Policy & Standard Background

Name: **Policy 112 – Managing Information Technology (IT) Portfolios**

Purpose of Action: **Update**

What is the business case for the policy/standard?

RCW 43.105.225 , RCW 43.105.230 **and** RCW 43.105.341 **require use of state agency IT portfolio as basis for decisions and plans while supporting analysis of proposed IT investment effect on statewide technology infrastructure and business processes. This policy interprets the statutes for agency action.**

What are the key objectives of the policy/standard?

Establishes expectations for agencies to manage their IT investment as a portfolio.

Includes expectations for agencies to have an IT portfolio management program to manage their IT investments.

Defines the minimum set of portfolio components and data the agencies must develop and maintain to support the program.

How does policy/standard promote or support alignment with strategies?

The policy supports the work of efficient and effective government (Results Washington Goal Area 5). Supports agency's ability to analyze the effect technology investments have on existing infrastructure and business function. At a statewide level, it provides insight into movement and support of the state's enterprise architecture and strategic IT plan.

What are the implementation considerations?

Policy implementation will eliminate obsolete portfolio submittal requirements and bring policy up to date with existing requirements.

How will we know if the policy is successful?

Reduction in agency questions pertaining to outdated requirements in the old policy.

Increase in agencies that can identify required components within their technology portfolio.

CURRENT POLICY

Office of the Chief Information Officer (OCIO)	POLICY NO. 112
	Managing Information Technology Portfolios

Purpose: Establish the agency Information Technology (IT) portfolio as a primary tool to support IT decision-making.	**Effective Date:** October 1, 2011 **See Also:** Managing Information Technology Portfolios Standards

POLICY STATEMENT

1. **Agencies will document the investment, acquisition, and use of IT via the IT portfolio.**

    1.1. The IT portfolio documentation will comply with statutory and policy requirements and provide sufficient detail for effective IT planning and management.

    1.2. IT documentation will include:

    - Descriptions of the relationships between and among the investments in the portfolio.

    - Plans relating to current and proposed IT investments in support of the agency mission, strategies, and business processes.

    - IT investment analysis and justification documents, including feasibility studies.

    - Risk assessment and risk management plans.

    - Project plans and project management reports.

    - Application documentation and user training materials.

    - Hardware, software, network, and facilities inventories.

    - Budgetary and financial records and reports, including annual agency IT spending.

    - References to the existing Security and Disaster Recovery/Business Resumption plans.

    1.3. The specific content and format of IT documentation may be determined by the agency.

    1.4. Submission of the summary information, as detailed in the Managing IT Portfolios Standards, is required.

    1.5. The agency will make supporting documentation available to the OCIO upon request.

    - Supporting documentation should be maintained by the agency and made available upon request or hyperlinked in the portfolio. The OCIO may require an agency to provide additional information to supplement its portfolio.

2. **Agencies will provide completed agency IT portfolio information to the OCIO in the manner required.**

3. **Agencies will conduct an annual update of the IT portfolio in conjunction with the agency planning and budget processes, and make whatever revisions are necessary for the portfolio to continue to reflect the agency's management and use of IT.**

    - The annual update provides agency executives the opportunity to perform a comprehensive review of IT management and operations, and evaluate the

relationship between IT investments, agency strategies and programs, and the agency budget.

3.1. Agencies will review and update each ongoing level 2 and 3 investment or project, and complete a post-implementation review of any level 2 or 3 investment or project completed since the previous annual update.

   3.1.1. Proposed IT applications are initially evaluated in terms of their merits as potential investments of limited public funds and then, if approved, undergo detailed feasibility study, project planning, and risk assessment before the actual development or acquisition of the IT capability. The scope of these analyses must be commensurate with the nature and scope of the proposed investment.

   3.1.2. Investments that involve significant risk are subject to OCIO <mark>or Technology Services Board</mark> approval in addition to agency executive approval.

   3.1.3. Projects are continually monitored until they are completed, with summary information about the status of each project included in the project section of the agency's portfolio.

3.2. Agencies will update the portfolio to reflect IT activity within the agency and to support executive decision making within and outside the agency. The following changes should be noted:

   - Mission, strategies, programs, business processes, and project changes that affect the agency's use of IT or its plans for IT.
   - IT infrastructure changes.
   - Significant changes to existing investments/projects.

4. **The head of each agency will provide certification to the Technology Services Board by August 31 of each year, or by the due date of its budget to the Office of Financial Management (whichever is later), that the annual IT Portfolio update has been completed.**

4.1. The letter confirming the annual portfolio update will be included in the agency IT portfolio. It indicates completion of the annual review.

5. **OCIO assessment and approval of agency investment and project proposals will be based primarily on the information included in the agency's IT portfolio and the detailed analyses supporting those major investments and projects.**

   - Agencies should exercise due diligence in ensuring that their portfolios remain current between annual IT portfolio updates.

RESPONSIBILITIES

Chief Information Officer (or designee)
- Interpret the policy.
- Ensure policy content is kept current.
- Recommend updates to this policy and related resources as needed.
- Use agency portfolios to assess agency investment and project proposals.

Technology Services Board (TSB)
- Review and approve major policy changes.

Agency Heads
- Responsible for the oversight of their respective agency's management and use of IT resources.
- Ensure annual update of IT portfolio is conducted.
- Submit portfolio update confirmation letter to the TSB by the due date.

DEFINITIONS

Portfolio: Demonstrates the relationships between and among current and planned investments and allows agencies to manage investments in IT as one would manage a portfolio of investments of assets such as real estate or financial instruments (for example, a stock portfolio).

RELATED LAWS AND OTHER RESOURCES

Planning Information Technology Portfolios Policy (111)
Securing Information Technology Assets (141)
Executive Guide to Managing Information Technology Portfolios

REVISION HISTORY

Date	Action taken
October 2011	Policy reformatted for migration to Office of Chief Information Officer.
April 2010	Policy adopted.

CONTACT INFORMATION

For questions about this policy, please contact your OCIO Information Technology Consultant.

