U.S. GENERAL SERVICES ADMINISTRATION

Capital Planning

And

IT Investment Guide

Center for IT Capital Planning
Office of the Chief Information Officer
February 2000

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Capital Planning Guide Overview

This version of GSA's Capital Planning and IT Investment Guide includes:

- Many of the lessons learned from the pilot implementation of GSA's Capital Planning and IT Investment selection phase,
- New guidance on acquisition planning designed to replace the old internal delegation of procurement authority process,
- Updates to the IT investment control and evaluation phase,
- Additional information on performance goals and measures and A-11 IT budget exhibits
- Other updates based on governmentwide guidelines and comments received from the private sector.

This guide is a living document designed to be easily updated. There may be future updates to reflect more lessons learned and new governmentwide guidelines. This version is integrated with an I-TIPS User Guide for use by GSA and other Agencies who may be using I-TIPS for Capital Planning and IT Investment Processes. The areas highlighting information in I-TIPS will be shown with this icon:

The concept of this GSA Information Technology (IT) Capital Planning Guide is that it can be used as a central source of Capital Planning information. Also, specific sections can be distributed to individuals involved in those processes that are described in a particular section.

Chapters 1 - 4 provide an overview of capital planning and related processes for those with significant capital planning or coordination responsibilities.

Chapters 5 - 7, and the Appendices provide more detailed guidance, methodologies and worksheets for IT project managers and others responsible for IT projects and documenting their capital planning processes.

Appendix 11 – The I-TIPS User Guide is provided for GSA Users and others who use I-TIPS to perform Capital Planning and IT Investment Processes.

Chapter 1

The GSA Capital Planning and Information Technology Investment Process

A. Introduction

Objectives of this Guide

This planning guide may be used as a companion document to GSA's Information Technology Investment Portfolio System (I-TIPS) User Guide or as a stand-alone guide for Capital Planning and IT Investment. Throughout the document we will provide pointers between the two documents to facilitate the best Capital Planning and IT Investment Process possible. This guide describes the GSA Information Technology (IT) Capital Planning process, its linkage to the agency's strategic and IT planning and other IT management processes and I-TIPS provide an automated, repeatable, structured yet flexible way to accomplish GSA's Capital Planning and IT Investment Process. The objectives of both documents are to help GSA Services and Staff Offices (S/SOs) establish, implement and execute effective and consistent agencywide criteria and processes for selecting, controlling and evaluating their IT investments.

Capital Planning Definition and Objectives

Capital Planning is a systematic approach to managing the risks and returns of IT investments for a given mission. It is an integrated management process which provides for the continuous selection, control, life-cycle management and evaluation of IT investments and is focused on achieving a desired business outcome.

Capital Planning is crucial in high dollar value[1], high risk, and complex IT projects and requires discipline, executive management involvement, accountability and focus on risks and returns using quantifiable measures. Capital Planning defines what success looks like and how to measure it.

The overall objective of GSA's capital planning process is to deliver substantial business benefit to GSA or return on investment for the taxpayer. More specific objectives are:

- Achieve GSA's mission and business objectives.
- Balance potential benefits against costs and risks.
- Align proposed systems investments with strategic and tactical goals.
- Measure performance and net benefit for dollars invested.
- Provide continuous feedback to help senior managers make decisions on new or ongoing investments.
- Ensure that taxpayer dollars are spent effectively

Capital planning defines what success looks like and how to measure it.

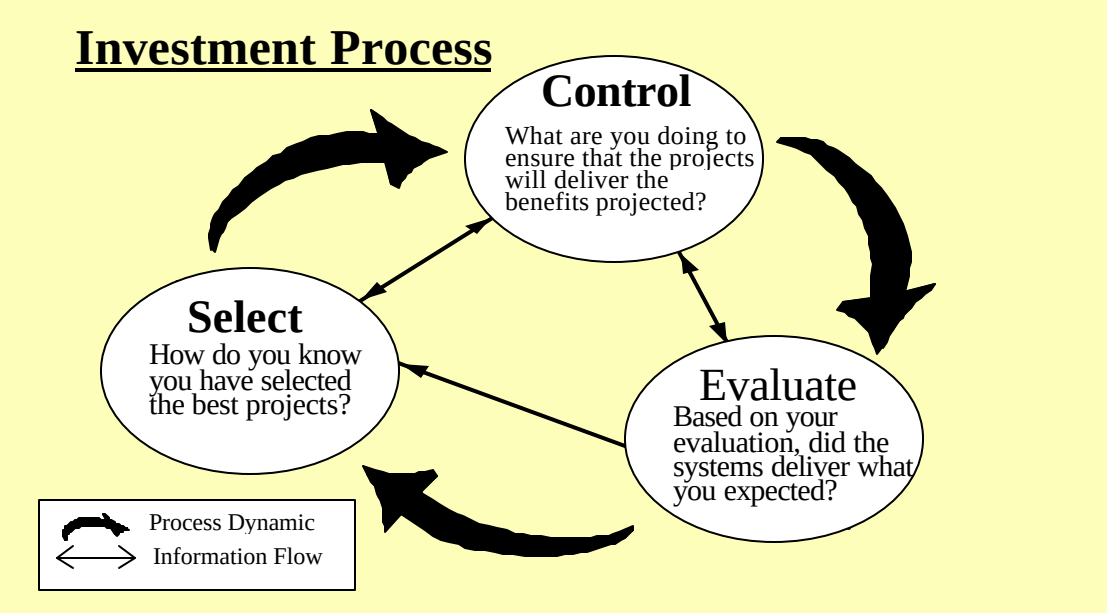
[1] Generally, more than 1% of the GSA's total IT expenditures annually.

Every government entity should ask the following questions about any potential investment in technology:

Strategy

1. Should the agency be doing this work at all?
2. Can someone else (government agency or private sector) do the work better?
3. If not, is the work organized and being done the best way possible?

Investment Selection, Control, and Evaluation Process



Raines' Rules (rewritten)

Frank Raines, Former Director, OMB, in a memorandum "Funding Information Systems Investments," dated October 25, 1996, issued policy guidelines for capital planning and funding approval of IT investments. These guidelines referred to as the "Raines Rules" are listed below. The Raines' Rules can be found throughout I-TIPS as they are an integrated part of the Investment Manager and Portfolio Manager Processes. A crosswalk from these rules to I-TIPS and the Capital Planning Process is provided later in this guide.

Policy: Investments in major information systems proposed for funding in the President's budget should:

1. **Support Mission:** Support core/priority mission functions that need to be performed by the Federal government;
2. **No Alternative Source:** Be undertaken by the requesting agency because no alternative private sector or governmental source can efficiently support the function;
3. **Work Process Reengineering:** Support work processes that have been simplified or otherwise redesigned to reduce costs, improve effectiveness, and make maximum use of commercial, off-the-shelf technology;
4. **Business Case Analysis:** Demonstrate a projected return on the investment that is clearly equal to or better than alternative uses of available public resources. Return may include: improved mission performance in accordance with GPRA measures; reduced cost; increased quality, speed, or flexibility; and increased customer and employee satisfaction. Return should be adjusted for such risk factors as the project's technical complexity, the agency's management capacity, the likelihood of cost overruns, and the consequences of under- or non-performance;
5. **Consistent with IT Architectures:** Be consistent with Federal, agency, and bureau information architectures which: integrate agency work processes and information flows with technology to achieve the agency's strategic goals; reflect the agency's technology vision and year 2000 compliance plan; and specify standards that enable information exchange and resource sharing, while retaining flexibility in the choice of suppliers and in the design of local work processes;
6. **Reduce Risk:** Reduce risk by: avoiding or isolating custom-designed components to minimize the potential adverse consequences on the overall project; using fully tested pilots, simulations, or prototype implementations before going to production; establishing clear measures and accountability for project progress; and securing substantial involvement and buy-in throughout the project from the program officials who will use the system;
7. **Modular Contracting:** Be implemented in phased, successive chunks as narrow in scope and brief in duration as practicable, each of which solves a specific part of an overall mission problem and delivers a measurable net benefit independent of future chunks; and,
8. **Risk Sharing:** Employ an acquisition strategy that appropriately allocates risk between government and contractor; effectively uses competition, ties contract payments to accomplishments, and takes maximum advantage of commercial technology.

B. Alignment with GSA Strategic and Performance Planning and Other Management Processes

Capital planning integrates GSA's strategic planning, performance measurement, budget and other management processes. To be effective, GSA must:

- Link mission to outcome goals and objectives
- Link goals/objectives to strategies and IT initiatives/investments
- Establish performance goals and measures to determine progress towards projected targets and effectiveness or efficiency improvements
- Monitor IT investments via performance measures
- Address whether initiatives are accomplishing objectives
- Use lessons learned from post-implementation reviews to change IT projects, performance measures or the IT investment selection process.

Understanding GSA's strategic planning, business process reengineering, performance measurement and budget processes and their relationship to capital planning is essential to effective capital planning.

Capital Planning and Strategic Planning

Strategic planning defines GSA's mission, goals and objectives, and strategies and provides a basis for aligning agency organization and budget structure with missions and objectives. The IT portion of strategic planning sets broad direction and goals for managing information and supporting delivery of services to customers and the public and identifies the major IT activities to be undertaken to accomplish the desired agency missions and goals.

The process of establishing goals must involve the agency's CIO and the agency's senior IT managers from the very start and must include the simultaneous and iterative processes listed below. The Capital Planning and IT Investment process begins at this stage of strategic planning and requires GSA to:

- Determine the baseline of existing agency functions, processes and information systems,
- Determine if functions should be performed by the agency, another agency or by the private sector,
- Using IT as an enabler, perform BPR, to preclude obsolete or inefficient processes from being automated,
- Identify IT strategies and alternative solutions to support agency goals and facilitate the reengineering process.

Strategic planning is a driving force for capital planning. Capital planning, in-turn, identifies the IT initiatives that implement strategies in terms of specific actions, schedules and resources. To identify the most suitable strategies, an analysis of best practices should be performed where comparable processes and organizations in the public or private sector exist before they are automated.

It will be the responsibility of S/SOs, the ITC, CoG and the BTC to ensure that processes have been reengineered as necessary and the alternatives of outsourcing (to the private sector or another agency) have been considered and used where applicable before an IT investment is proposed, approved, and funded.

Capital Planning and Performance Plans

The Government Performance and Results Act (GPRA) requires that each agency establish an annual performance plan that covers each program activity identified in its budget and includes:

- Generally, more than 1% of GSA's total IT expenditures annually.
- Performance goals expressed in an objective, quantifiable, and measurable form
- Performance measures that are indicators for measuring or assessing the relevant service levels, outcomes or outputs and comparing actual program results with the established performance goals
- Operational processes, skills and technology, and the human, capital, information, or other resources required to meet the performance goals.

Performance plans identify performance goals and measures based on the goals and objectives of the agency's strategic plan. Performance goals often indicate the progress in that particular year toward achievement of the strategic plan's general goals and objectives. As such, performance goals that represent milestones in achieving the long-term goals and objectives of a strategic plan are appropriate.

GSA's performance goals and measures for IT investments/projects must link to the general mission or program outcome goals and be supportive of the mission and vision of GSA's Strategic Plan. S/SOs performance goals and measures for IT must describe benefits derived from IT investments in terms of increased effectiveness, efficiency or customer satisfaction and must clearly support and link to S/SO business goals and measures in S/SO performance plans. Multi-year IT investments/projects will require interim performance goals and measures that can be monitored, evaluated, and reported on, annually. These interim performance goals and measures must include projected and actual cost and schedule information to help ensure adherence to projected costs and schedules and early identification of problems.

Capital Planning and Budget

Capital planning and the budget process are linked in several ways.

- In the capital planning IT investment selection phase, GSA must determine costs and performance measures for new IT initiatives and existing IT investments that provide funding and performance plan information needed for the budget process.
- In the capital planning IT investment control and evaluation phases, GSA must gather information to determine if its IT investment projects are adhering to established schedule, cost, and performance goals, and must report the status in the annual program performance reports that must be submitted to the President and Congress as required by the GPRA and Clinger-Cohen Act.

Required budget exhibits for IT investments include OMB Circular A-11 Exhibits 42(Report on Information Technology), 300A, and 300B (Capital Asset Plan and Justification). Most of the information for these exhibits is collected as part of the IT planning process. Capital Planning and IT Investment information will be the basis for review of agency budget requests for capital assets and for evaluation on new and ongoing projects. In addition, capital planning information will be the basis for OMB reports to Congress as outlined in OMB Circular A-11, Transmittal Memorandum, dated July 1999.

The OMB Exhibits can be produced from Project Information In I-TIPS. See Appendix 3 for further information.

Capital Planning and Acquisition

GSA should structure IT acquisitions into relatively short-term modules that can be evaluated easily and allow projects to change direction. Acquisition plans should reflect GSA's commitment to:

- Make maximum use of commercial off-the-shelf technology,
- Consult with industry to determine what technology is available,
- Consider alternative technical approaches, and
- Pursue streamlined acquisition strategies.

The acquisition plan should encompass new acquisitions and acquisitions that have already been approved or started but that have not been completed. During the acquisition process, GSA must submit progress reports comparing actual and baseline cost, schedule and performance goals and report discrepancies from those goals.

C. Definitions

IT Investments

IT investments encompass all investments involving IT and information resources, as defined in the Clinger-Cohen Act and Paperwork Reduction Act (PRA), and including all life cycle costs categories such as equipment, software, IT services, and information or application system design, development, and maintenance regardless of whether such work is performed by government employees or contracted out.

Strategic Planning

Strategic planning is a systematic method to anticipate and adapt to expected change. Strategic planning defines the mission, goals and objectives, and strategies of the agency. GSA's strategic plan provides a basis for aligning agency organization and budget structure with missions and objectives. It is a tool for setting the agency's priorities and allocating resources consistent with these priorities. IT strategic planning sets broad direction and goals for managing information and supporting delivery of services to customers and the public and identifies the major IT activities to be undertaken to accomplish the desired agency missions and goals.

