projects;
- For Commonwealth projects, recommend approval or disapproval to the CIO for Project Initiation Approval (PIA).
- Provide appropriate reports to the CIO and in accordance with the *Code of Virginia* (§2.2-2017).
- Ensure projects are being run in accordance with statewide technical and data standards for information technology and related systems.
- Manage the project close-out activities as directed in the Commonwealth Project Management Standard.

8.6 Commonwealth IT Investment Management Division (ITIMD)

Pre-select

- Evaluate all IT investments that qualify as Commonwealth Technology Portfolio investments according to approved criteria.
- Every two years, as part of the budget process, evaluate agency and *tier 1* public institution of higher education Information Technology Strategic Plans and recommend approval or disapproval to the CIO.
- Ensure *Executive Branch* agencies and public institutions of higher education under oversight and governance of the CIO have a CIO-approved ITSP.
- Review agency and public institution of higher education information management and information technology plans and recommend approval or disapproval to the CIO.
- On an ongoing basis, evaluate IT investment changes to agency and public institution of higher education *under governance and oversight of IT* strategic plans and recommend for approval or disapproval to the CIO.

Select

- Submit recommendation to the CIO for Investment Business Case (IBC) submissions for Commonwealth projects.
- Coordinate governance review and recommend for approval to the CIO agency *Procurement Governance Requests (PGR)* submissions for Commonwealth procurements.
- Evaluate, score, and rank all major IT projects according to the approved CIO criteria and submit a recommendation for funding to the CIO.
- Prepare the annual RTIP report and provide a quarterly update.
- Obtain CIO approval of the RTIP report with recommended priorities for funding projects.
- Review and recommend for approval or disapproval agency Investment Business Case (IBC) submissions for Commonwealth projects.
- Participate in review and approve agency IT budget recommendations to the CIO.

Control

- On behalf of the CIO, support agency use of a Commonwealth Technology Portfolio that includes agency IT projects.
- Maintain and update quarterly a list of major information technology projects that are active or are expected to become active in the next fiscal year and have been approved and recommended for funding by the CIO. Make such list publicly available on the VITA website and submit the quarterly updates to the Chairmen of the House Appropriations and Senate Finance Committees and the Director, Department of Planning and Budget.

Evaluate

- On behalf of the CIO, support agency use of a Commonwealth Technology Portfolio that includes operational risks and issues.
- Participate in IT project Post Implementation Reviews (PIR) as directed in the Commonwealth Project Management Standard.

8.7 Commonwealth Secretariats

Pre-select

- Establish business priorities for their Secretariat.

Select

- Prioritize the Secretariat's Major IT Projects.

Control

- Chair Secretariat Oversight Committees established for Major IT projects

-
- *Review, approve, and comment on monthly status reports, baseline adjustments for Category 1 (15%) and Category 2 (20%) Projects, and IV&V reports for each active Major Project as recommended.*

Evaluate

- Monitor agency use of IT in support of the delivery of stakeholder services.

8.8 Commonwealth Agencies

Pre-select

- Identify business needs and document in Commonwealth or agency technology portfolio with a Business Requirements for Technology (BRT) entry.
- Prioritize potential IT investments.
- Document target performance metrics and identify business value for potential projects in Investment Business Cases.
- Research possible enterprise or collaboration opportunities for the agency; and
- Update the Agency Strategic Plan and Agency Technology Portfolio with IT investment business cases, identified business needs, and identified value for each potential investment.
- At least biennially the agency head shall designate an agency head/AITR(s) for the Commonwealth Technology Portfolio (CTP) system, and provide the person's name, title, and contact information to ITIMD via e-mail.

Select

- Establish a process for evaluating, scoring, and ranking IT investments for the agency.
- Prioritize agency IT Projects.
- Annually Agency Head or their designated representative must certify Major IT Project Information and IT Strategic Planning Information for their Agency within the Commonwealth Technology Portfolio. *To maintain Group 2 status an agency must submit its IT Strategic Plan on time.*

Control

- Translate business value into asset performance measures.
- Develop detailed project plans and execute projects as directed in the Commonwealth Project Management Standard.
- Develop applications and application modifications in accordance with statewide technical and data standards for information technology and related systems.
- *Review, approve, and comment on monthly status reports, baseline adjustments for Category 1 (15%), Category 2 (20%), Category 3 (25%, quarterly), Category 4 (35%, quarterly) Projects, and IV&V reports for each Major IT Project as recommended.*

Evaluate

-
- Conduct Post Implementation Reviews on IT projects 6 to 12 months after the IT investment has been implemented using the asset performance measures established in the Control Phase.
 - Use asset performance measures to measure the business value, cost, systems performance, technical relevance (EA), and risk of the agency's IT assets.
 - Document IT asset performance using industry benchmarks, the performance metrics identified by the agency, the agency's strategic plan, and the Commonwealth's performance measurements.
 - Analyze gaps between current business needs and performance of IT assets; and
 - Make a determination to maintain, migrate, improve, or retire each IT asset in the agency technology portfolio.