APPROVING AUTHORITY

Chief Information Officer   Date
Chair, Technology Services Board

Appendix A: Agency Portfolio Overview

A. Purpose

Describe the purpose or value of the portfolio to your executive management in managing IT as a vital agency resource.

B. Convergence of Business Mission and IT Vision

[Links IT to the strategic business plan.]

Describe your agency's mission and its primary business objectives. What business is your agency in? What legislative mandates does your agency have? What is your agency's vision to accomplish its mission? How well do your current IT investments support the business objectives? How important is IT in helping you meet your agency's business goals? What future investments or changes in investment strategy need to be made (if any) in order to strengthen IT support of the agency's mission?

C. IT Plans, Proposals, and Acquisitions Process

The agency should describe the following:

1. The process for reviewing its IT plans, proposals, and acquisitions from a financial and management perspective as part of the budget process.

2. Its acquisition process and how the process provides competition and accountability for purchases and expenditures and adheres to the provisions of the Information Technology Investment Policy.

3. Awareness and adherence to state technical standards for IT, and any exceptions to or deviations from the standards.

4. Awareness and adherence to state complaint and protest procedures as outlined in the IT Investment Policy and Standards documents.

D. Overview of Infrastructure

[High level view of data from Agency Technology Infrastructure and Technology Investment/Project Summaries combined with a summary of staff resources.]

Provide a high level, enterprise-wide view of the current IT investment (hardware, software, networks, and critical applications), and the schematic of IT structures (locations/nodes, physical facilities, networks, etc.). Who is doing the work (number of people, Full-Time Equivalents, etc.) and how (copy of IT organizational chart – centralized vs. decentralized)?

E. Analysis

[Use data from Agency Technology Infrastructure and Technology Investment/Project Summaries.]

Describe as a percentage (and/or represent graphically) current and projected allocation of resources by category or functional unit. Examples: application development, infrastructure development, major systems, maintenance costs, and/or functional distinctions that reflect the

agency's structure and business model. The term "resources" includes labor, contractual services, infrastructure, and overhead, measured in dollars.

F. Challenges and Opportunities

Given the state of technology used by agencies today, what challenges does your agency face? What does your agency need to succeed? Are there opportunities for data or resource sharing that could be explored? How can your agency contribute to achieving the state's IT plan?

G. Solutions: Current and Future IT Investments

[Narrative overview of Technology Investment/Project Summaries and Planned Investments/Projects, tied back to Agency Strategic Business Plan.]

In addressing this subject, consider the following: How can your agency apply IT to achieve its business objectives now and in the future? What does success look like? How will the challenges be addressed? Provide an overview of current "In-development" projects (number and nature). Describe planned projects in terms of: a) meeting business objectives; b) impact on existing investments (changes to applications, networks, etc.); c) consistency with state's IT strategic plan; and d) priority of project or cluster of projects, and justification of this priority.

H. Prioritization Process

Describe your agency's management process for prioritizing IT resources.

Appendix B - Agency Technology Infrastructure

The information described in the following sub-sections **must** be provided to OCIO using the web ePortfolio application.

Section 3
A. Current and Projected IT Budget
B. IT Personnel
C. Personal and Workgroup Computing
D. Geographic Information Systems (GIS) Resources

For access to and assistance in using the web application, contact your agency's OCIO Senior Technology Management Consultant.

A. Current and Projected IT Budget

IT expenses should reflect the entire agency, not just the IT division.

Provide budget details in the following categories (Descriptions of each category are included below):

Reporting Period	Total Agency IT Budget	Hardware Purchase and/or Lease	Software Purchase and/or Lease	H/W Repairs and Maintenance	S/W Enhancements and Maintenance
Indicate Current Fiscal Year	(Projected)	(Projected)	(Projected)	(Projected)	(Projected)
Indicate Current Fiscal Year	(Actuals)	(Actuals)	(Actuals)	(Actuals)	(Actuals)
Indicate Next Fiscal Year	(Projected)	(Projected)	(Projected)	(Projected)	(Projected)

Reporting Period	Telecommunications	Data Processing Services (e.g. CTS services)	If applicable, list & identify other major IT expenses here
Indicate Current Fiscal Year	(Projected)	(Projected)	(Projected)
Indicated Current Fiscal Year	(Actuals)	(Actuals)	(Actuals)
Indicated Next Fiscal Year	(Projected)	(Projected)	(Projected)

APPENDIX B: Agency Technology Infrastructure

B. IT Personnel

Reporting Period	Total Agency IT FTEs (include WMS positions)	Salaries and Benefits	Personal and Purchased Services	Professional Development of IT Staff
Indicate Current Fiscal Year	(Projected)	(Projected)	(Projected)	(Projected)
Indicate Current Fiscal Year	(Actuals)	(Actuals)	(Actuals)	(Actuals)
Next Fiscal Year	(Projected)	(Projected)	(Projected)	(Projected)

Category Descriptions

Hardware purchase and/or lease - Purchase or lease payments for machines, devices, and transmission facilities used in information processing, such as servers, routers, personal computers, laptops, terminals, personal digital assistants, printers, and cables. Do not include multi-purpose machines that are predominately used as copiers.

Software purchase and/or lease - Purchase or lease payments for the object code version of computer programs and any related documentation, and/or licenses for use of software products (e.g. Microsoft Select Agreement). Software also means the source code version, where provided by vendor.

Hardware repairs and maintenance - Payments made to external providers for repairs, preventive maintenance, and/or support for hardware.

Software enhancements and maintenance - Payments made to external providers for enhancements, maintenance, and/or support for software.

Telecommunications - Telecommunications services and equipment for voice, including telephones and local service (e.g. Centrex, PBX, voice mail, IVR) and long distance (SCAN, 800 number), wireless (cellular phones, pagers); videoconferencing services and equipment; and telecommunications services and equipment for data (e.g. modems, routers, gateways, transport, Internet).

Data processing/information technology services - Payments made to a third party (e.g. CTS) for services that assist the agency in the electronic capture, collection, storage, manipulation, transmission, retrieval, presentation, and distribution of information in the form of data, text, or image, and/or facilities management of agency equipment.