Strategic planning produces strategic plans, which are multi-year documents that include:

- A comprehensive mission statement defining the basic purpose of the agency with particular focus on its core programs and activities.
- A description of long-term general (usually outcome-type) goals and objectives with planned accomplishments, elaborating on how the agency is carrying out its mission.
- Strategies the agency will use to achieve the general goals and objectives including descriptions of operational processes, skills and technology, and the human, capital, information and other resources required to meet those goals and objectives .
- A description of the relationship between performance goals in the annual performance plan(s) and general goals and objectives in the agency strategic plan.
- A description of the program evaluations, including a description of the scope of measurable performance outcome metrics, used in establishing or revising general goals and objectives, with a schedule for future program evaluations.

- An identification of those key factors external to the agency that could significantly affect the achievement of the general goals and objectives.

Any major IT investment, acquisition, or phase that has significantly deviated from its established cost, performance, or schedule goals.

Performance Plans

The Government Performance and Results Act (GPRA) requires that each agency establish an annual performance plan that covers each program activity identified in its budget and:

- Establishes performance goals to define the performance level of activities.
- Expresses such goals in an objective, quantifiable, and measurable form.
- Establishes performance measures or indicators to be used in measuring or assessing the relevant service levels, outcomes or outputs and comparing actual program results with the established performance goals.
- Describes the operational processes, skills and technology, and the human, capital, information, or other resources required to meet the performance goals.
- Provides a basis for comparing actual program results with the established performance goals.
- Describes the means to be used to verify and validate measured values.

Performance Measures and goal information is collected in I-TIPS in the Performance Measure Folder, See User Guide, Section 3

Annual Program Performance Reports

Annual performance reports compare actual performance to the annual goals established in agency performance plans. Both the GPRA and the Clinger-Cohen Act require agencies to submit these reports with their budget submission to Congress.

Agency Capital Plan

An annual GSA Capital Plan, describing all of GSA significant capital investments in fixed assets, such as computers and buildings, is required under OMB Circular A-11, Part 3 — Planning, Budgeting, and Acquisition of Capital Assets.

Chapter 2

Capital Planning and IT Investment: Steps, Thresholds, and Reporting

A. Steps

The steps listed below are agency strategic planning and budget processes which usually occur on an annual cycle and the Capital Planning and IT Investment process. These processes described in the chapters and appendices that follow are designed to help GSA, S/SOs, regions, the Chief Information Officer (CIO), the Information Technology Council (ITC), the Council of Governors (CoG), and the Business Technology Council (BTC) implement and execute consistent agencywide processes. Agency processes listed show the sequence of events and the information linkage between capital planning and agency strategic planning and budget processes that are outside the scope of this guide.

1. **Strategic Planning.** GSA develops an agencywide strategic plan that addresses agency mission, vision, long term goals/objectives, relationship of the goals/objectives to annual performance plans and their goals, and factors affecting achievement of long-term goals/objectives.
2. **Program and performance planning.** Heads of Services and Staff Offices (HSSOs) establish program performance plans that include performance goals and establish a current baseline (a reference position) from which progress should be made consistent with the GSA's strategic plan objectives.
3. **Gap analysis.** For some programs there may be a gap between the capabilities provided by existing resources, including IT resources and information systems, and program objectives and performance goals as stated in program performance plans. S/SOs should identify gaps with respect to specific program goals and performance objectives as stated in performance plans. Some performance gaps may be resolved by reengineering processes with or without the use of IT. If reengineering of a process is needed it should be done before determining what IT investments are needed to support the redesigned process. To avoid making IT investments in support of functions that are inefficient (need reengineering) or which should no longer be performed by GSA, the following three questions must be asked before embarking on any IT investment.
4. **The three pesky questions.** Before planning any IT investment, HSSOs, in consultation with the CIO, determine:

   1) Does/would the IT project/investment support mission functions that need to be performed by GSA?

   - If not, consideration of the investment should end and the function should be privatized or eliminated.

   2) Does/would the IT project/investment have to be undertaken because no alternative private sector or governmental source can efficiently support the function?

   - If not, consideration should be given to devolving the function to State or local governments, sharing resources within the agency, with another Federal agency, a university, not for profit organization, or outsourcing to the private sector; or
   - If an agency is currently performing a function that could produce the requirement (e.g. an in-house software function) the decision to use in-house or contract resources must consider the requirements of OMB Circular A-76.

3) *Does/would the IT project/investment support work processes that have been simplified or otherwise redesigned to reduce costs, improve effectiveness, and make maximum use of commercial off-the-shelf technology?*

- If not, S/SOs in consultation with the CIO, should reengineer the business processes first, then search for alternatives, or the S/SO may issue a very broad statement of the requirements in a solicitation to the private sector and allow the private sector to do the reengineering in proposed solutions.
- S/SOs should also improve internal processes though cutting red tape, empowering employees, reuse of pooling of existing assets within the agency or with other agencies resource re-deployment, or training.

If the answers to the three questions indicates that an IT investment is warranted, then the following steps would follow.

5. **Planning for an IT project:** This project phase includes determining functional requirements, feasibility, alternatives, costs, and benefits**.** Once it is determined that an investment in IT is needed, an Integrated Project Team (IPT), normally lead by the sponsoring S/SO's IT project manager, is formed to help ensure the project's success throughout its life cycle. When it is formed the IPT members sign off on a charter that describes team responsibilities. An IPT charter is provided in Appendix 7. The IPT (defined in detail in Chapters 3 and 5) assists the project manager in completing and documenting the analyses needed for each project life cycle phase. Project life cycle phases and required analyses and documentation are shown in Appendix 8. The IPT helps identify functional requirements that describe functional and customer needs that must be satisfied by the IT investment. This is followed by a feasibility analysis and an analysis of alternatives and their costs and benefits. (Chapter 3 and Appendix 6 provide guidance and worksheets in this area). The analyses required for the planning phase of a project are essential for determining a project's full life cycle costs, risks and returns. All the necessary analyses and documentation that are required for a project's planning phase should therefore be completed before the project or any of its useful segments can be submitted through the selection process and senior management review for inclusion in budget and before any procurement action can be initiated. Program and project managers should plan ahead to ensure their budgets include sufficient resources to complete all the requisite planning phase analyses and documentation for new major IT initiatives.

   a. **Preliminary Market Research.** The S/SO (IPT) should begin conducting the preliminary "Market Research" (FAR Part 10) during the IT planning phase. The IPT must perform a feasibility analysis to ascertain if the market can provide the desired assets to meet the program requirements. This analysis includes preliminary "market research" (FAR Part 10) designed to produce a list of alternatives, with accompanying data necessary to assess affordability, benefits and costs.

   b. **Benefit-Cost Analysis.** Once the IPT determines that it has sufficient market information on alternative solutions, it should compare the initial acquisition cost and other life cycle cost elements of the various alternatives. It is critical that the cost estimates are realistic estimates of the final costs. When seeking funds during the budget process, OMB and Congress will examine the credibility of the costs. The selection of the best alternative to compare with other projects should be based on a systematic analysis of expected benefits and costs, using a benefit-cost analysis methodology. Such a methodology is provided in Appendix 6 of this guide.

   c. **IT Performance Goals and Measures**. Upon completing the benefit-cost analysis, the S/SO (IPT) establishes and describes, in quantitative terms, performance goals and measures that will be used to evaluate whether the recommended IT project (alternative) is delivering the expected benefits, and bridging the performance gap. Chapter 4 and Appendix 4 of the guide provide guidance on performance goals and measures.

d. **Develop Acquisition Strategy.** If the S/SO (IPT) determines that the IT project is likely to involve a procurement/acquisition, the IPT develops an acquisition strategy tailored to their particular major system acquisition requirements. This strategy is the requesting office's overall plan for satisfying the mission need in the most effective, economical and timely manner. The strategy must be in writing and prepared in accordance with the requirements of FAR Subpart 7.1 - Acquisition Plans. (Chapter 3.E and Appendix 1 provide guidance and show the information required in developing acquisition strategies and plans.)

6. **IT Investment Selection Process.** After S/SOs complete the previous steps, they recommend an IT investment and document its costs, risks and benefits (to include quantifiable performance goals and measures) by completing the process and documentation described in Chapters 5 of this guide. S/SOs develop the documentation with help from the IPT and the CIO staff as part of the IT Planning collection process. This documentation includes all investments, including new IT initiatives, ongoing development/enhancement projects or acquisitions, and operational systems for each S/SO. The above information is presented to the Information Technology Council (ITC), the Council of Controllers (COC), the Council of Governors (CoG), and Business Technology Council (BTC) for all major projects.

   a. **Information Technology Council (ITC) technical review**. S/SO ITC members present information on the S/SO's overall IT program and major projects to the ITC and COC at joint meetings of the two councils. The ITC and COC reviews the documentation prepared by the IPT and provides its recommendations. The IPT updates documentation to incorporate ITC and COC recommendations prior to review by the BTC. Chapter 5 describes the ITC review process and documentation in more detail.

   b. **Council of Governors (CoG) review**. The CoG reviews and approves all potential agencywide IT projects to insure that GSA's IT investments meet its business goals and objectives of the agency. The CoG will also actively monitor the implementation of agencywide IT initiatives and determine whether the projects should be allowed to continue or if changes should be made. Chapter 5 describes the CoG review process and documentation in more detail.

   c. **Business Technology Council (BTC) strategic review and IT portfolio selection**. Heads of services and staff offices present their IT programs to the BTC. The BTC reviews the IT program and project documentation prepared by the IPT with a strategic business focus. The BTC selects those projects that should be funded; S/SOs develop budget submissions that are consistent with the BTC decision. Chapter 5 describes the BTC review and documentation in more detail.

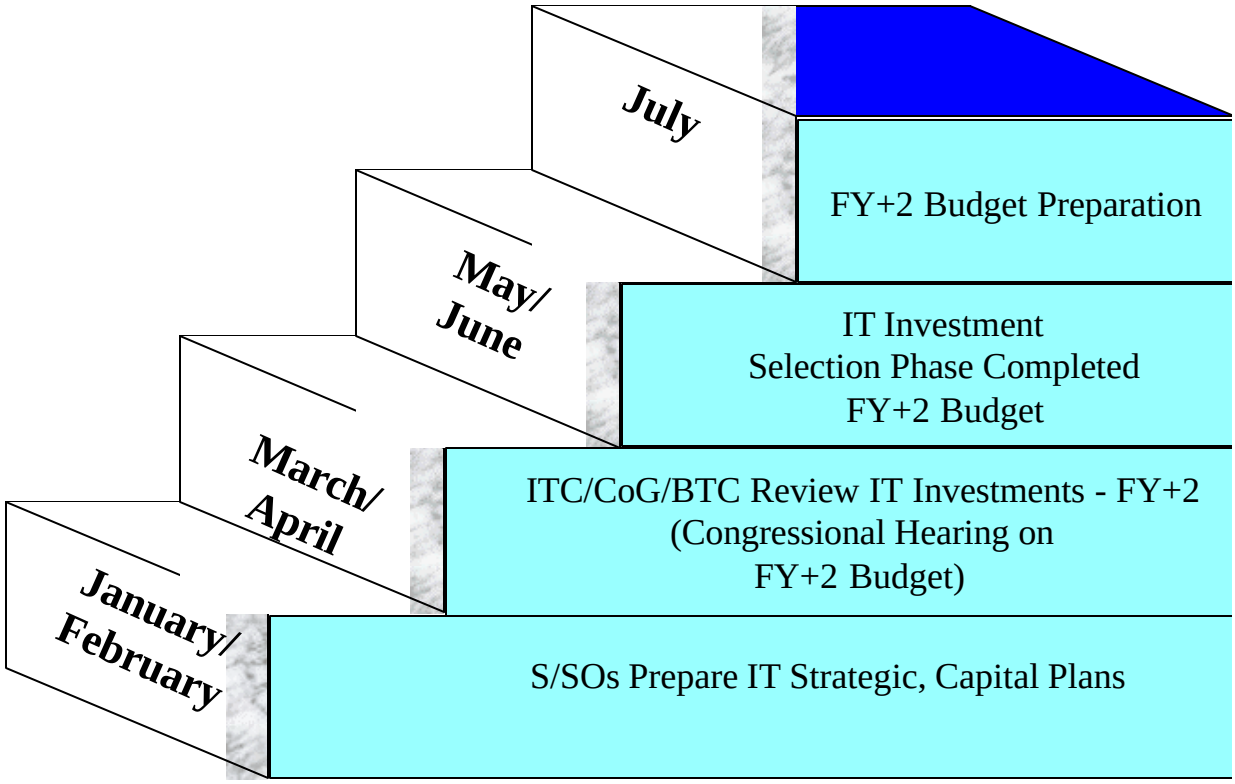
7. **Budget, Performance Plans and GSA Strategic Plan Preparation**. IT initiatives and existing projects and systems that have been selected for new funding or continued funding are included in budget submissions as appropriate. Information and documentation from the IT strategic, capital and operational planning process (such as benefit cost analysis results, IT project schedule, cost and performance goals and measures, OMB Circular A-11 Exhibit 53) are incorporated, as appropriate, in S/SO budget submissions, OMB Circular A-11, Exhibits 300 a and b, performance plans, and updates to the next GSA and IT Strategic Plans. When seeking funds during the budget process, the credibility of the costs will be examined and agencies will be held accountable for meeting the cost goals. Alternative solutions that are not affordable within potential budget availability should be dropped from consideration, but documented. The information needed to determine if a proposed project or acquisition is affordable is based on three factors: 1) availability of potential funding, 2) agency mission objectives the investment will help achieve, and 3) the impact that the new investment has on funds available for other agency mission objectives. The selection of the best alternative should be based on a systematic analysis of expected benefits and costs. The fundamental method for formal economic analysis is benefit-cost analysis. Estimates of costs and