8.9 Commonwealth Programs

Pre-select

- Advise Secretariats and agencies on completion of Business Requirements for Technology, Investment Business Case, and Procurement Business Alignment entries for potential IT investments that can be managed within the scope of the program.

Select

- Provide evaluation, scoring, ranking and investment business case or procurement business alignment information for IT projects and procurements that can be managed within the program as needed.

Control

- Manage projects within the scope of the program in a coordinated way to obtain business value and control not available from managing the projects individually.

Evaluate

- While the Program is operational, for IT projects managed by the Program, conduct Post Implementation Reviews 6 to 12 months after the IT investment has been implemented using the asset performance measures established in the Control Phase.
- While the Program is operational, use asset performance measures to measure the business value, cost, systems performance, technical relevance (EA), and risk of the IT investments implemented by the Program.
- While the Program is operational, document the performance of IT assets implemented by the Program using industry benchmarks, the performance metrics identified during the Control Phase, the customer agency's strategic plans, and the Commonwealth's performance measurements.

APPENDIX A – SUMMARY OF AGENCY RESPONSIBILITIES

Scope

This standard is applicable to all Executive Branch state agencies and institutions of higher education (hereinafter collectively referred to as "agencies") that are responsible for the management, development, purchase and use of information technology resources in the Commonwealth of Virginia. This standard does not apply to research projects, research initiatives or instructional programs at public institutions of higher education. (Preface)

Agency Maintenance of Portfolio and Resource Management (PRM) in CTP

The PRM component in CTP is the current repository for capturing and managing all Commonwealth IT investments: projects, procurements, and agency strategic plans. All projects and procurements equal to or greater than \$250,000 as well as agency IT Strategic Plans (ITSP) are subject to Commonwealth oversight and governance and must reside in CTP. (Section 4.3.2)

Agency Maintenance in the Enterprise Architecture software tool

Enterprise Architecture software is the current repository for cataloging IT assets, including applications, data, and software tools used by executive branch agencies to support their businesses. Agency entries in Enterprise Architecture software must be kept accurate and up to date as changes occur. Certification of the data in Archer such that it is reflected as such in the Enterprise Architecture software component is required as part of the agency IT Strategic Planning process. (Section 4.3.2)

Agency responsibilities in each of the four ITIM phases (section 8.8)

Pre-select

- Identify business needs and document in Commonwealth or agency technology portfolio with a Business Requirements for Technology (BRT) entry.
- Prioritize potential IT investments.
- Document target performance metrics and identify business value for potential projects in Investment Business Cases.
- Research possible enterprise or collaboration opportunities for the agency.
- Update the Agency Strategic Plan and Agency Technology Portfolio with IT investment business cases, identified business needs, and identified value for each potential investment.
- At least biennially the agency head shall designate an agency head/AITR(s) for the Commonwealth Technology Portfolio (CTP) system, and provide the person's name, title, and contact information to ITIMD via e-mail.

Select

- Establish a process for evaluating, scoring, and ranking IT investments for the agency.
- Prioritize agency IT Projects.
- Annually Agency Head or their designated representative must certify Major IT Project Information and IT Strategic Planning Information for their Agency within the Commonwealth Technology Portfolio.

Control

- Translate business value into asset performance measures.
- Develop detailed project plans and execute projects as directed in the Commonwealth Project Management Standard.
- Develop applications and application modifications in accordance with statewide technical and data standards for information technology and related systems.
- *Review, approve, and comment on monthly status reports, baseline adjustments for Category 1 (15%), Category 2 (20%), Category 3 (25%, quarterly), Category 4 (35%, quarterly) Projects, and IV&V reports for each Major IT Project as recommended.*

Evaluate

- Conduct Post Implementation Reviews on IT projects 6 to 12 months after the IT investment has been implemented using the asset performance measures established in the Control Phase.
- Use asset performance measures to measure the business value, cost, systems performance, technical relevance (EA), and risk of the agency's IT assets.
- Document IT asset performance using industry benchmarks, the performance metrics identified by the agency, the agency's strategic plan, and the Commonwealth's performance measurements.
- Analyze gaps between current business needs and performance of IT assets.
- Make a determination to maintain, migrate, improve, or retire each IT asset in the agency technology portfolio.

APPENDIX B – LINKS TO RESOURCES

4.2.2 Technology Business Plan:

<https://www.vita.virginia.gov/media/vitavirginiagov/it-governance/pdf/CommonwealthTechnologyBusinessPlan.pdf>

4.2.3 Commonwealth Strategic Plan for Information Technology

<https://www.vita.virginia.gov/policy—governance/it-investment-management/cov-strate/gic-plan-for-it/>

4.2.4 Enterprise Information Architecture

https://www.vita.virginia.gov/media/vitavirginiagov/it-governance/ea/pdf/Enterprise_Technical_Architecture.pdf