APPENDIX B: Agency Technology Infrastructure

Other - IT resources or special projects that may not be captured in the categories listed here.

Agency IT FTE - Total number of staff in IT job classifications. Include other staff (e.g. WMS) whose responsibilities are mostly IT-related.

Salaries and benefits - Total salaries and benefits for agency IT FTEs.

Personal and Purchased Services - Personal Services are professional or other technical expertise provided by a consultant to accomplish a specific study, project, task, or other work statement. Purchased Services are provided by a vendor to accomplish routine, continuing, and necessary functions such as data entry, scanning and indexing, programming services and analysis. Do not include hardware and software repairs and maintenance in this category.

Technical and professional development of IT staff - Tuition/fees, travel, per diem, and materials for classes, seminars, conferences, and online courses that contribute to the development of agency IT personnel.

C. Personal and Workgroup Computing
Provide details in the following categories (Descriptions of each category are included below):

Indicate the fiscal year being reported: FY_____

Personal Computers

1. Total Agency FTEs	2. Total number of PCs (exclude servers)	3. Planned number of PCs replacements next fiscal year	4. Agency intended refresh cycle in months	5. PCs donated to schools in last 12 months

Servers

6. Total number of servers	7. Number of servers to be replaced next fiscal year	8. Number of servers planned to be added in next fiscal year	9. Factors driving server acquisition strategy

Network Connectivity	
10. % agency staff with Inside WA (intranet) access	11. Agency primary network operating system
Desktop Office Suite	
12. Primary desktop office product suite?	13. If not XML enabled do you plan to be within 12 months? (yes/no)

APPENDIX B: Agency Technology Infrastructure

Category Descriptions

Personal Computers
1. What is the total agency FTE count?
2. How many personal computers (PCs) does the agency currently have (excluding servers)?
3. How many of these PCs does the agency plan on replacing in the next fiscal year?
4. If your agency has an established PC refresh cycle, what is the length of that cycle?
5. If your agency donates used PCs to schools, approximately how many were donated in the past 12 months?

Servers
6. How many servers does your agency currently lease or own?
7. How many of these current servers do you plan on replacing during the next fiscal year?
8. How many additional servers do you plan to purchase or lease during the next fiscal year?
9. Which of the following are driving your server acquisition strategy? (pick one or more)
   - Server consolidation
   - Increased application utilization
   - New application deployment
   - Disaster Recovery/Redundancy
   - Other

Networks
10. What percent of agency staff have access to the state intranet portal (Inside WA)?
11. What is your agency's primary network operating system?

Desktop Office Suite
12. What office product suite does your agency use as its primary desktop tool?
13. If desktop office suite is not XML enabled, do you plan on migrating to a version that is within the coming biennium? (yes/no)

D. Geographic Information Systems (GIS) Resources
Provide details in the following categories (Descriptions of each category are included below):

Indicate the fiscal year being reported: FY_____

	1. Number of GIS Staff (FTEs)	Indicate here if included in 3.B.1 "Total Agency IT FTEs"
Central Support		(yes/no)
Program Area Support		(yes/no)

APPENDIX B: Agency Technology Infrastructure

	2. GIS Software
Vendor Name	
Product Name	
Number of Licenses	

	3. Hardware
Make/Model	
How Many	
Is this equipment included in Section 3C.2 "Total Number of PCs?	(yes/no)
Is this equipment included in Section 3C.6 "Total Number of Servers?	(yes/no)

	4. Major GIS Application(s)
Application Name / Description	

	1. GIS Database(s) Environment
Vendor Name	
Number of applications	

	2. Critical GIS Datasets
Name(s)	

Category Descriptions
Many agencies have a significant investment in GIS technology or rely on the technology to meet mission critical information requirements. If your agency uses GIS in this context, please respond to the following.
1. GIS Staffing (FTEs) - (Please indicate if these FTEs are reflected in Section 3.B.1 "Total Agency IT FTEs")

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- Centralized support - indicate FTEs currently devoted to a corporate or centralized GIS support effort.
- Program area support - indicate FTEs currently attached to program areas for GIS support.

2. Software - identify GIS software packages and number of licenses currently maintained for each.
3. Hardware - identify hardware platforms used to support GIS.
4. Major applications - identify and provide brief description of major/mission critical GIS applications.
5. GIS Database Environment - identify vendor databases (e.g. ARC SDE, Oracle, etc.) used to support mission critical GIS effort and indicate number of GIS application supported by each database.
6. Critical GIS Datasets - identify GIS datasets that are critical to support of agency's mission.

The information described in the following sub-sections is **not** provided to OCIO using the web ePortfolio application.

Section 3:
E. Security and Disaster Recovery/Business Resumption Plans
F. Public Access
G. Application (Systems) Information
H. Database Information

E. Security and Disaster Recovery/Business Resumption Plans
Agency heads are responsible for the oversight of their respective agency's Information Technology (IT) security and disaster recovery and will confirm in writing that the agency is in compliance with the IT Security and Disaster Recovery/Business Resumption Policies and Standards.

- Security - The annual security verification letter due August 31 per the IT Security Policy and Standards must be included in Annual Technology Investment and Project Reviews and submitted to the Technology Services Board. The verification indicates review and acceptance of agency security processes, procedures and practices, as well as updates to them since the last review.
- Disaster Recovery/Business Resumption - The annual disaster recovery/business resumption verification letter due August 31 must be included in Annual Technology Investment and Project Reviews and submitted to the Technology Services Board. The verification indicates review and acceptance of agency disaster recovery/business resumption processes, procedures, and practices as well as updates to them since the last review.

These certification letters may be submitted as one document.

The Security Program and Disaster Recovery/Business Resumption Plans are included in the portfolio by reference. Agencies are not required to submit them to OCIO. Instead, agencies will indicate the physical location of the unique authoritative copies of the plans and indicate

contact information for the steward of those plans (and stipulate that they were developed/ maintained in accordance with published OCIO policy.)