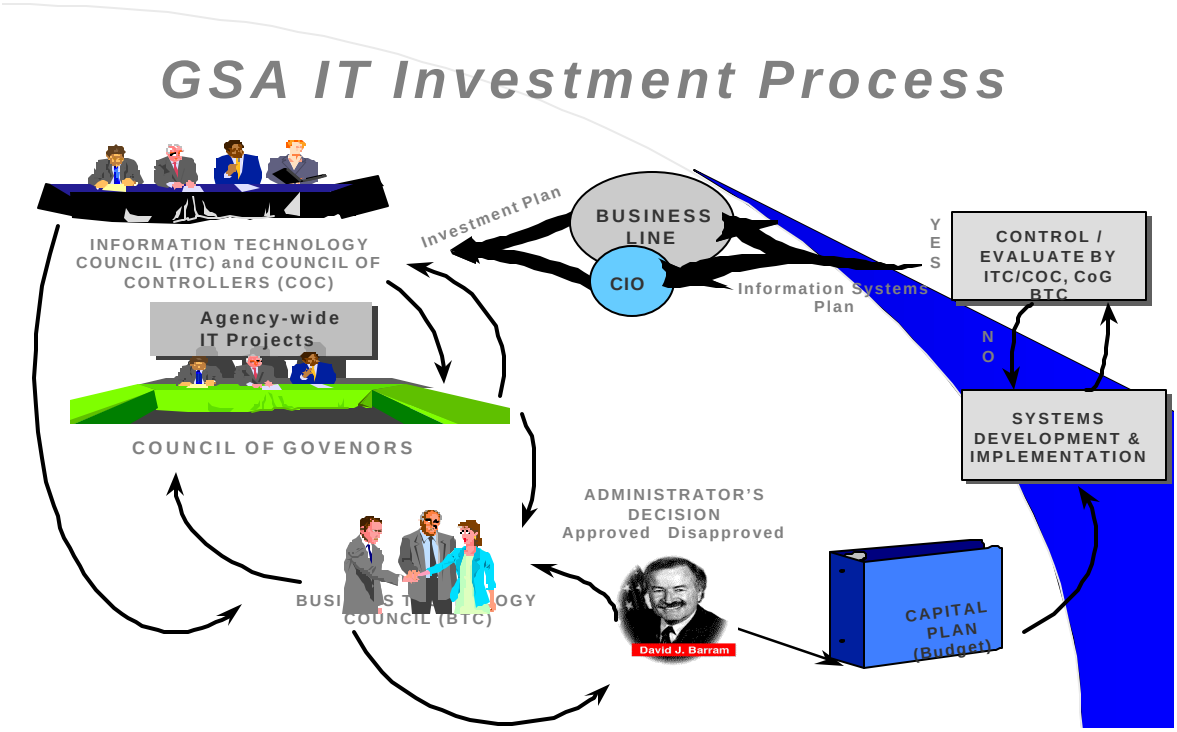
benefits should show explicitly the performance and budget changes that result from undertaking the project. Chapter 3 and Appendix 6 provide more detailed guidance on benefit-cost analysis.

8. **IT project/system control and evaluation processes.** During the year, project managers with the IPT, CIO staff, the ITC, CoG, and the BTC monitor IT investments and keep monthly status reports. In addition, when warranted, special reviews of approved projects and operational systems may be conducted and the results presented to the ITC, CoG, and BTC. Post-Implementation reviews are conducted on new systems shortly after they become operational. Once a year, the project status and post-implementation information is used to update the Project Summary Worksheets and technical and strategic ratings for all major projects, as part of the annual investment selection process that precedes budget submissions. Chapters 6, 7, and Appendix 9 describe the IT investment control and evaluation processes.

The following pages show the current schedule and the flowchart, which depicts the flow of IT related selection and control/evaluation process.

Current Time-line





The table that follows shows the major milestones and outputs of GSA's Capital Planning and IT Investment , strategic planning, budget and related processes.

Capital Planning, Strategic Planning, IT Planning and Budget Milestones and Deliverables

Time Period	Process/Event	Products/Deliverables
October - December (current fiscal year)	• CFO/S/SOs discuss proposed current fiscal year (FY) allocations • OMB issues FY +1 Passback • Administrator, OMB agree on approved FY +1 budget • CIO initiates capital planning pilot	• CFO issues current FY (funding allocations if appropriations enacted) • CFO issues internal call for FY+1 congressional justification and for life cycle costs information • CFO inputs data to OMB's budget system and to OMB for other exhibits • CIO issues call for new IT Plan to include: - new initiatives/investment information - IT performance measures information - Life cycle costs information

Time Period	Process/Event	Products/Deliverables
January - February	• S/SOs prepare IT Plan submissions, including IT investment selection documentation for the Office of the CIO, ITC, CoG, and BTC review	• S/SOs prepare and submit to IPC draft IT Plan submissions including: - IT investment documentation - IT performance measures - OMB Circular A-11 exhibits IT information - IT strategic and operational plan documentation • CFO prepares and inputs schedules into OMB's system; • S/SOs prepare detailed FY +1 justifications • GSA submits FY +1 President's Budget to Congress
March - May	• ITC, COC, CoG, and BTC review IT investments • Congressional hearings on FY +1 budget take place	• CIO and S/SOs finalize IT investment documentation and submit to ITC, CoG, and BTC for review • ITC, CoG, and BTC select IT investments to be funded for FY +2 budget • S/SOs finalize - performance goals and measures for selected investments - remaining IT plan documentation
May - June	• IT Investment control and evaluation processes begin for new projects and newly operational systems • FY +2 Budget Season begins	• S/SOs, CIO, ITC, CoG, and BTC conduct IT investment control/evaluation reviews as scheduled • CFO issues call for: - FY +2 budget formulation - performance plans - GSA Strategic Plan updates
July	• S/SO budget preparation is underway • Services notify customers of budget year rates for Rent, General Supply Fund, and Information Technology Fund • Administrator makes decisions on FY +2 budget	• CIO finalizes new IT Plan to include IT Performance goals and measures • S/SOs submit budget summaries/issue papers

Time Period	Process/Event	Products/Deliverables
August - September	• S/SOs and GSA finalize their FY +2 budget justifications and their performance plans • FY +1 allocation/allowance process begins	• CFO submits GSA FY+2 Budget request to OMB (including A-11 Part 3 Exhibits) in early September • GSA Strategic Plan is due to OMB • S/SO Performance Plans are due to CFO) • CIO issues updated IT strategic plan • CFO issues FY +2 budget execution (allowance) call

B. Thresholds and Reporting Requirements

The criteria and tables that follow are tools to help S/SOs determine which of their IT investments, e.g. including new initiatives, ongoing development efforts or procurements, and operational systems, should undergo which capital planning processes and what documentation to prepare.

All IT projects that meet the major project criteria described below are subject to GSA's agencywide Capital Planning and IT Investment selection, control and evaluation processes.

Project Screening

S/SOs should develop and implement their own capital planning processes for selecting their IT portfolio and controlling and monitoring all their IT investments (major and non-major). All IT investments should be screened by S/SOs prior to being submitted to the GSA Capital Planning and IT investment selection process or included in S/SO budget submissions. Before including any project in their budget requests or submitting it to the GSA IT investment selection process, S/SOs should ensure their projects meet the following basic criteria:

- Project planning phase analyses listed in Appendix 8 have been completed (these include functional requirements analyses, feasibility analyses, market research, benefit-cost analyses, and risk and sensitivity analyses)
- Their projects have a positive return on investment or are mandated by law
- Have a yes response to the three pesky questions
- Have a project sponsor
- Have an IPT
- Identified benefits performance goals and measures.

Major Projects

A major IT project or investment is a new initiative, ongoing development or acquisition project, an operational system or other type of IT project (including studies and task orders against existing contracts) that meets ***any*** one of the criteria listed in the table below. If any of the criteria in the table can be checked off as applicable then the project is a major project:

Criteria Determining a Major Project	Applicable (Yes/No)
The project is NOT an operational system and its total life cycle costs* are $2.5 million or more	
Annual cost* is $1 million or more	
This project includes an IT capital investment (acquisition of equipment or software) totaling $500,000 per year or more.	
High executive visibility	
Supports a mandatory legal requirement levied on GSA	
Cross functional application**	
Critical to the business operations of the agency	

* Cost includes all categories of resources in the OMB Circular A11- Life Cycle Cost and IT Plan: equipment, software, contractor services, supplies, federal employee compensation and benefits, and inter/intra agency payments.

** A cross-functional application is one that provides critical support to more than one business area or mission.

Selection Process

As part of their annual IT plan submission, S/SOs, with the assistance of the IPT and the Office of the CIO complete and submit appropriate capital planning documentation individually for each major IT investment/project/system. The capital planning documentation required for the selection process is summarized in the capital planning documentation table below and described in detail in subsequent chapters of this guide. The Office of the CIO will assist S/SOs, review information provided, and prepare an agencywide documentation package that includes summary project risk, priority, and background documentation for ITC, CoG, and BTC review.

Major projects will be put through the entire investment selection process and submitted to the ITC, CoG, and BTC as described in Chapter 5.

For projects not meeting the screening criteria for major projects, S/SOs complete the documentation indicated in the Non-Major project column of the capital planning documentation table below. Information about non-major projects is presented to the ITC, CoG, and BTC in a summarized and consolidated manner but these projects will not be screened individually.

Control and Evaluation Processes

Major IT projects that have been selected will be monitored and reported on as described in Chapter 6 and Appendix 9. The project manager and IPT will ensure project life cycle analyses and plans shown in Appendix 8 are completed and updated as necessary throughout the life of the project. The IPT will prepare Capital Planning and IT Investment status reports and perform post-implementation reviews listed in the capital planning documentation table below and as described in Chapter 7 and Appendix 9.

Capital Planning and IT Investment Documentation Requirements

The table below summarizes the documentation S/SOs (the IPT) and the Office of the CIO must prepare as part of the Capital Planning and IT Investment Process.

Documentation Required	From S/SO, IPT	From CIO Office	Type of Project		
			D/M/E	Steady State	Non-Major
Selection Process:					
Project Summary Worksheet (PSW)	X		X	X	X
Technical Factors Worksheet	X		X	X	
Strategic Factors Worksheet	X		X	X	
Prioritized Placement Grid	X		X	X	
Summary IT Portfolio Table	X		X	X	
Summary ITC, CoG, and BTC briefing IT Portfolio and Project Information Worksheet	X		X	X	X
Project milestones and related cost estimates (Part of PSW)	X		X	X	
Summary of risks and plans for managing them (Part of PSW)	X		X	X	
Acquisition Strategy/Acquisition Plan Part I (Part of PSW)*	X		X	X	
Performance Goals/Measures (Part of PSW)	X		X	X	
A-11 Life Cycle Costs estimates (Part of PSW)	X		X	X	X
Appropriate life cycle Documentation listed in Appendix 8	X		X	X	
GSA A-11 Life Cycle Costs report		X	X	X	X
GSA IT Capital Plan (consisting of Strategic and Operational Plan)		X	X	X	X
GSA A-11-Part 3 Exhibits Inputs (Augmented by S/SO project life cycle documentation as needed)		X	X	X	X
Control and Evaluation Processes:					
IPT Project Status Report	X		X		
Post-Implementation Review Report	X			X	
Updated appropriate IT Project Life Cycle Documentation shown in Appendix 8	X		X	X	
Summary Control Report		X	X		
Summary Post-Implementation Review Report		X		X	
Summary Operational Systems/Infrastructure Report		X		X	

Explanations of table notations

Development, Modernization, or Enhancement:	New initiatives, or ongoing development/acquisition, or an enhancement to an existing operational system (if the enhancement meets the $ thresholds or other criteria for a major project it must be reported separately from the operational system and treated as a developmental system until it is completed)
Steady State:	Operational Systems in the Operation and Maintenance phase
Non-Major:	Those IT investments that do not meet the screening criteria for major projects

X	This item is required
*****	Information is required only if an acquisition is involved

Note: All life cycle management analyses and documentation required for the planning phase of a project (shown in Appendix 8) should be completed before the documentation needed for the capital planning selection process can be accurately completed and before that project is submitted through the selection process. Also, market research and limited acquisition plans are required for all projects whose total costs are estimated to equal $100,000 or more. Comprehensive acquisition plans are required for projects whose total costs equal $10 million or more. Acquisition planning requirements are described in detail in Federal Acquisition Regulation Part 7, GSAR Subpart 507.1 and GSA Order APD 2800.13A. Information on acquisition strategies and initial plans (Acquisition Plan Part I) will be required during the investment selection process for all new initiatives that may include procurements, including the purchase of equipment or software from existing agency contracts. Part II of an acquisition plan is required for all projects before they can initiate a procurement. Chapter 3 provides more detailed information on the analyses and documentation requirements for the planning phase of a project, including acquisition planning requirements

Resource Library includes the entire set of documents and allows users to attach the actual document. See User Guide, Section 5

Chapter 3

Planning IT Projects

If the answers to the three pesky questions described in Chapter 2, section A, is "yes," indicating that IT investment is necessary to eliminate a performance gap and fulfill GSA mission, program and strategic goals, S/SOs will need to initiate the planning phase for their IT project. This phase encompasses determining the functional requirements that the IT investment must meet and the alternatives and related costs and benefits of those alternatives. The processes and analyses that are part of the planning phase and processes that are discussed in this section and that are necessary for S/SOs to recommend an alternative encompass; and should be completed for all new projects before capital planning investment selection documentation is prepared and submitted for approval to the ITC, CoG, and BTC as part of the annual IT investment selection process.

The pre-select process flow for each initiative indicates the required documents and requirements prior to a Major Project entering the Capital Planning Select Phase, See User Guide, Section 3

The planning processes and analyses include:

- Development of an Integrated Project Team,
- Baseline assessment and functional requirements analysis,
- Feasibility and market analysis,
- Analysis of alternatives, costs and benefits (to include benefit-cost analysis, risk analysis and sensitivity analysis), and
- Development of an acquisition strategy and plans.

The required analyses documentation that should result from the planning phase is listed in more detail in Appendix 8, along with pertinent regulations and guidelines. This chapter describes the planning phase processes in more detail.

In the initial planning phases, especially for large or complex IT projects, the functional requirements and feasibility analysis would provide a preliminary determination of needs and the alternative IT strategies for meeting those needs. In the conceptual stages of a project, some of the detailed information about benefits and costs associated with different alternatives may not be available. For this reason, BCA information should be updated and corrected as necessary as the project planning proceeds to later phases and more information becomes available. It is important, especially for large projects, to obtain funding for completing the analyses that are part of the project's planning phase. (The costs for initial studies and analyses, that are not specific to any of the alternative solutions, may be treated as sunk costs, in comparing the different solutions.)