F. Public Access

Describe the agency's "progress toward [providing] electronic access to public information and enabling citizens to have two-way interaction …for obtaining information and services…" (RCW 43.105.270).

G. Application (Systems) Information

This section is useful in providing information about the production applications existing at an agency. For the purpose of the portfolio, an application or system is a group of related automated procedures that support a business objective.

In this section, provide information for each mission critical IT application.

Mission critical applications are high risk application systems. With a mission critical application, even short-term loss of the functionality provided by the application would have significant negative impact on:

- The health or safety of the public or state workers;
- Income maintenance for citizens or government employees;
- Payments to vendors for goods and services; or
- The legal or fiscal integrity of state operations.

In addition to mission critical applications, agencies are encouraged to include information in their portfolios about any application deemed important to the agency or to other stakeholders. Agencies are also encouraged to include supplemental information in their portfolios if useful for managing or reporting.

The following list, while not exhaustive nor mandatory, is encouraged. Agencies may indicate in their portfolios if they do not currently capture an element listed below:

1. Provide name of application.
2. Provide name and title of application owner (e.g. IS Mgr./owner).
3. Provide name and title of customer/business area owner.
4. Indicate type of application (accounting, human resource, program or agency specific such as claims management, tax collection, etc.)
5. Provide a brief description of the application.
6. Provide an estimate of the number of users.
7. Indicate which agency strategies, programs, and business processes are supported by the application.
8. Indicate when the application was originally implemented.
9. If the application has been significantly modified, indicate when.
10. Indicate how many technical staff FTEs are required to maintain and support the application.

11. Indicate if replacement or major modification of the application is planned. If so, briefly describe the modification and indicate its planned start date.

12. Indicate ownership of application (owned by agency, leased from vendor, owned and operated by vendor)

13. Provide application size and technical characteristics (number of lines of code or function points, primary technology platform, site of platform (agency, OCIO, etc.), operating system, primary language (COBOL, Natural, etc.), and database management system used.

14. List interfaces to other major systems.

It is important for executive management of the agency to understand the current application portfolio in order to manage current activities and plan for the future. Agencies are encouraged to use the application information to assist with the management of IT.

Suggested summary reports to include in the portfolio include:

- Statistics comparing applications from year to year
- Age of applications
- Commercial applications supported
- Number of platforms used by applications
- Operating systems in use
- Languages used by applications
- Database types used
- Applications by customer/business area
- Applications by manager/owner
- Number of FTEs providing maintenance and support
- Estimated cost of maintenance & support

H. Database Information
The purpose of this section is to provide information about existing databases in the agency. Provide the following information for each mission critical database.

Mission critical databases support high risk application systems. With a mission critical database, even short-term loss of the functionality provided by the application and database would have significant negative impact on:

- The health or safety of the public or state workers;
- Income maintenance for citizens or government employees,
- Payments to vendors for goods and services; or
- The legal or fiscal integrity of state operations.

In addition to mission critical databases, agencies are encouraged to include information in their portfolios about any database deemed important to the agency or to other stakeholders. Agencies are also encouraged to include supplemental information in their portfolios if useful for managing or reporting. The following list, while not exhaustive nor mandatory, is encouraged. Agencies may indicate in their portfolios if they do not currently capture an element listed below.

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1. Database commercial name (DB2, ADABAS, Oracle, etc.)
2. List of applications supported
3. High-level description (what type of data does it collect)
4. Location (Agency, OCIO, vendor facility)
5. Ownership of database (e.g. IS Mgr./owner).
6. Size of database in terms of data storage requirements
7. Number of records in the database
8. Frequency with which records are added, modified, and deleted
9. Backup frequency

It is important for executive management of the agency to understand the current database portfolio in order to manage current activities and plan for the future. Agencies are encouraged to use the database information to assist with the management of IT. <u>Suggested</u> summary reports to include in the portfolio include:

- Statistics comparing databases from year to year
- Age of databases
- Number of platforms
- Database by manager/owner
- Number of FTEs providing maintenance and support
- Estimated cost of maintenance & support

Appendix C - Technology Investment/Project Summaries

Provide a summary of each current technology investment.

Title	Description/Purpose	Cost Estimate	FTEs	Schedule	Scope	Business Driver/Strategy Supported	Executive Sponsor	Project Manager
Project, investment, acquisition name (ranked by priority)	A brief, non-technical description of the purpose of the project, application or asset.	Total project costs including development and implementation, by phase, as appropriate.	Include both state and contractors, reported separately.	Start and completion dates, by phase, as appropriate.	Organizational context (work group, agency-wide, statewide). Related functional areas outside the project scope. Risk (low, medium, high). Impact on, or relationship to, statewide infrastructure.	Major business functions or processes supported. Measurable benefits (and/or mandated by statute. Cite RCW).	Name Title Phone E-mail	Name Title Phone E-mail

Appendix D - Planned Investments/Projects

Provide a summary of each planned or proposed technology investment.

Title	Description/ Purpose	Cost Estimate	FTEs	Schedule	Impact on existing investments	Scope	Business Driver/ Strategy Supported	Executive Sponsor	Project Manager
Project, investment, acquisition name (ranked by priority).	A brief, non-technical description of the purpose of the project, application or asset.	Total project costs including development and implementation, by phase as appropriate	Include both state and contractors, reported separately.	Start and completion dates, by phase, as appropriate.	Changes to agency applications, and systems. Impact on, or relationship to, statewide infrastructure.	Organizational context (work group, agency-wide, statewide). Related functional areas outside the project scope. Risk (low, medium, high).	Major business functions or processes supported. The measurable results that will be achieved as a result of completing this project (and/or mandated by statute. Cite RCW). Summary of tangible and intangible benefits for the project.	Name Title Phone E-mail	Name Title Phone E-mail

Appendix E - Annual Technology Investment and Project Reviews

Post Implementation Review

The post implementation review must document practices and procedures that lead to project successes and make recommendations for applying them to similar future projects, and make recommendations for improving the planning, management, and quality control of future, similar investments or projects. It should assess the causes and impacts of any significant reductions in benefits, increases in one-time or continuing costs, problems with project management, or increases in project risk during the course of the project.