As the project proceeds, alternative solutions, their benefits and costs are analyzed in greater detail and updates should be made to initial estimates and plans.

Appendix 6 describes the BCA steps listed below and provides a methodology and worksheets for completing a BCA. S/SOs performing BCAs in-house can use the methodology or, if the BCA is being performed by a contractor should ensure that the BCA is consistent with the guidance of Appendix 6 and produces the required quantitative results.

A. Project Team Structure

At a project's inception, during its planning phase and before it is presented to the ITC, CoG, and BTC for selection into the agency's portfolio, an Integrated Project Team (IPT) is formed. The purpose of the IPT is to help ensure GSA's projects are successful by:

- Assisting the project manager in obtaining project approval by the ITC, CoG, and BTC during the Selection process
- Providing project support during the control phase, and assisting S/SOs with periodically evaluating their systems

An interdisciplinary team is crucial to the ultimate success of the project. The IPT is lead by a Project Leader, normally from the S/SO, and includes representatives from the project's staff, the user community, and the CIO Office planning and systems analysis teams, and the S/SO IT planning representative. The IPTs for projects involving procurements must include procurement specialists. The IPT may include additional personnel as needed such as financial analysts, IT experts, or communications experts. The S/SO ITC member is the controlling authority of the IPT who ensures the completion of the necessary analyses and documentation and reviews capital planning documentation. Funding decisions must be coordinated with the Office of Budget.

B. Functional Requirements Analysis

If current resources cannot span the gap between planned and actual performance, S/SOs should define the gap in terms of performance requirements to be achieved. The functional requirement analysis involves determining the requirements that the IT investment must meet to fill the performance gap in their programs. The analysis should identify:

- The performance criteria, goal, or ultimate output,
- A definition of the common uses of the IT investment,
- A ranking of the requirements in order of importance, and
- A decomposition of functional requirements into self-contained features.

To allow flexibility in evaluating various solutions, functional requirements should not be described in equipment and software terms, but in terms of:

- Business outcome,
- Mission,
- Purpose,
- Capability,
- S/SO program components involved,
- Schedule and cost objectives, and
- Operating constraints.

Wherever possible, requirements for IT systems should be stated using an open system architecture which encompasses the following characteristics:

- User applications are not tied to a single hardware or system software manufacturers,
- New functionality can be added from different contracts without significant effort,
- Other systems can be tied into the system without significant effort, and

- The system fits GSA IT Architecture Plan.

Internal agency users and external customers of the system/IT should participate in the requirement definition process.

Other agencies that may have acquired systems to accomplish similar goals should be identified and management should look for cross-agency or Governmentwide economies to avoid duplication of effort, especially for projects involving large complex systems.

Examples: Examples of the information that should be identified by an analysis of functional requirements for an IT project include:

- **System functional description.** Identify each major function that is needed. If prototyping is to be done, explain the potential benefit.
- **Inputs/outputs.** Specify the format, range of values, accuracy, volumes and sources, and develop data input edit criteria where requirements are definite. All input and output requirements should be sufficiently defined to permit development of a design proposal. Input and output requirements that are not known in sufficient detail may be refined during the acquisition and development phase.
- **Processes.** Identify processes and data manipulations, including formulas, mathematical processes, source of input, transfer of output, retention criteria, and interfaces with other processes and data. Identify processes that are functionally dependent and those that are machine or process dependent to assist in possible conversion analyses.
- **Data characteristics.** Describe individual and composite data elements, their related coded representations as well as relevant dictionaries, tables and reference files. Estimate total storage requirements.
- **Performance criteria:**
  - ***Accuracy.*** Mathematical, logical, legal, and transmission.
  - ***Validation.*** Approach to be taken. This is not the system acceptance and validation test; it is for functional requirements input/output and processing acceptance and validation.
  - ***Timing.*** Response, processing, data transfer, and transmission throughput.
  - ***Flexibility.*** For changes in modes of operation, environment, interfaces, accuracy and validation, volumes, and enhancements.
  - ***Interfaces.*** Identify existing systems that must be interfaced; include hardware, data communications, and processing mandated by either manual or automated systems. Indicate the manner in which the interface is to be achieved if there are constraints.
  - ***Failure contingencies.*** Describe and justify failure backup and recovery requirements.
  - ***Security specifications.*** Identify system security requirements.

C. Identifying Alternatives: Feasibility Analysis, Market Research, Benchmarking

The feasibility analysis should identify alternative plausible approaches to meet the mission needs and eliminate shortcomings. A feasibility analysis or study does not address detailed functional requirements or selection of a system design.

Market analysis or research can be used to seek preliminary information on alternatives available in the commercial sector.

Market research is the process of collecting and analyzing information about capability within the commercial marketplace to satisfy agency IT needs. This research is required for procurements over $100,000. The goal of this preliminary market research is to produce a list of available investment alternatives with accompanying data on benefits and costs. Market research is done before the development of any formal requirements documents. The following information should be collected during the initial market survey:

1. Availability commercial items to meet the need, and whether they might require modification;
2. The customary practices for customizing/modifying items to meet the need, and their associated costs;
3. The customary practices regarding warranties and discounts for the identified products;
4. The laws and regulations which may apply to the acquisition of identified products; and
5. Distribution and support capabilities of possible suppliers.

The decision on "contract type" should be taken from the results of the market research. Every effort should be made to secure a "commercial item" solution using full and open competition.

If the initial information does not provide a clear indication that acceptable solutions are available, it may be necessary to award contacts to explore alternative design concepts. These contracts should be of relatively short duration within defined dollar levels and timely technical reviews should be made of alternatives to ensure the orderly elimination of those least attractive.

When sufficient market information on alternative solutions has been obtained, the total life cycle costs and benefits of the various alternatives must be compared. The selection of the best alternative to compare with other projects should be based on a systematic analysis of expected benefits and costs.

There may be instances were several alternatives offer essentially the same benefits and costs. It may be necessary to document comparative demonstrations where different alternatives are actually tested in the operational environment for a period of time to determine the best product.

Benchmarking allows GSA to compare its processes and IT solutions with like processes and solutions in other government agencies, private corporations, and even other parts of GSA. The benchmarking team generally identifies the process targeted for IT investment, benchmarks that process through literature searches, market surveys or visits to selected benchmark partners, and then proceeds to the selection of the best alternative.

D. IT Investment Benefit-Cost Analysis

Once the IPT determines that it has sufficient market information on alternative solutions, it should compare the life-cycle costs, including acquisition costs, of the various alternatives. It is critical that estimates of the total or final costs be realistic. When seeking funds during the budget process, the credibility of the costs will be examined and agencies will be held accountable for meeting the cost goals. Alternative solutions that are not affordable within potential budget availability should be dropped from consideration, but documented for comparison purposes. The information needed to determine if a proposed acquisition is affordable is based on three factors:

- availability of potential funding
- agency mission objectives the investment will help achieve
- the impact that the new investment has on funds available for other agency mission objectives.

The selection of the best alternative should be based on a systematic analysis of expected benefits and costs. The fundamental method for formal economic analysis is Benefit-Cost analysis. Estimates of costs and benefits should show explicitly the performance and budget changes that result from undertaking the project. An alternative's affordability (whether the alternative or a useful segment is affordable within budget limits) should also be kept in mind.

OMB Guidance on benefit-cost analysis can be found in OMB Circular A-94, Guidelines and Discount Rates for Benefit Cost Analysis of Federal Programs. Circular A-94 recommends benefit-cost analysis (BCA) as the technique to use in a formal economic analysis of Government investments (programs/projects). Cost-effectiveness analysis is a less comprehensive technique that can be appropriate when the benefits from competing alternatives are the same or where a policy decision has been make that the benefits must be provided

A BCA is used to help assess whether an investment or project should be undertaken and to evaluate alternative approaches. The objective of BCA is to promote efficient resource allocation through well-informed decision making that maximizes benefits while minimizing costs.

In the conceptual stages of a project, some of the detailed information about benefits and costs associated with different alternatives may not be available. For this reason, BCA information should be updated and corrected as necessary as the project proceeds to later phases and more information becomes available. The analysis needs to be accurate enough to allow the decision on whether to fund at least the initial phases of the project and to proceed to the next phase.

The Clinger-Cohen Act requires agencies to develop a process that includes quantitatively expressed projected net, risk-adjusted return on investment. Benefit and cost estimates are typically uncertain. Risk analysis should be used to identify where the relevant uncertainties exist or where work will be needed to resolve the uncertainties. Sensitivity analysis should be used to test the response of the investment's net present value to changes in key assumptions.

Benefit-Cost Analysis is a required document and is collected in the Resource Library for each Major Project, See User Guide, Section 5

Appendix 6 describes the BCA steps listed below and provides a methodology and worksheets for completing a BCA. S/SOs performing BCAs in-house can use the methodology or, if the BCA is

being performed by a contractor should ensure that the BCA is consistent with the guidance of Appendix 6 and produces the required quantitative results.

BCA Elements

Consistent with OMB Circular A-94 guidance, a BCA should encompass and address the following elements:

- Explicit underlying assumptions used to arrive at the estimates of future benefits and costs.
- Evaluation of alternative means for achieving program objectives.
- Plans for periodic, results oriented evaluation of the actual costs, benefits, and program effectiveness attributable to the investment.

BCA Principles

- Benefits and costs should be quantified and monetized to the maximum extent practicable. All types of benefits and costs, both market and non-market should be considered.
- Benefits and costs should be measured and appropriately discounted over the full life cycle of each project.
- When the amount and timing of important benefits and costs are uncertain, analysis shall recognize the uncertainty and address it through appropriate assessments.
- Analyses should consider not only quantifiable measures of benefits and costs, but also qualitative measures reflecting values that are not readily quantified.

BCA Steps

The BCA process encompasses the following steps:

- Identify assumptions and constraints
- Identify alternatives and their schedule, costs and benefits for each alternative
- Evaluate alternatives using net present value
- Perform risk and sensitivity analysis
- Develop performance goals and measures for monitoring the project

The only data relevant and applicable in any investment analysis are the differential funds commitments as well as different revenues and costs caused by the decision, viewed in terms of cashflow.

Benefit-cost analysis for IT investments compares the costs of the IT investment or project (whether it be a new system, a replacement system, system enhancements, or a hardware/software purchase) to the savings derived from the expected business and operational improvements resulting from IT investment or project. The basic elements of cost comparison are the total IT investment/system and business costs if the system is implemented versus the total system and business costs if the system were not implemented or if the current system is continued. The savings resulting from the system implementation are associated with tangible benefits. Additional intangible benefits are also documented and considered in the decision to approve system development.

As the project or procurement process proceeds, the BCA and budget requests will be updated to reflect the most current information on alternatives based on the project and procurement progress.

BCA Documentation Requirements

At a minimum the documented output from the BCA process should provide the following information:

- Business/program goals/objectives stemming from the GSA Strategic and the S/SO performance plans as they relate to the project/investment and functional requirements/needs analysis
- Assumptions, including constraints
- Alternatives considered, including results of market research
- Cost analysis for each alternative (including computations and methods used to develop estimates and encompassing planning, development/acquisition, operation and maintenance, and disposal costs)
- Benefit Analysis (including a description of the benefits expressed in quantifiable terms wherever possible and methods used for quantifying and monetizing benefits)
- *Comparison of alternatives (to include results of quantitative and qualitative evaluation methodologies used and* conclusion and recommendation (to include recommended alternative and summary of rationale for selecting it *) - at a minimum quantitative evaluations should calculate the net present value (NPV) and benefit-cost ratio (BCR) of each alternative.* ***The quantitative information should be summarized in a format similar to the one shown below.***

Alternative	Net Present Value (NPV)	Benefit Cost Ratio (BCR)	Return on Investment (ROI)	Payback Period	Total Cost ($)	Total Benefit ($)
1						
2						
3						
4						
5						

- *Cost, schedule and performance goals and measures to be used to monitor project progress and performance on an annual basis.*
- *Risk Analysis and Risk Management Plan that describes 1) the types, probability and impact of risks pertinent to the project - including that funding requests will not be approved in their entirety, and 2) Plans for how to treat and manage the risk, to include how to respond to lower funding.*

E. Acquisition Planning

Acquisition planning should begin as soon as the needs is identified, and well in advance of the fiscal year in which contract award is necessary. The IPT should be formed to include those who will be responsible for significant aspects of the acquisition (i.e. contracting, fiscal, technical). In order to achieve the desired acquisition objectives, the required acquisition plan must identify those milestones at which decisions should be made. The plan shall address all technical, business, management and other significant considerations that will control the acquisition. The specific content of the plans will vary, depending on the nature, circumstance, and state of the acquisition. In preparing the plan, S/SOs should adhere to the outline contained in FAR 7.105,

summarized below, together with the Agency's implementing procedures contained in GSAR Part 507, and GSA Order, Comprehensive Acquisition Planning (APD 2800.13A).

The requesting office should work closely with the responsible contracting office when preparing the plan. In addition, supplemental requirements for the acquisition of major systems are covered under FAR Part 34.

Two levels of acquisition planning exist within GSA - Comprehensive and Limited. Both types of plans shall address the mission, technical and management considerations that will control the acquisition. The actual content of the plans will differ depending on the expected systems life cycle cost, stage of acquisition, complexity, and risk. However, no solicitation, with a value of $100,000 or more, may be issued until either a comprehensive or limited acquisition plan has been prepared, or the requirement waived under GSAR 507.104(d), or GSA Order, APD 2800.13A, para. 9a.

- Comprehensive Acquisition Plans are required for IT resource requirements with a systems life cycle cost of $10 million or more. Comprehensive Acquisition Plans are normally prepared for contracts that contain requirements which are complex, critical, have high visibility, are unique, or are first time acquisitions with which the agency has little experience; and/or will be supported by significantly changed methods, e.g. performance by contractor formerly handled by government personnel.
- Limited Acquisition Plans are required for IT resource requirements with a systems life cycle cost of between $100,000 and $10 million dollars. Limited Acquisition Plans are normally used for simpler, lower visibility, repetitive requirements. A contracting officer, in cooperation with the requesting office, shall be responsible for preparing a limited acquisition plan. Information on the contents of a limited acquisition plan is contained in GSAR 507.105(b).

Written plans may be prepared on a system basis or contract basis, depending on the nature of the acquisition.

Acquisition Plans, Part 1 and 2 are required documentation and are collected in the Resource Library for each Major Project, See User Guide, Section 5

1. Acquisition Planning Waivers

Heads of Central Office Services and Staff Offices may waive the acquisition planning requirements for programs and classes of contracts if they determine that the service or staff office already has a detailed acquisition planning system in place that generally meets the requirements of GSA Order, Comprehensive acquisition planning (APD 2800.13A). In addition, the requirements for detailed plans may also be waived for acquisitions having compressed delivery or performance schedules based on urgency of need. Any waivers must be coordinated with the Office of Acquisition Policy.

2. Acquisition Plan Format and Contents

All acquisition plans for IT resources will be prepared in two parts, and include the contents as specified in FAR Subpart 7.105. Part I of a plan shall be prepared and submitted as part of the required documentation for the IT investment selection process phase. Part II of an acquisition plan would only be submitted after approval and funding of the major project/system, as part of the procurement phase.

a. IT Investment Selection Process. As part of the selection process, requesting offices will provide all the information listed below for "Part I" of the Acquisition Plan. This information is included as part of the responses to the Project Summary Worksheet for major projects, in Appendix 1 of this guide. The information to be provided includes background, objectives and the overall acquisition strategy. All S/SOs with major projects that include procurements or purchases from existing contracts must complete the Acquisition Plan, Part I information in Appendix 1, and submit it to the ITC, CoG, and BTC for review and approval as part of the IT investment selection process.

Acquisition Plan - Part I

The information is this section of the plan constitutes the acquisition strategy and initial plans and includes:

1. **Statement of Need.** Introduce the plan with a brief statement of need, and summarize the technical background. Discuss the feasible acquisition alternatives based on market research, and any in-house efforts.
2. **Applicable conditions.** State all significant conditions affecting the acquisition, such as requirements for compatibility with current or future systems, and any known cost, schedule, capability or performance constraints.
3. **Cost.** Describe any established cost goals for the acquisition and the rationale supporting them. Discuss related cost concepts to be employed, such as life-cycle cost. Requesting offices should address the application of "should cost" analysis for major systems acquisitions as specified in FAR Subpart 15.810.
4. **Capability or performance.** Specify the required capability or performance characteristics of the items to be acquired, and describe how they relate to mission need.
5. **Delivery requirements.** Describe the basis for establishing performance-period requirements, especially as it constitutes justification for other than full and open competition.
6. **Trade-offs.** Discuss the expected consequences of trade-offs among various cost, capability or performance and schedule goals. Information obtained in the market research phase may prove useful.
7. **Risks.** Discuss technical, cost and schedule risks and describe what efforts are planned to manage or reduce risk of failure in achieving desired goals. Risk reduction tools or approaches include modular procurements, two phase acquisitions, multi-agency contracts and risk sharing between the Government and the contractor and competitive prototyping. Modular contracting reduces risk by breaking large acquisitions into smaller, more manageable modules to enhance the likelihood of achieving workable solutions within goals while allowing subsequent modules to take advantage of technological advances. Two phase acquisitions reduce risk by asking limited capability information in the first phase which allows many firms to offer solutions without large expenditures from which the government may select the most promising for the second phase of detailed cost and technical proposals. Risk sharing typically ties contract payments to performance/accomplishments, and utilizes commercial technology instead of custom-designed solutions. Competitive prototyping reduces risk in development efforts by selecting contracts to produce prototypes of their product so that the agency may select the most cost-beneficial design concept for further development or production. More detailed information on risks and these risk reduction approaches is provided in the *OMB Capital Programming Guide.*

8. **Acquisition streamlining.** Discuss any plans and procedures to encourage industry participation during design and development in recommending the most appropriate application and tailoring of contract requirements.

b. Procurement Phase. The Procurement Phase begins after the Agency has determined, in the Selection Process Phase, that a large expenditure ($100,000 or more) for IT resources is necessary, and has received funding authorization. The Procurement Phase includes those actions necessary to complete the acquisition of the required IT resource including: the final determination/validation of requirements; market research; completion of acquisition plan - part II, and ends with effective post-award contract administration. The requesting office will complete the following steps and develop/provide the required supporting documentation.

Validate requirements. The S/SO should begin by validating that the Planning Phase decision is still current, and a need still exists for the IT resource. An in-depth, formal market research effort is required as the first step in the Procurement Phase. It should build on the data collected in the preliminary determination of need. This research is done for the purpose of collecting and analyzing information about market capabilities to satisfy specific IT needs.

Final Market Research. A more in-depth, formal market research effort is now required as the first step in the Procurement Phase. It should build on the data collected in the initial market survey. This research is done for the purpose of collecting and analyzing information about market capabilities to satisfy agency needs. Market research is required in acquisitions over $100,000, and is conducted before the government technical team develops formal and final requirements documents which will lead to an acquisition.

Acquisition Plan - Part II .

Part II of an acquisition plan is required before a procurement can be initiated. The information in Part II shall serve as the "plan of action", and include:

1. **Sources.** Indicate the prospective sources of supply that can meet the need. Address the results of market research and analysis, and their impact on the various element of the plan.
2. **Competition.** Describe how competition will be sought, promoted and sustained throughout the course of the acquisition.
3. **Source selection procedures.** Discuss the source selection procedures for the acquisition, including the timing for submission and evaluation of proposal. Discuss the relationship of proposal evaluation factors to the attainment of acquisition objections (FAR Subpart 15.6).
4. **Contracting considerations.** Discuss contract type selection, options, and contracting methods, including modular contracting for major systems acquisitions (see below). Specifically discuss:
   a. what is the preferred type of contract and why it was chosen
   b. Other types of contracts that were considered and why they were not selected.
5. **Budgeting and funding.** Describe how budget estimates were derived, and the schedule for obtaining funds at each point they are required.
6. **Product descriptions.** Explain the choice of product descriptions types. Market research analysis will typically provide the necessary information.
7. **Priorities.** If necessary, discuss the urgency of the requirement which may dictate a short delivery/performance schedule.

8. **Contractor vs. Government performance.** Address consideration given to OMB A-76.
9. **Management information/Performance management system.** Discuss, as appropriate, what management system will be used by the Government to monitor the contractor's performance. Specifically discuss:
   a. is it an earned value management system, and
   b. how does the system a) identify the amount of planned work actually accomplished, b) compare actual work accomplished against planned work, and actual costs incurred by the contractor against planned costs, and c) establish the deviation percentage from goals.
10. **Test and evaluation.** To the extent applicable, describe the test program for each major phase of a major system acquisition. See "Testing" paragraph below.
11. **Logistics consideration.** Describe the reliability, maintainability, and quality assurance requirements, requirements for data rights, their estimated cost, and the use to be made of the data. Describe standardization concepts, including the necessity to designate, in accordance with Agency procedures, any technical equipment as "standard" to that future purchases of the equipment can be made from the same manufacturing source.
12. **Government-furnished property.** Indicate any property to be furnished to contractors, including material and facilities.
13. **Government-furnished information.** Discuss any Government information, such as manuals and test data, to be provided to prospective contractors.
14. **Other considerations.** Discuss, as applicable, any measures, concepts, programs or legal requirements that are pertinent to the acquisition, and not covered elsewhere in the plan.
15. a. Describe whether the Statement of Work (SOW) is performance based.
    b. Describe Performance milestones for the solicitation and contract award. At a minimum, prepare a performance milestone chart that includes the following steps:
       - Acquisition plan approval
       - Statement of Work development and completion
       - Specifications development and completion
       - Data requirements development and completion
       - Completion of acquisition package preparation
       - Purchase request (approved, funded requisitions for minimum guarantee)
       - Justification/approval for other than full and open competition if applicable, other D&F data
       - Issuance of synopsis
       - Issuance of solicitation
       - Evaluation of proposals
       - Beginning and completion of negotiations
       - Contract preparation, review and clearance
       - Contract award
    c. Summarize the performance goals in the contract as stated in the SOW:
16. Identification of participants in the acquisition planning.

Major Systems Acquisition. In addition to the acquisition planning requirements that are imposed by FAR Part 7, supplemental policies and procedures must be followed for the acquisition of major systems, as defined in FAR Part 34 and OMB Circular A-109. Policies and

procedures for use in acquiring IT are contained in FAR Part 39. Major systems acquisitions shall be done in a modular contracting progression as follows:

1. Concept exploration contracts
2. Demonstration Contracts
3. Full-scale development contracts
4. Full production contracts

Final Acquisition Plan Approval. Upon completion of Part II of the Acquisition Plan, the plan will be submitted for review and approval by Contracting Officer, the Head of Contracting Activity (HCA), ITC/CoG/BTC Chairs, Competition Advocate, Senior Program official, and technical team leader. Comprehensive Acquisition Plans (over $10 million) will also be reviewed by the Office of Acquisition Policy. The approved final Acquisition Plan will be presented to the ITC, CoG, and BTC.

3. Allowing Adequate Time to Evaluate Alternatives

Selecting an alternative without adequate analysis has resulted too often in large dollar acquisitions that have significantly overrun both cost and schedule, while falling short of expected performance. S/SOs should hold off requesting funds for the production or installation stage of an acquisition until they establish firm goals that have a high probability of successful achievements.

Chapter 4

Developing IT Performance Goals And Measures

This chapter provides an overview of performance measures, the agency's legislative requirements, the gathering of performance measures, and guidelines for developing performance goals and measures. Appendix 4 provides additional guidance and examples.

A. Overview

A performance measurement process is required so that the project or staff office can measure its progress toward business objectives and so that GSA's senior executives can determine the success of GSA's IT program and measure the progress towards achieving mission objectives. Performance measures seek to improve the performance and accountability of an organization, process, program, product or service and is a quantifiable metric of results (e.g., number of dollars saved, number of days saved in a business process, or recorded improvements in customer satisfaction).

Although internal performance measures may be used to track a project/program, for external performance measures, other stakeholders, e.g. OMB, Congress, must be considered the ultimate audience.

Performance measures must relate to goals and objectives listed in the GSA Strategic Plan. It is essential that this linkage be clear, whether addressing agency, business or Information Technology (IT) Goals/Objectives and Measures. Goals in the GSA Strategic Plan and some goals in S/SOs' performance plans are defined in broad general statements relating to the mission and describing a desired outcome towards which the agency or S/SO directs its efforts. Specific program and IT project goals should be a clear, measurable specification about the end result that a program/project is to accomplish in a given period of time to achieve its goals. Performance measurement deals with determining the extent to which a program/project has achieved its specific goals, met the needs of its clientele or met commonly accepted professional standards.

B. Legislative Requirements For Strategic And Performance Plans

The Government Performance and Results Act of 1993 (GPRA or the "Results Act") requires that each agency develops a GSA Strategic Plan, an Annual Performance Plan, and a Program Performance Report. The plans are tied to the budget and the report compares the actual IT results of the agency to these plans. These plans and reports contain the following:

1. GSA Strategic Plan

- A comprehensive mission statement.
- General goals and objectives for the major functions and operations of the agency.
- A description of how the goals and objectives are to be achieved, including descriptions of operational processes, skills, technology, human, capital information, and other resources required.
- A description of how the performance goals included in the performance plan shall be related to the goals and objectives in the GSA Strategic Plan.
- An identification of those key factors outside the agency and beyond its control that could significantly affect the achievement of the general goals and objectives.

2. Annual Performance Plan

- Establish performance goals to define the level of performance to be achieved by a program activity.
- Express such goals in an objective, quantifiable, and measurable form.
- Describe the operational process, skills, technology, human, capital information and other resources required to meet the performance goals.
- Establish performance indicators to be used in measuring outputs, service levels and outcome of each program activities.
- Provide a basis for comparing actual program results with the established performance goals.
- Describe the means to be used to verify and validate measured values.

3. Program Performance Report

- Review the success of achieving the performance goals of the fiscal year.
- Evaluate the performance plan for the current fiscal year relative to the performance achieved toward the performance goals in the fiscal year covered by the report.
- Explain and describe, where a performance goal has not been met, why the goal was not met, and describe the plans and schedules for achieving the performance goal.
- Include summary findings of those program evaluations completed during the period covered by this report.

The Paperwork Reduction Act of 1995 (PRA) requires that each agency develop and maintain a strategic information resources management plan that describes how IT activities help accomplish agency missions. It also requires that agencies assume responsibility for maximizing the value, and assessing and managing the risks of major information system initiatives. This process must be integrated with the budget, financial, and program management decision making processes and used to control and evaluate results of major information systems initiatives.

The Clinger-Cohen Act of 1996 established the position of Chief Information Officer (CIO) in the agencies, delineating the duties of this position, and emphasizing the requirement for IT performance measures. Specifically the Clinger-Cohen Act:

- Establishes the Office of CIO.

- Ensures that performance measures are prescribed for IT used by or to be acquired for, the agency and that the performance measurements measure how well the IT supports programs of the executive agency.

- Requires the CIO of an agency to:
  - monitor the performance of IT programs of the agency;
  - evaluate the performance of those programs on the basis of the applicable performance measurements;
  - advise the head of the agency regarding whether to continue, modify or terminate a program or project.

C. Identifying Performance Measures

To effectively link strategic, capital planning, and the budget process; performance plans must:

- Link mission to goals/objectives,
- Link goals/objectives to strategies and IT initiatives,
- Monitor IT investments/projects through performance measures, and
- Address whether investments/projects are accomplishing objectives.

The Office of the Chief Financial Officer (CFO) develops the GSA Strategic Plan. The CFO asks the CIO for any IT information that should be included as part of the strategic plan data call. Based on the guidance provided by the Office of Management and Budget (OMB), the requirements of the GPRA, and input from the CIO, the CFO requests information from the S/SOs that will be needed to develop the strategic plan. The CFO develops a draft strategic plan, submits it to the HS/SOs for review, finalizes the Agency Strategic Plan, and forwards it to OMB in a timely fashion.