Purpose

The major purpose of a Post Implementation Review (PIR) is to determine if the expectations established for an information technology system were met. The PIR essentially documents the comparison between the *actual* results of a system and the *estimates* contained in the acquisition plan or project agreement. It also establishes a baseline for similar acquisitions or projects to assist in shaping more accurate estimates for future information technology planning so that state agencies can benefit from experience. Ideally, the PIR should be conducted by an objective third party such as a private contractor, the State Auditor's Office, internal auditor, or other neutral party.

Scope

The PIR complements previous project documentation. It is not a requirement to provide the level of detail which may be found in the agency's project definitions, decisions packages, conceptual/detailed design, and feasibility study. What is sufficient – and necessary – is the level of detail that will enable meaningful analysis of events, and conclusions to be drawn regarding those events.

The comparisons of interest in a PIR are:

Estimated and actual schedule;

Estimated and actual costs;

Expected and actual functionality;

Projected and actual benefits.

Guidance

It is vital that the PIR include what is perceived to have occurred, and why. However, it is recognized that not all events are explainable in terms of measurable "cause and effect" rationale, yet there may be "lessons learned" in the perception of events even though the "measurement" cannot be ascertained. Also, there can be valid reasons why costs – for example – have increased, such as an expansion of the system's original functional requirements or an increase in technical staffing.

"Knowns" (e.g., acquisition costs, personnel, schedule) are traditionally tracked because the information is available. However, a particular project's "unknowns" (during development) can create implementation risks, and it is these unknowns which can in hindsight offer valuable lessons for project lifecycle planning (e.g., additional functionality added, training, maintenance of new code, unforeseen additional personnel or technical skills needed.)

Appendix E: Annual Technology Investment and Project Reviews

In addition to a value expressing differences such as "cost was X dollars over estimates," it is also useful to express differences in terms of percentages when comparing estimates with actuals since it lends insight into the project's complexity. For example, a greater percent difference – 10% above cost estimates – may be more acceptable for an innovative, higher-risk project than for a project with lower risk since the latter should have less uncertainty in performance information. The following are some points to consider when addressing schedule, costs, functionality, and benefits of the completed project.

a) Schedule: The PIR should describe the original and actual milestones, deliverables, products, or processes effected and the reasons for any significant differences. For example, the trade-off between elapsed time and the desire for rigorous functional requirements could affect critical paths and thus, delivery dates. If a project missed a schedule by two months, this information by itself is not sufficient for the PIR. Since a task that takes longer sometimes results in a better system, schedule aspects of the PIR must make clear whether schedule changes were due to engineering necessity, uncertainty, assumptions during estimation, or other reasons.

b) Costs: Project costs should be categorized to illustrate whether savings or overruns occurred as a result of software design, hardware changes, additional personnel, or other combination of factors. For example, the estimated (original) cost may be lower than the actual cost because the estimate did not include subsequent changes to the specifications. Or a particular technology did not turn out to be as mature as anticipated requiring other hardware or software solutions. What is important is to capture the reasons for differences between the estimated and actual costs, and what the specific cost categories were that contributed to the differences.

c) Functionality: The comparison between expected and actual functionality essentially addresses project technical feasibility in two ways: (a) does it meet specification, and (b) does it work satisfactorily?

Technical specifications are addressed via requirements analysis (during the project life cycle), and may be derived from agency, state, federal, and industry (de facto) standards. The PIR should address whether technical requirements were sufficient to fully realize the required – and desired – functionality of key hardware and software components of the system, and of the system as a whole. The point is to discuss whether the system works as *specified.*

The PIR should also address whether the system works as *intended* by management and/or users. If it does not, this may be due to insufficient requirements, engineering trade-off, cost, complexity of the technical problem, etc. These reasons need to be captured because they indicate that some technical specifications may need to be tightened, or that they need to be used in combination with other factors. Comments from system users are a critical part in establishing whether the system really works as intended: if there is no user support, the positive aspects of meeting specification are diluted.

d) Benefits: The benefits section is not a repetition of the agency's cost/benefit analysis. Since the project was funded through implementation, it is assumed that there were projected benefits. Rather, the PIR documents whether the projected benefits match the actual benefits as a result of the project's implementation. Benefits need not be defined in

terms of cost savings or cost avoidance. They may include "public good" (e.g., enhanced safety), increased agency throughput for workload, enhanced agency capability for additional responsibilities, future potential of the system or agency, consistency with the technical direction of the state, agency, and industry, or lessons learned by the agency in meeting its technical goals.

Sample Post Implementation Review (PIR) Table of Contents

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Estimated and Actual Schedule
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Solicitation Process and Vendor Selection
Contract Negotiation and Management
Technology
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Technical Design Specifications
Data Conversion
Testing
Training
Implementation
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Appendix
Final QA Report

PROPOSED UPDATES TO POLICY

Policy 112 – Managing Information Technology Portfolios

PURPOSE

This policy establishes expectations for agencies to manage their IT investments as a portfolio. This policy outlines the standard minimum set of portfolio components agencies must develop and maintain. The purpose of an IT portfolio is to guide decision making as outlined in RCW 43.105.235 - State Agency IT Portfolio and RCW 43.105.341- Information technology portfolios. Broad outlines about agency use of portfolio for management and decision-making are provided in RCW 43.105.230 - State agency information technology portfolio—Basis for decisions and plans .

This is an interim policy updated to support current practices. A comprehensive rewrite of this policy is planned for 2019.