In addition to the GSA Strategic Plan, the CFO is also responsible for the development of the Annual Performance Plan and the Program Performance Report specified by the GPRA. The CFO issues a performance plan data call to the S/SOs (this call may be done as part of the GSA Strategic Plan data call). The CFO develops a draft Performance Plan and Program Performance Report and submits it to the HS/SOs for review. Once reviewed, the reports are finalized and forward to OMB. It is critical that the performance measures be developed in such a way that the Program Performance Report to OMB will adequately reflect how GSA "measured up", comparing what was said in the Performance Plan to what was accomplished. Streamlining and the IT Capital Planning process have resulted in integrated performance measurement reporting. The same performance measures are now consistently used by customers and stakeholders to validate the success of a program or project.

The CIO, under the Clinger-Cohen Act, is required to "monitor the performance of IT programs of the agency and evaluate the performance of those programs on the basis of the applicable performance measurements". In order to do this the CIO provides guidance to the S/SO through the CFO with regards to performance measures for IT activities, how to determine the base line for IT activities, and a methodology evaluation.

The CIO provides to the CFO an IT performance measurement criteria that cuts across the agency. The CIO under the Clinger-Cohen Act is charged with "developing, maintaining and facilitating the implementation of a sound and integrated information technology architecture." Performance objective/measures are developed that measure how well the S/SOs are doing to support this initiative.

Performance Measure and Goal information is collected in the Performance Measure Folder for each Major Project, See User Guide, Section 3

D. GSA IT Performance Measurements Principles/Guidelines

Performance measures will be a key aspect of GSA's IT program and an opportunity for IT managers to demonstrate IT's contribution to mission performance in the context of the Results Act. In its implementation of an effective IT performance measurement program, the agency must adhere to the following principles:

- IT's contributions to mission performance are measured in terms of improved efficiency (cost reduction) and effectiveness (increased productivity).

- IT's strategic goals support the agency's strategic goals.

- IT performance measures actually measure the efficiency and effectiveness improvements that IT contributes to agency/program outcomes or outputs and therefore support or are linked with program performance measures.

- A baseline for IT activities must be determined so that goals can be set and measured based on that base line.

- To measure contributions to mission performance, clear and objective agency goals and indicators to measure achievement exist.

- Program managers and IT managers accept joint responsibility for planning IT participation and measuring achievement of results.

- Performance measures address specific IT projects in support of specific programs as well as the GSA-wide IT infrastructure.

- Measures are selected that show the projected vs. actual results.

- Intermediate annual performance measures are established where needed to demonstrate progress toward achieving long term goals.

- Performance measures are used to learn and make changes based on the actual results, thereby benefiting GSA.

E. Types of Performance Measures

There are several types of performance measures. Major types include:

Type of Measure	Description
Input measure	The amount of resources used, e.g., staff, materials, and computer time.
Output measure	The calculation or recording of activity that can be expressed in a quantitative or qualitative manner.
Outcome measure	The assessment of the results of a program activity compared to its intended purpose.
Internal measure	A performance measure that is used but not reported to external customers.
External measure	An input/output/outcome measure that is reported to external customers and stakeholders, e.g. OMB, Congress.

Baseline

The key in determining the success or failure of a project, program or function is establishing its current state before any changes are considered or implemented. This is the baseline. The baseline is used in a variety of areas. Gap analysis, for example, uses the baseline to show the difference between the existing state and the target goal or objective.

Performance measures, regardless of type, must have a baseline measurement to show the changes/improvements a project undergoes as it achieves its goal. Establishing a baseline measure is essential in establishing the validity of a performance measure. A baseline measure is usually the first measure taken of a system or project. Subsequent measurements may be defined as the new baseline if substantial changes to the system make the earlier baseline obsolete or reduce the effectiveness of the particular performance measure.

Each project manager and functional area must choose those measures which clearly indicate achievement of goals and mission for their area of responsibility. In addition to those previously listed in this chapter, measures can include: customer satisfaction, speed of response, quality, percentage of availability, mean-time-between-failure and percentage of initial budget expended.

Although this chapter specifically addresses IT performance measures, the guidelines may be applied to all performance measures. Additional guidance, however, is available for acquisitions. Specifically, acquisition policy guidance on performance can be found in the OMB, Office of Federal Procurement Policy Letter 91-2. In summary, it says:

- Agencies must use performance-based contracting methods to the maximum extent practicable;
- Agencies must carefully select acquisition and contract administration strategies, methods and techniques that best accommodate the requirements; and
- Agencies shall develop formal, measurable performance standards and surveillance plans to facilitate the assessment of contractor performance.

Generic acquisition performance measures are not used for major acquisitions. Instead, actual performance measures, and related surveillance plans, should be developed to match exactly the individual requirements acquisition. Obviously, these will vary from contract to contract, and even with separate tasks awarded under a given contract.

Performance measures, whether tracking IT or other areas, provide the validation to GSA's customers and stakeholders that GSA is accomplishing it goals and meeting its mission.

Chapter 5

Selecting IT Investments

This chapter provides guidance for an analytical evaluation linking IT investment decisions to strategic objectives and business plans in GSA. Implicit in the analysis are the critical success elements that connote investments with a high probability of success (purpose, cost, schedule, goals and performance measures, and acquisition strategy). For major projects, the initial review establishes the project baseline and subsequent reviews confirm project progress. Periodic reviews enable early resolution of any problems that may occur.

A. Initial Screening

The baseline analysis of automation projects presumes completion of the steps and documents required by regulation or by the ITC/CoG/BTC to support their decision-making process. Such documents should normally include all or part of those listed below depending on the project's life cycle phase. Refer to Appendix 8 for a table that links analyses documentation requirements to project life cycle phases.

- Baseline Assessment and Statement of Need
- Functional Requirements Analysis
- Feasibility Analysis and Market research
- Alternatives Analysis including Benefit-Cost Analysis, Risk and Sensitivity Analysis
- Security Evaluation/Risk Assessment
- Project Plan,
- Acquisition Strategy/Preliminary Acquisition Plan – (Part 1)
- Quality Assurance Plan,
- Description of Performance Based Management System for monitoring and measuring performance
- Risk Management Plan
- Detailed Acquisition Plan -- (Part 2)
- Performance Based Statement of Work
- Security Plan
- Plans for Assets/IT investment in Use
- System Design Documentation
- Test plans and results (including of security controls)
- Training Plans
- Contingency plans
- Security Certification and Accreditation Statements
- Post-Implementation Review
- Updated security documentation

The Process Flow Feature and the Resource Library collects and tracks the status of the products in this documentation set, See User Guide Sections 3 and 5

A benefit-cost analysis in some form should be performed before submitting any project for consideration. The analysis should include evaluation of alternatives and the determination of a return on investment. The rating mechanism in the evaluation process provides a substantial bonus for the most effective benefit-cost ratios. Funding an automation project requires documentation to support the decision to submit the initiative as part of the budget process. Chapter 3 provides and overview of the analyses and documentation that should be completed as part of the IT capital planning process. Appendix 6 provides a benefit-cost analysis methodology.

For each project presented for funding, an Integrated Project Team (IPT) will be formed. The IPT is lead by a Project Leader, normally from the S/SO, and includes representatives from the project's staff, the user community, and the CIO Office planning and systems analysis teams, and the S/SO IT planning representative. The IPTs for projects involving procurements must include procurement specialists. The IPT may include additional personnel as needed such as financial analysts, IT experts, or communications experts. The S/SO CIO or ITC member is the controlling authority of the IPT who ensures the completion of the necessary analyses and documentation and approves capital planning documentation. Funding decisions must be coordinated with the Office of Budget. Appendix 7 contains a sample IPT Charter.

B. Project Analysis

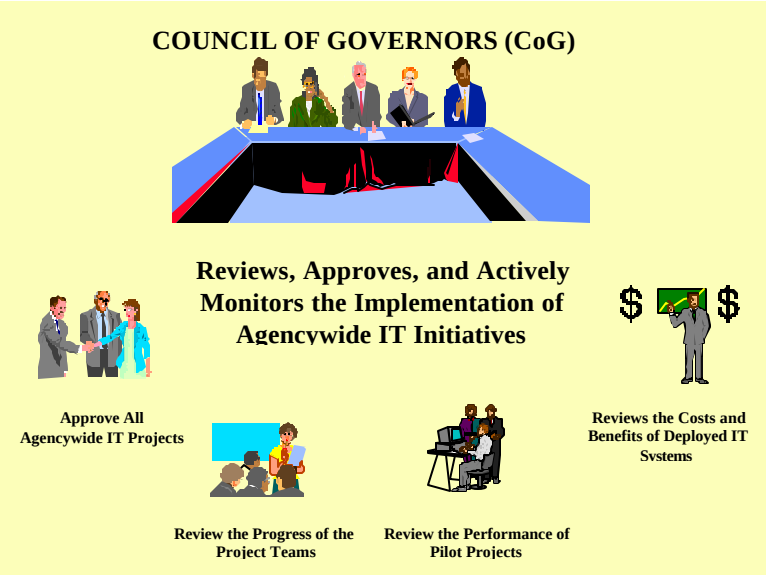
The project summary information entered in I-TIPS provides business case, benefit, risk, schedule and cost data for use in rating projects and making funding decisions. The Integrated Project Team, under the direction of the S/SO IT project manager will complete the project information prior to the submission of a request for project approval. This information is normally available as a by-product of the project management and planning process. The team also completes an initial technical and strategic rating of major projects by completing the Technical Factors Worksheet and the Strategic Factors Worksheet that have been incorporated in the selection rating process of I-TIPS. I-TIPS also includes rating guidance. The IPT, working with the Office of the CIO, summarizes information for each project and each S/SOs overall IT portfolio onto executive briefing sheets and a priority placement grid for ITC, CoG, and BTC review. The summary sheets summarize S/SO portfolio and project business case, benefits, risk, cost and schedule information. The priority placement grid summarizes in one picture the relative technical and strategic rating information of each S/SOs' projects.

C. Information Technology Council Review

The function of the ITC is to review IT projects under consideration for the upcoming budget year. The ITC reviews the business case, benefits, risks, cost and schedule and the technical and strategic rating information for each project. This council's review emphasizes technical feasibility and ensures all projects are effectively analyzed and all technical information needed to make a priority decision is present in the package. The ITC makes a recommendation on whether to initiate, continue, modify or take corrective actions, or discontinue each proposed IT project. The Business Technology Council (BTC) receives this analysis for final prioritization and funding decisions.

I-TIPS *The Portfolio Manger Feature facilitates the review and consideration of upcoming initiatives by the CIO, Project Managers, Portfolio Managers and other agency officials. It also provides an alternatives analysis and tracking of the Major Project decisions. See User Guide, Section 4*

D. Council of Governors (CoG) Review



The function of the CoG is to approve all potential agencywide IT projects. The criteria to be considered will include:

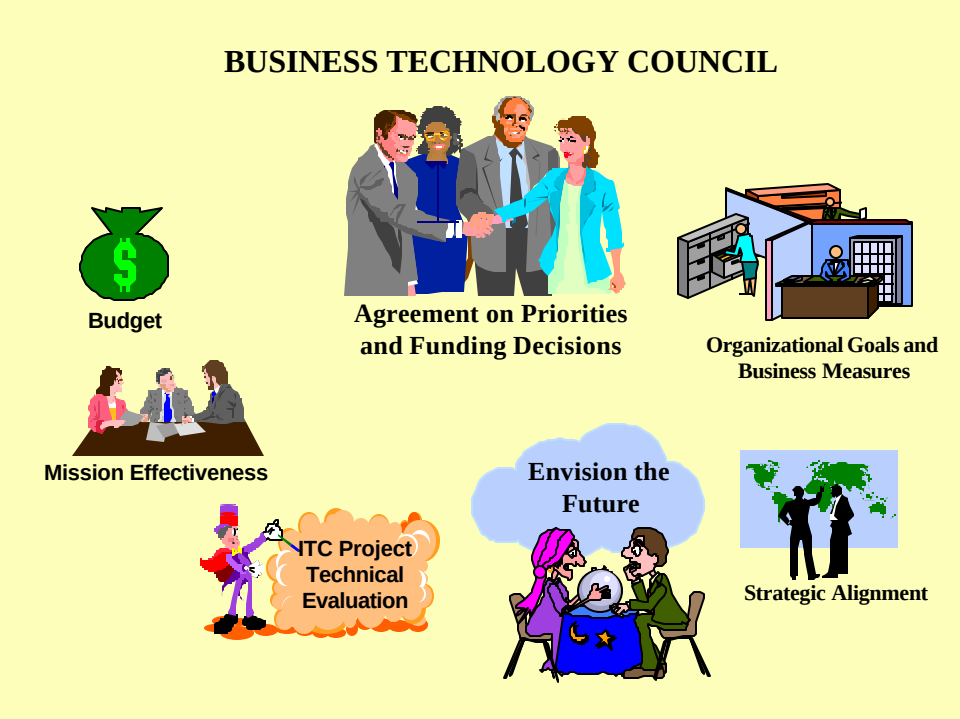
- Insure the strategic alignment of GSA's IT Investments with the business goals and objectives of the agency;
- The existence of a committed sponsor in the agency senior management;
- Impact on end users;
- Soundness of business case (including the probability of achieving the benefits proposed);
- Level of funding required;
- The reasonableness of the projected timelines;
- The demonstrated competence of the project team; and
- Other issues deemed important by the CoG.

This Council reviews the progress of the project teams to determine whether the previously approved projects should be allowed to continue as originally planned. (i.e., the project scope, budget or timing should be amended to take into account new information that has subsequently become available, or if it should be canceled). It also reviews the performance of pilot projects prior to determining whether to grant approval for deployment of application or other IT initiatives to end users. No agencywide initiatives may be deployed without approval of CoG. Once an initiative has been deployed, the CoG will review the IT initiative actual vs. budgeted costs and benefits to ensure that proposed benefits are achieved and to better to inform future decision making.

Related Councils. The mission of the ITC is to propose and monitor IT policies and program ensuring their consistency throughout the Agency. For major IT Investments, the ITC will evaluate the technical risks, review the schedule and cost sensitivity, review the organizational impact, business process redesign needs, and personnel training, and technical resource needs. The findings and recommendations of the ITC will be provided to the CoG.