For institutions of higher education, the policy applies to business and administrative applications and academic applications that are enterprise-wide in relationship to other institutions of higher education. The policy does not apply to:

   a. Medical, clinical, and health care applications

   b. Academic and research applications

   c. Business and administrative application for operations in (a) and (b) above

POLICY STATEMENT

1. Agencies must have a portfolio management program and collect data necessary to support the program.
    a. Agency portfolios must be used in support of managing existing technology assets and prioritizing new investments.
    b. When requested, agencies must provide certain information from their portfolios to the Office of the Chief Information Officer as outlined in this policy.
2. The minimum set of components of a portfolio management program includes:
    a. Agency strategic business and technology plan(s)
    b. Portfolio of technology services provided
        i. Standard 112.10 describes the application to be included and the mandatory set of application elements provided on at least an annual basis

      ii. Standard 112.20 describes the mandatory set of IT related service elements to be reviewed on at least an annual basis

   c. Portfolio of technology projects

      i. Description of agency governance for project portfolio.

      ii. Standard 112.30 contains the mandatory set of project elements to be reviewed on at least an annual basis

3. Agencies must certify to compliance with this policy on an annual basis based on the dates provided by the OCIO.

CONTACT INFORMATION

Contact OCIO Policy & Waiver Mailbox for additional information or to request a waiver.

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REVISION HISTORY

Date	Action taken
October 2011	Policy reformatted for migration to Office of the Chief Information Officer
April 2010	Policy adopted

STANDARD 112.10: Managing Information Technology Portfolio - Applications

PURPOSE

The agency portfolio should include applications used by the agency to achieve agency mission, goals or objectives. This standard defines what type application or system to include in the portfolio as well as the minimum required elements of each applications. Appendix A contains a list of the required application portfolio attributes/elements.

For institutions of higher education, the standard applies to business and administrative applications and academic applications that are enterprise-wide in relationship to other institutions of higher education. The standard does not apply to:

    a.   Medical, clinical, and health care applications

    b.   Academic and research applications

    c.   Business and administrative application for operations in (a) and (b) above

The definition of 'Application' and 'Information System' we are electing to follow are from [National Institute of Standards and Technology (NIST)](#) and captured in the [National Institute of Standards and Technology (NIST) Key Terms](#) - US Dept of Commerce (May 2013).

> Application – A Software Program hosted by an information system, Software program that performs a specific function directly for a user and can be executed without access to system control, monitoring, or administrative privileges.

> Information System - A discrete set of information resources organized for the collection, processing, maintenance, use, sharing, dissemination, or disposition of information.

> *[Note: Information systems also include specialized systems such as industrial/process controls systems, telephone switching and private branch exchange (PBX) systems, and environmental control systems.]*

STANDARD

1. The portfolio should include applications used by the agency to achieve agency mission, goals or objectives with the exception of:

    a.   Websites that are purely static in content.

    b.   Social media applications, unless used for data collections such as surveys, opinion polls, etc.

    c.   Desktop productivity software (e.g. Office, Visio, etc.) since this type of software is assumed standard part of all agency desktop configurations.

d. Platform or intermediary software including but not limited to SharePoint, ArcGIS, SSIS, Windows Communication Foundation, Web services, APIs.

Intermediary Software Example: OCIO Application Inventory is developed using SharePoint, we would include Application Inventory on the list however not SharePoint.

2. Agencies owning central service applications or shared services will need to include the application in their agency portfolio submittal.

3. Agencies using the central service applications/shared service do not need to list the application in their portfolio.

4. For agencies wanting to capture and include the central service application or shared service in their application portfolio, please preface the entry with Centrally Managed – [Application Name]

    Examples:

    - Centrally Managed – AFRS
    - Centrally Managed – HRMS
    - Centrally Managed – CAMS
    - Centrally Managed – Exchange
    - Centrally Managed – Enterprise Active Directory

5. For large systems that could be reported as a collection of application components, agencies have discretion to identify a Parent application as part of an Information System followed by associated child applications, systems or components. For large systems it is recommended agencies use the following advisement:

    a. Preference and expectation for reporting is for individual modules of a system, but there may be situations where the business requirements lead you to treat a legacy system as monolithic (one entry rather than broken into separate modules).

    b. Agencies are advised to report at the smallest decision-making point for the agency. Guiding question: Would the agency (for various risk or financial reasons) approach portfolio management decisions (tolerate, invest, migrate, eliminate) at the module or the entire system level?

    c. It is anticipated that this guidance would likely result in large legacy systems in particular being reported at the system level, whereas more modern applications might be reported at the functional module level. If reporting at the functional module level, modules should still be material (see risks to consider).

    d. Risks to consider include: visibility of failure, impact of failure on agency mission, ability to resource/staff, ability to update, dependence on 3rd party software, etc.

E.G: TRAINS is a legacy accounting system that could be broken into various modules, but rather than tweak or replace individual modules, WSDOT would be likely to seek funding or initiate a project to replace the entire system (all modules). This would lead them to report TRAINS at the larger system level even if the modules within vary in terms of platform, deployment, specific business capability, etc. The system that replaces TRAINS would likely be reported at the module level.

E.G: LCB, reporting their large system (considerably newer than TRAINS), would likely break it into consumable modules (e.g. licensing, enforcement, GIS, authentication) as they may take action to modify just one module.

CONTACT INFORMATION

Contact [OCIO Policy & Waiver Mailbox](#) for additional information or to [request a waiver](#).

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APPENDIX A

REQUIRED APPLICATION PORTFOLIO ATTRIBUTES/ELEMENTS:

1) Agency Number (4 digit agency number)

2) Agency Name

3) Application Name

4) Type of Application (allowable categories below)

a) Custom/In-House

    b) SaaS (Software as a Service)

    c) COTS (Commercial Off The Shelf)

    d) Hybrid (Combination of application types)

5) Lifecycle Stage:

a) In development

b) In service

c) Retirement in progress

d) Retired from inventory

e) In Service Date: Date in production

    i) Date application went into production which is generally associated with the date used for tracking useful life in agency asset tracking system. (See SAAM 30.20.70 - Depreciation Policy and SAAM 30.50.10.A Subsection 80 - Capital Asset Class Codes and Useful Life Schedule.)

6) Retirement Date

a) Initial capture of retirement date. Ongoing tracking of retired applications will be aligned with individual agency records retention policy.

7) Does this application process, store, share, and/or transmit Category 3 or 4 data (Yes/No)

8) Is this Application considered a subsystem of another application?

a) If this application is not a standalone application and is dependent upon another application for its existence, mark yes. If not, mark no.