The Portfolio Manger Feature facilitates the review and consideration of upcoming initiatives by the CIO, Project Managers, Portfolio Managers and other agency officials. It also provides an alternatives analysis and tracking of the Major Project decisions. See User Guide, Section 4

E. Business Technology Council Review And Final Determination



The Business Technology Council (BTC) makes a final decision regarding the mix of new and ongoing projects for the ensuing budget year. These recommendations are reflected in the agency OMB budget submission.

In making the final determination of the projects undertaken for the next budget year, the BTC considers the ITC and CoG recommendations and reviews the business case, benefits, risks, cost and schedule and the technical and strategic rating information for each project. The BTC review focuses on agency strategic factors and business needs. During the IT investment selection/funding phase, the BTC selects for funding a mix of high profile development projects and maintenance projects and signs off on these projects. The monitoring of these selected projects is described in Chapter 6, Control and Evaluation of IT Investments.

F. Major Project Rating

1. Objective

The purpose of this rating is to provide comprehensive analysis upon which decisions of the BTC might be based. This model identifies those automation projects that are of significant technical and strategic consequence to require ongoing control and evaluation reviews. This process is a visual aid to assist in ranking projects, and identifying projects, which might require monitoring to ensure they stay viable.

2. Assumptions

The BTC is composed of senior executives who have knowledge of GSA business and information needs, strategic vision, and responsibility to implement the GSA information infrastructure. The BTC is supported by the ITC and CoG, comprised of S/SO information technology leaders. The ITC and CoG provides advisory information and details about specific systems to the BTC.

Executive decision-making includes consideration of all factors that impact the probability of success as well as the strategic issues represented in the work effort. The decision process is deliberately flexible to provide a complete picture of the proposed effort and, at the same time, allow emphasis of significant strategic factors.

The purpose of identifying major projects is to ensure all possible resources and advisory services are available to support those projects. The designation of prioritized major projects is a reflection of upper management's concern with ensuring success when significant objectives or resources are involved.

3. Operational Scenario

The Integrated Project Team prepares the project and portfolio summary information for the ITC. The summary information addresses business case, benefits, costs, and risks and shows individual project and combined technical and strategic factors ratings. The ITC evaluates the summary information and rankings with emphasis on technical factors. The BTC evaluates the summary information and rankings with emphasis on strategic factors and assigns funding priority.
The project portfolio should be reviewed periodically. If the technical/strategic profile begins to deteriorate, resources from the ITC and the quality assurance staffs should be made available to assist in evaluating the project and bringing it back on track. If the project seems to no longer be a viable effort, the BTC can suspend and redirect the resources to a more viable project.

4. Supporting Tools

The ***Technical Factors Worksheet*** (shown below) includes critical technical factors for rating purposes. The worksheet has been incorporated in the selection rating process of I-TIPS. The project manager completes this worksheet, using the guidance in I-TIPS.

Technical Factors Worksheet	
ISSUE	**POINTS**
1. General	
a) Acquisition Strategy (max 4 points)	
b) Security Management (max 6 points)	
Complete only one phase (Development or Operational):	
2. Development	
a) Schedule (max 8 points)	
b) Cost Sensitivity (max 8 points)	
c) Benefit-Cost Impact(s) (max 12 points)	
d) Technical Risk (max 8 points)	
e) Organizational Impact (max 4 points)	
3. Operational/Infrastructure	
a) Schedule (max 10 points)	
b) Technical Risk (max 10 points)	
c) Meeting operational needs (10 points)	
d) Solving customer concerns (10 points)	
Total	

The ***Strategic Factors Worksheet*** includes a selection of factors relating to management issues and linkages to strategic planning which bear on the decision-making process. This worksheet provides the opportunity for the BTC to shift the decision in favor of important agency initiatives. The worksheet has been incorporated in the selection rating process of I-TIPS. The project manager completes this worksheet, using the guidance in I-TIPS.

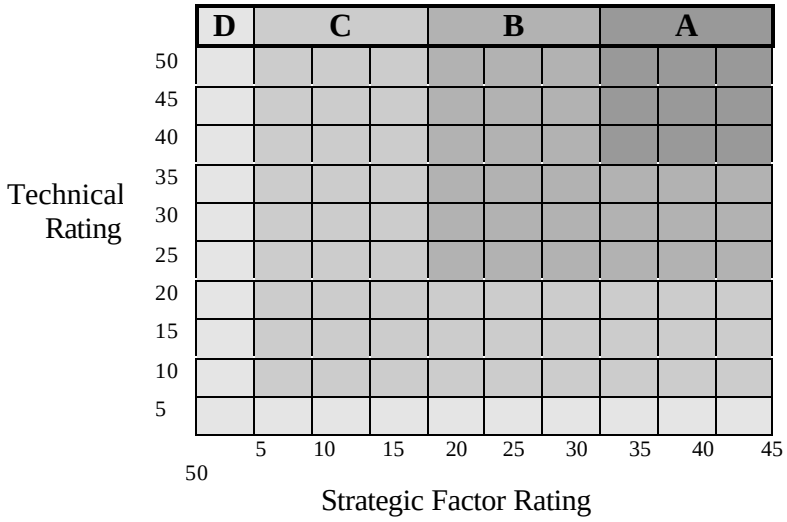
Strategic Factors Worksheet	
ISSUE	**POINTS**
1. Strategic Impact	
a) On the Organization (max 4 points)	
b) Risk of Not Continuing (max 4 points)	
2. Scope of Beneficiaries	
a) Cross-Functionality (max 4 points)	
b) Quality of Work Life (max 3 points)	
3. Strategic Alignment (max 10 points)	
4. Level of Executive Interest (max 9 points)	
5. Mission Effectiveness	
a) Improved Mission Performance (max 8 points)	
b) Improved Service to Customers (internal and external) (max 8 points)	
Total	

The IPT, working with the Office of the CIO, summarizes rating information for the S/SOs overall IT portfolio onto the ***Priority Placement Grid*** for ITC and BTC review. The Priority Placement Grid is a means of integrating the technical and strategic ratings to identify Major Emphasis Projects. These projects are candidates for the periodic Control and Evaluation reviews. The overall project's rating is determined by locating the intersection of the technical and strategic ratings on the grid.

The Selection Scoring Folder captures these Strategic and Technical Factors for all Major Project, allows updates to reflect improvements or degradation in Major Projects. See User Guide, Section 3

Priority Placement Grid

If the intersection of technical and strategic factors falls within the Top Priority Project blocks (A), this is a high priority project. Top Priority Projects have a high probability of technical success accompanied by significant strategic benefit to the agency and substantial management interest.



Priority Placement Grid.

If the intersection of technical and strategic factors falls within the Moderate Potential blocks (B), this is a project of significant merit but needing some periodic monitoring to confirm the project remains viable. Projects that have a high strategic ranking but a low technical one may warrant special attention due to their higher technical risk and strategic importance. The ITC, in particular, may want to review these projects more frequently. For example, a project with a high strategic value and rating (35-50), might still get an overall C rating because of its technical risks. However, from a strategic business perspective, this project is viable but must be closely monitored because of its technical risks.

Low Potential projects are ones with significant technical risk accompanied by little strategic benefit or management interest.

Projects that fall within the D blocks represent significant risk and are in need of rethinking or have much work to do before they become viable.

The BTC should make an annual determination of which projects should be declared Top Priority Major Projects ***subject to close periodic review*** because of their strategic importance to GSA and/or their technical risk. These reviews will be geared toward ensuring the projects remain viable. If problems develop, these projects will have priority in receiving additional CIO staff support. Chapter 6 details the process for periodic review of major projects.

The results of the Technical and Strategic rating and the ITC and BTC reviews are summarized in the Summary IT Portfolio Table. The table lists projects and shows their technical and strategic

scores, priority, project type, and review frequency or schedule and on other summary sheets that summarize S/SO IT portfolio and project information.

SUMMARY IT PORTFOLIO TABLE

PROJECT NAME	S/SO	TECH SCORE	STRAT SCORE	PRIORITY top /mod/ low)	PROJECT		REVIEW SCHEDULE
					Phase	Type	

Chapter 6

Controlling IT Investments

A. Control Phase Overview

The Capital Planning and Information Technology (IT) Investment process is a management decision making and reporting process encompassing the agency's IT investment program, from initial concept to subsequent retirement. The objective of the GSA Capital Planning Control phase is to successfully develop, modernize and enhance IT projects, to ensure that project risks and costs are managed, and goals and benefits are achieved.

Project managers, portfolio managers, and IT capital planning analysts from the Office of the Chief Information Officer (CIO) form an Integrated Project Team (IPT). The IPT monitors each investment to ensure consistency in schedule maintenance, cost containment, and risk management.

GSA uses the Information Technology Investment Portfolio System (I-TIPS) as a tool to document the selection, control, and evaluation of IT projects. Although I-TIPS provides a convenient method of documenting and tracking projects, other tools may be used with the process outlined in Table 6.1.

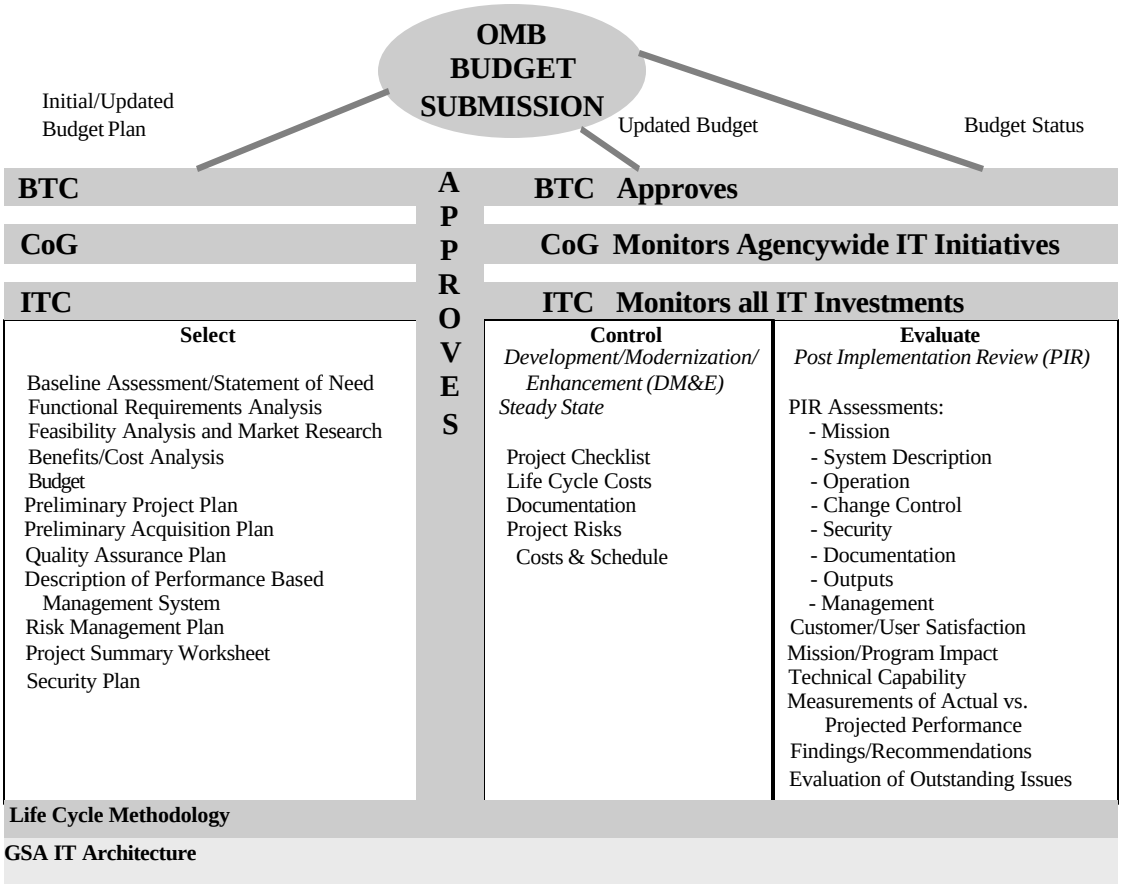


Table 6.1. Capital Planning Decision Making and Reporting Process.

Each Major Project is tracked through the entire process using the Process Flow Feature in I-TIPS, See User Guide, Section 3

A project begins in the planning phase when a concept for an IT investment is proposed. An IPT is formed, a life cycle methodology is selected, and an initial determination is made of how the proposed system will fit within the GSA IT architecture. During the IT investment selection process, project documentation is submitted to the Information Technology Council (ITC) for review and approval. If the initiative is an agencywide initiative (i.e., expected to have a substantial impact on more than one service) or is a new development effort, project documentation is also submitted to the Council of Governors (CoG) for review and approval. The functions and roles of the ITC and the CoG are described in Chapter 5.

In preparation for the Select phase, some work and analyses are necessary to develop the essential information to request approval and funding. The information from the select phase will serve as the baseline for the IPT to measure and monitor the project throughout its life cycle as part of the Control and Evaluate phase.

Once the ITC/CoG approves the project, it enters the Control phase where it is monitored throughout the system's life. The IPT reviews developmental systems on a monthly basis, and steady state systems on a quarterly basis.

Project reviews have several purposes. First, a review measures the project's cost and schedule to ensure that variations are identified and adjustments are made. A review also compares significant project milestones against milestones of other projects within a service to identify cost savings and/or avoidance, or identify areas of conflicts that may hinder the project. The Office of the CIO will further analyze project information from all the services for the purpose of identifying global issues that exist between projects.

It is critical that project managers update the project status either monthly or quarterly depending on whether the system is developmental or steady state. This update will provide project managers and IPT members an opportunity to analyze potential problem areas within their projects, and subsequently take appropriate corrective actions. The Office of the Chief Information Officer (CIO) will assist project managers in resolving any discrepancies that may occur in a project's status by coordinating a monthly analysis and summary of all IT investments with the project managers prior to submission to the ITC/CoG.

B. Screening A Project

Control Screening is the first step in the review cycle. The purpose of screening a project is to ensure that all information has been updated and completed for entering the project into the system. In I-TIPS the screening process is laid out in four reviews; screening criteria review, life cycle cost review, documentation review, and project risks review.