9) If Yes to 5.8, what application is this a subsystem of?

10) Core or Critical

  a) Agency self-defines if this application is core and/or critical to the agency.

11) Business Criticality (allowable categories below)

a) Business Essential (What is essential to running everyday business)

b) Historical (Needed for historical purposes)

c) Mission Critical (What is critical to the agency mission)

d) User Productivity (Utilized to help the user complete their tasks)

12) Has Business Owner?

a) Agency has an identified Agency Business Owner responsible for funding and governing changes, the answer is Yes.

13) Has Resources Available?

a) If all required resources are available to run/support the application, the answer is Yes.

14) Is an Unsupported Version?

a) If the application is running on unsupported version of technology, the answer is Yes.

15) Is Updatable?

a) If the application has all resources to update, the answer is Yes.

16) Has Other Risks?

a) If the agency has identified other risks associated with this application, the answer is Yes.

17) Mainframe Application?

a) No

b) State Enterprise Mainframe (On the state enterprise shared service mainframe)

c) Agency mainframe (On agency managed mainframe, not on state enterprise shared service mainframe)

d) Other Mainframe (On a mainframe that is not managed by the agency and not on the state enterprise shared service mainframe)

18) Integrates with AFRS?

a) Connection, interface or interaction with Agency Financial Reporting System (AFRS), the answer is Yes.

19) Integrates with HRMS?

a) Connection, interface or interaction with Human Resource Management System (HRMS), the answer is Yes.

20) Integrates with TEMS?

a) Connection, interface or interaction with the Travel and Expense Management System (TEMS), the answer is Yes.

21) Integrates with ECMS?

a) Connection, interface or interaction with Enterprise Contract Management System (ECMS), the answer is Yes.

22) Does this application integrate with federal systems?

a) Connection, interface or interaction with any Federal System, the answer is Yes.

23) Estimated User Count (Numeric)

24) Used by agency?

a) If used for internal agency end users only, the answer is Yes.

25) Used by the Public?

a) If used by Public End users providing or receiving data, the answer is Yes.

26) Used by Business Partners?

a) If used by agency Business Partner end users who provide and receive data with agency, the answer is Yes.

27) Used Across Government?

a) If used by governmental end users such as city, county, state, tribal, education, etc., the answer is Yes.

28) Location Data

a) Application uses location-based data (GIS data such as x,y coordinates or mapping functionality, the answer is Yes.

29) Mobile

a) If this is an application that is intended to deploy to a small-format mobile device like a tablet or a smartphone, the answer is Yes.

b) Some web applications may have been built with adaptive web technology that allows the content to scale/display on tablets or smartphones, and those should also be considered mobile applications for purposes of this inventory.

30) Is this an administrative or financial system? (Link to Administrative and Financial System Definitions for the list below).

a) Accounts Receivable

b) Accounts Payable

c) General Ledger

d) Cost Estimate

e) Performance Budgeting

f) Budgetary Control

g) Appointment Change

h) Benefits Management

i) Accounting Business Intelligence

j) Capital Asset Management

k) Cash Flows

l) Contracting

m) Cost Accounting/ Activity Based Costing

n) Cost Management and Control

o) Diversity Management

p) Enterprise Risk Management

q) General Ledger Reconcile

r) Government Accounting

s) Grant Management

t) Grievance

u) Hiring

v) HR Business Intelligence

w) Inventory Control

x) Inventory Management

y) Job Application

z) Job Classification

aa) Payroll

bb) Performance Audit

cc) Planning

dd) Procurement Business Intelligence

ee) Purchasing

ff) Recruitment

gg) Scheduling

hh) Separation/Termination

ii) Succession Planning

jj) Telework/Flex Work

kk) Time and Attendance

ll) Training/Development

mm)   Strategic Workforce Planning

nn) Travel Management

oo) Vendor Management

pp) Wellness and Safety

qq) Retirement

STANDARD 112.20: Managing Information Technology Portfolio – Technology Services Provided

PURPOSE

The agency portfolio should include all IT related services provided to enable the organization to achieve agency mission, goals or objectives. This standard acknowledges that services will be unique to each organization and different between agencies.

For institutions of higher education, the standard applies to business and administrative applications and academic applications that are enterprise-wide in relationship to other institutions of higher education. The standard does not apply to:

   a. Medical, clinical, and health care applications

   b. Academic and research applications

   c. Business and administrative application for operations in (a) and (b) above

STANDARD

1. The agency portfolio should include all IT related services provided to enable the organization to achieve agency mission, goals or objectives.

2. The IT related services should include value, condition, and capacity.

CONTACT INFORMATION

Contact OCIO Policy & Waiver Mailbox for additional information or to request a waiver.

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STANDARD 112.30: Managing Information Technology Portfolio – Projects

PURPOSE

The agency portfolio must include an inventory of all ongoing and closed information technology projects.

For institutions of higher education, the standard applies to business and administrative applications and academic applications that are enterprise-wide in relationship to other institutions of higher education. The standard does not apply to:

   a. Medical, clinical, and health care applications

   b. Academic and research applications

   c. Business and administrative application for operations in (a) and (b) above

STANDARD

1. The Agency portfolio must include an inventory of all ongoing and closed information technology projects, to be reviewed on at least an annual basis.

2. The elements agencies must capture for ongoing projects include:

   a. The current status and health of the project

   b. The current project cost and projected remaining cost

   c. The current project schedule and projected remaining schedule

   d. Percent complete of project scope

   e. Ongoing project change log

   f. Ongoing evaluation of the risk level of the project

3. The elements agencies must capture for closed (including completed or canceled) projects include:

   a. Analysis regarding progress towards meeting the original goals and performance measures of the project

   b. The original proposed project budget and the final actual project costs

   c. The original proposed project schedule and the final actual project schedule

   d. Summary of project change log and list of work left undone from original scope

   e. Identification of benefits generated by projects

   f. Project Post Implementation Review (PIR) to include discussion of lessons learned on the project, performance of any contractors used, and reasons for project delays or cost increases or scope change

CONTACT INFORMATION

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Policy 112 – Managing Information Technology Portfolios (Agency Feedback)

POLICY SECTION	AGENCY FEEDBACK	DISPOSITION
Main policy 112 Roles and Responsibilities	**Sue Langen (OCIO):** Remove Roles and responsibilities section	Eliminated Roles and Responsibilities section
Main policy 112 section 1.b.	**Rose Bossio (DRS):** 1. Bullet 1b says that the agency must provide "certain information" as outlined in this policy. When? 2. It isn't clear if that certain information is a copy of the portfolio management program or some sort of certificate of compliance. 3. The new definition of portfolio is a really good improvement. **Darrell Davenport (DRS):** 4. How long would the collection be retained for closed projects, regarding the proposed language?	Suggest policy update to read: "When requested, Agencies must provide certain information from their portfolios to the Office of the Chief Information Officer as outlined in this policy." Each agency would keep their closed records in accordance with records retention schedules identified at their agency
	Ecology does not, at this time, have any comments on the proposed Policy 112 update.	No action
Main policy 112 section 2.b.i. (suggested changes in red)	**Erik Lundberg (UofW):** Update the paragraph to read "Standard 112.10 ~~contains~~ describes the applications to be included, and the mandatory set of application elements provided on at least an annual basis, and/or"	Updated policy to read: "Standard 112.10 describes the application to be included and the mandatory set of application elements provided on at least an annual basis"
Main policy 112 section 2.b.ii. (suggested changes in red)	**Erik Lundberg (UofW):** Update the paragraph to read "Standard 112.20 ~~contains the mandatory set of IT related service elements~~ describes the mandatory elements to be included in the agency's portfolio of services, to be reviewed on at least an annual basis	Updated policy to read: "Standard 112.20 describes the mandatory set of IT related service elements to be reviewed on at least an annual basis"
Policy 112 Standards	**Erik Lundberg (UofW):** Include statement about policy applying to higher education admin/financial as outlined in statute 43.105.205	Updated standards 112.10, 112.20, 112.30 with the following: "For institutions of higher education, the standard applies to business and administrative applications and academic applications that are enterprise-wide in relationship to other institutions of higher education. The standard does not apply to:

		(a) Medical, clinical, and health care applications (b) Academic and research applications (c) Business and administrative application for operations in (a) and (b) above"
STANDARD 112.10 SECTION		
Standard 112.10 (suggested changes in red)	**Erik Lundberg (UofW):** 1. Change application to applications in the title 2. Remove the word "all" in the first paragraph since the definition describes what applications to include. 3. Change the word inventory to portfolio throughout this standard. 4. Recommend changing paragraph 6 from "all applications" to "significant applications" 5. Change second bullet to read; "Social media applications, unless used for business critical or business essential data collections such as surveys, opinion polls, etc. 6. Suggest we move aware from hardware-ish terms such as desktop, server and more toward "Business capability" language. Suggested changes bullet 3: ~~Desktop~~ Personal productivity software (e.g. Office, ~~Visio,~~ Office 365, G-Suite etc.) since this type of software is assumed standard part of all agency operations 7. Suggested changes bullet 4: Platform or intermediary software including but not limited to SharePoint, ArcGIS, SSIS, Windows Communication Foundation, Web services, APIs, and other "middleware" software suites.	Incorporated change 1 Incorporated recommendation to remove the word "all" from paragraph 1 and 6. Incorporated change 3 in the introductions sections. Did not incorporate change 4-7 in the attributes section since changing wording within this section requires an updated to the online application and OCIO committed to making no changes in the online application for 2018.
	Rose Bossio (DRS): No comments on Standard 112.1. It's probably a lot of work (if it's not already done), but seems appropriate.	No action
	Mary Mueller/Jillian Murphy (LCB): OCIO has elected to adopt the definition of both application and information system based on NIST. I have no issue with the definitions themselves. It's under the header "Applications to Include" where OCIO has made exceptions to what applications should be included as part of the annual Application Inventory which excludes platforms or intermediary software. It's not clear under	No action

	the section entitled "Information Systems" that agencies can, at their discretion, include platforms and/or intermediary software as part of an overall information system.	
STANDARD 112.20 SECTION	**AGENCY FEEDBACK**	**DISPOSITION**
Standard 112.20	**Erik Lundberg (UofW):** No changes to 112.20 - which is elegant in its brevity!	No action
	Rose Bossio (DRS): This short standard would benefit from a definition of services, value, condition, and capacity. When we talk about IT services are we talking about PMs, BSAs, service desk resources? Or something different?	No action at this time. Definition work is scheduled later in the year and will be incorporated in the statewide technology dictionary.
STANDARD 112.30 SECTION	**AGENCY FEEDBACK**	**DISPOSITION**
Standard 112.30	**Steve Young (DNR):** What projects do we need to report on? Everything or just those subject to oversight? **Response,** "This policy relates to agencies portfolio keeping a list of all their projects. Many agencies in the working session talked about having internal reporting requirements related to IT projects".	No action
	Rose Bossio (DRS): 1. This standard would also benefit from a definition of project. It is pretty obvious when we have new stuff, but when is a system enhancement a project that needs to go into a portfolio. 2. The beginning says that we need to maintain an inventory. Then is includes a change log or an ongoing evaluation of risk is changing. These seem more like project artifacts not something that lives in an inventory. 3. Similarly, the PIR would be difficult to put into an inventory, although I agree it should be a project artifact.	No action at this time. Definition work is scheduled later in the year and will be incorporated in the statewide technology dictionary.
Standard 112.30 Introduction (suggested changes in red)	**Erik Lundberg (UofW):** Recommend changing "~~all~~" to "significant" ongoing and closed information technology projects	Did not incorporate suggested edit
Standard 112.30 Section 5 (suggested changes in red)	**Erik Lundberg (UofW):** Recommended change: Project Post Implementation Review (PIR) to include discussion of lessons learned on the project, performance of any contractors used, and reasons for project delays or cost increases or scope changes.	Incorporated change