Screening Criteria Review

A project baseline should have been established in the Select phase. This baseline provides the technical factors, costs, schedule, risks, and performance measures used to control the project during the development, deployment, and steady state phases of the system's life cycle. The screening criteria relates to the information contained in the baseline to ensure the baseline is updated accordingly.

The baseline also provides a way to measure the strategic factors of a recently implemented system, of an operational system, or any system of interest to the ITC/CoG. It contributes to the repository of information about the agency's systems and the mission, strategic value, and benefits of those systems. Based upon this information, the IPT can measure the system's impact against its expected accomplishments.

The following assumptions are made of investments entering the Control phase:

- Performance goals and quantifiable performance measures for the project are established;
- Developmental systems have a project plan which details quantifiable objectives including an acquisition schedule (where applicable), project deliverables, and projected to-date costs; and
- Cost, schedule, risks, and benefits have been identified.

The screening criteria identifies some of the issues a project manager may wish to consider about a project. Checklist questions are generally basic questions, such as:

- Has an IPT been formed?
- Has a work breakdown structure been developed which clearly identifies costs and schedule, and milestones/tasks?
- Are risks identified and performance measures clearly established?

Checklist questions may vary from time to time depending upon the focus of the agency. The checklist helps ensure that all project managers and IPTs focus upon issues that are of interest to the agency.

Life Cycle Cost Review

Each year a project's life cycle costs must be submitted to OMB. These life cycle costs are contained in I-TIPS and include a summary of all previous years, the current year, the base year, and out years beyond the base year. These costs are reviewed from time to time to ensure that all information is current. Likewise, major milestones and costs associated with the milestones during this review are compared against the life cycle costs to validate consistency and accuracy.

Documentation Review

Project documentation includes the development and history of the project that is tracked and stored for subsequent analysis and appropriate dissemination. Even after project documentation is completed, it should be periodically reviewed for accuracy and thoroughness. Changes within the project may result in necessary modifications to existing documents. Document completion or major changes to existing documents should be monitored and reported to senior managers as they occur.

Project Risks Review

The IPT reviews project risks that are associated with major milestones and have the potential for impacting other projects. GSA has identified six major areas of risks. These are:

- Strategic Risks;
- Financial Risks;
- Project Management Risks;
- Technology Risks;
- Change Management/Operational Risks; and

- Security Risks.

Arising risk issues such as alignment with the agency's overall business strategy, size of expenditure required, or the length of time for project implementation that cannot be resolved within the project are raised to the senior service managers or, if necessary, to the ITC/CoG as they occur. More information about risks can be found in Appendix 9.

C. Cost and Schedule Information

Earned Value Project Management

OMB requires that all projects employ an earned value management technique that will focus on interim results. All system development should be planned, budgeted, and scheduled in time-phased "planned value" increments, constituting a cost and schedule measurement baseline. Two major objectives of the earned value system: are to encourage use of an effective internal cost and schedule management control system; and to permit the project sponsors to be able to rely on timely data produced by those systems for determining product-oriented development status.

Every system development project is required by OMB to establish short-term measurable project milestones, which result in a tangible deliverable. Each milestone must have a dollar value associated with how much it costs to accomplish the milestone and the current dollar value of the project. This latter value is known as earned value. As each milestone is reached, the actual costs and earned value are recorded and variances are calculated.

The OMB Capital Asset Plan requires a breakdown of life cycle costs and earned value information. Project managers have the option of using the Control Cost and Schedule Section of I-TIPS or another tool for tracking life cycle costs. However, this information must be supplied to the Office of the CIO to be entered into I-TIPS. Otherwise projects will not be reflected on S/SO reports, and I-TIPS will be unable to generate accurate OMB reports.

If the Control Cost and Schedule Section of I-TIPS is used, the system will automatically calculate the project variances. I-TIPS provides for earned value calculations. Whatever tool project managers choose to use, they must be able to demonstrate how they arrived at their variances, See I-TIPS User Guide, Section 3

D. Investment Review

Project Status Verification

During the first week of each month the Office of the CIO reviews each IT DM&E project for potential issues that may exist within major milestones from one project to the next. Discrepancies that can be resolved by the project managers are corrected within the documentation. Any outstanding issues are coordinated through the project managers and discussed with the S/SO, CIOs or the ITC/CoG.

At the end of the week, the Office of the CIO completes a project revision to complete the verification process. The Office of the CIO will work in coordination with project managers to insure the information is submitted in a timely fashion. If a monthly project status is not provided, updates to cost and schedule are not made and the information is reported as current.

Reports

After all the IT projects have been verified by the IPT, the Office of the CIO will provide project managers and S/SO senior managers with a Project Milestone Report and a Project Impact Analysis. These reports are used to identify potential areas of conflicts, cost savings, and cost avoidance between various S/SO projects. The Office of the CIO will provide ad hoc reports as needed.

Based upon information provided by the IPTs, project managers, and S/SOs, the Office of the CIO develops a Target Report, a Council Project Milestone Schedule, and a Council Project Data Sheet for the ITC/CoG. These reports will be used for briefing the ITC/CoG about the agency's IT portfolio. An analysis will be conducted of the various projects and provided to the ITC/CoG about potential discrepancies that exist and issues that must be resolved by the ITC/CoG. Examples of all standard reports can be found in Appendix 9.

Yearly Reporting to OMB

The project manager and IPT also monitor yearly reporting requirements to OMB as part of the Control phase. This includes OMB's Exhibit 300B information. Exhibit 300B covers major investments that require special management attention because of their importance to the agency mission and performance measures. OMB requires all Federal agencies to submit, with their initial budget submissions, information on capital assets, submissions for information technology capital projects in concurrence with the Office of the Chief Information Officer. By following the guidelines specified in the capital planning process, project managers and the IPT will be prepared for all yearly OMB reporting requirements.

The Exhibit 300 can be produced from Project Information in I-TIPS. See Appendix 3 for further information.

WORKBOOK

Further information on the Control process may be found in Appendix 9, which contains step-by-step instructions for completing the steps outlined in this chapter.

Chapter 7

Evaluating IT Investments

A. Evaluate Phase Overview

The Capital Planning and IT Investment Evaluate phase "closes the loop" on the IT development effort by comparing the actual results against estimates in order to assess performance and identify areas where future decision-making can be improved. Lessons that are learned during the Evaluation phase shall be incorporated into future Selection and Control decisions.

The information used to evaluate the system is gathered in a Post Implementation Review (PIR) which should be conducted once the project has reached a final end point, e.g., the project is fully implemented or the project has been cancelled. The purpose of the review is to conduct an assessment of the implemented project and to forward the results to senior management.

Once the PIR has been completed, the heads of services, staff offices, or regional administrator which owns the system, will have an opportunity to review all information collected by the PIR. Subsequently the ITC and CoG will be briefed with the results of the review. The CoG, along with the system owner, then decides whether to continue, modify, or cancel the operational system and will decide on any adjustments that must be made to the system. Adjustments should be carried out by the IPT, while the CoG monitors the progress of such adjustments.

The final activity of the Evaluate phase provides lessons learned back into the investment Selection and Control phases so that they may significantly improve the chance of success of future projects and improve the investment management process. The system is then passed into the Control phase as a steady state project.

Each Major Project is tracked through the documents and steps required using the Resource Library for the documents and the Process Flow Feature for the Evaluation Phase.

B. Conduct Post Implementation Review

Once a system becomes fully operational, i.e., the project is fully implemented, a Post Implementation Review (PIR) is to be conducted. This review will occur about 3 to 6 months after the project has become operational. It is highly recommended that the review is conducted by a group other than the integrated project team (IPT) which has been responsible for the development of the system. This ensures that it is conducted independently and objectively. Subsequent PIRs are to be conducted on a periodic basis after the first PIR to ensure that the completed system is continuing to meet organizational and user needs.

Each PIR that is conducted has a dual focus. First, it provides an implementation assessment of the system, including an evaluation of the development process. Secondly, it indicates the extent to which the GSA's Capital Planning (Select and Control) phases are sustaining or improving the success rate of IT projects.

The following areas are to be evaluated as part of a complete PIR. Each topic must be documented with a summary of findings that support the conclusions and recommendations.

Post Implementation Review Assessments:

Mission

An analytical approach is to be taken to determine whether the implemented system has achieved its proposed impact on the agency's business. It is important that all agency IT capital investments are aligned with the organization's mission and the agency's program objectives. Additionally, IT capital investments are to be analyzed and evaluated in respect to the overall benefits for GSA business practices. The PIR team is obligated to determine the status of several project variables, including the delivery of services or products estimation of cost savings, compliance with GSA's information technology architecture, evaluations of the information product, e.g. accuracy, timeliness, adequacy, and appropriateness of information, identification of additional maintenance and security.

Systems Description

A specific description of the functions of the system should be documented. The tasks performed and the approach taken to accomplish each task and the resources used also needs to be outlined. All hardware, software, and applications software associated with the system should be documented as well. All personnel requirements and geographic locations that provide input, receive output, or assist in system processing should be identified. Finally, there should be an explanation of how the system contributes to the organization's mission.

Change Control

The Change Control process and procedures for the system should be documented and evaluated for efficiency. A determination should be made of the number and severity of the changes to date and their impact on the stability of the system. An assessment should also be made describing the system's ability to respond to changing requirements.

Operation

An analysis of the system operation, including hardware, system and application software should be conducted and compared against those projected. Finally, recommendations regarding system changes and redesign based on projected comparisons and operation problems.

Security

A security evaluation should be conducted to verify that the appropriate security requirements are documented and enforced. If problems are identified in this area, these should be outlined and corrective actions need to be identified. Any security or risk incidents need to be identified and analyzed for potential system weaknesses. An evaluation should be made of the cost effectiveness of system security measures and recommendations made where improvements can be made. Finally, the contingency plans need to be checked to ensure that they are current and are feasible to minimize loss from threats and equipment/software malfunctions.

Outputs

The outputs of the new system, e.g. reports, data, or formats, need to be compared to those that were initially proposed. The impact of any changes on the initial design, geographic locations, or telecommunications factors should also be evaluated and documented.

Documentation

Any system documentation such as User's Guides or Operations Manuals should be reviewed for completeness, accuracy, and timeliness. A list of all required documentation should be developed and kept up to date.

Management

A review of the support organization structure should be examined. The organizational structure and responsibilities as implemented should be compared against those documented during the project. The system ownership and individual authorities and responsibilities should be verified and updated, as required. Any areas where there is conflicting, unidentifiable or inappropriate management or supervision should be identified and corrected. Training issues should also be examined in this area to ensure that personnel (users and support) are properly trained.

The Post Implementation Review should be entered into the Resource Library for the specific initiative.

C. Conduct User Satisfaction Survey

Since the ultimate success of the project depends on the customer/user's satisfaction with the end product. Customers and users need to be surveyed to determine the level of satisfaction or dissatisfaction with the product. The survey should focus on whether the project has delivered the planned performance and benefits projected at the beginning of the project. The original performance goals and measures need to be compared against the final performance results quantitatively to see how successful the project was in meeting its goals. Intangible benefits that were identified at the outset also need to be surveyed as to the customers and end users assessment of using the final product. These include ease of use of the new system, system performance, system documentation and training, and user support. If deficiencies or problem areas are uncovered as a result of the survey, corrective actions need to be identified and implemented.

D. Review and Evaluate Project Information

In addition to the items reviewed in the Post Implementation Review (Step B), the following areas need to be evaluated and assessed:

Technical Capability

The technical capabilities of the project, both current and future, should be reviewed and evaluated. Factors such as the competency of the workforce to use the new system and

employee satisfaction or retention, the extent to which advanced technology was used, and the methodological expertise of the development team should be considered.

Measurements of Actual vs. Projected Performance

The project's actual results should be compared to planned estimates in terms of cost, schedule, performance, and mission improvement outcomes. An attempt should also be made to determine the causes of major differences between the planned and final results.

Evaluation of Outstanding Issues

If the PIR reveals issues that still require attention, these issues need to be identified and documented. The issues should clearly document the estimates of cost and time, the risks for not addressing the issue, any tradeoffs or alternatives, and provide a recommendation from the PIR review team. The issues should then be sent to senior management for evaluation and a final decision on the actions to be taken.

E. Review and Update Financial Information & Performance Measures

Once the actual final financial and performance measurement information for the initiative has been gathered, it should be compared against the planned results. This will allow a determination to be made as to the success of the initiative and to determine the causes of any differences between planned and actual results. The following five areas should be evaluated in this process:

- Evaluation of Cost Information – compares the actual versus planned life cycle costs for the initiative
- Evaluation of Financial Return Information – compares the actual versus planned results for financial performance measures
- Evaluation of Non-Financial Return Information – compares the actual versus planned results for non-financial performance measures
- Evaluation of Acquisition and Procurement Information – compares the actual versus planned results for contract and contractor information
- Evaluation of Budget and Financing Information – compares the actual versus planned results for funding source and general budget and financing information

If I-TIPS is being used, the system will pull up the planned results on the screen and allow the actual results to be entered by the IPT. The variances for each of the areas are then calculated automatically and displayed on the same screen.

F. Evaluation Phase Decisions

Some key decisions will be made during the Evaluation phase, including:

- assessment of how well the project met its intended objectives.
- determination of any changes or modifications to the project which are still needed.
- identification of ways to modify or improve the overall investment management process to better maximize results and minimize risks.

The results and recommendations that arise out of the PIRs, combined with other project information, are critical input for senior decision-makers to use to assess the project's impact on mission performance. In making this assessment, senior managers will need to be provided the answers to a number of questions about the project, including the following:

- How effective was the project in meeting the original objectives? Are these objectives still valid?
- Were the original business assumptions used to justify the project?
- What is the current status of the system?
- Are further changes necessary?

Even after a project has been implemented, decisions should be made on a regular basis about the status of the project. Senior managers should regularly question whether (1) the current system meets organizational needs, (2) the system should be modified to better meet these needs, (3) a new system is needed to best meet these needs, or (4) the needs could best be met by outsourcing the work. The information assembled during the control phase will assist the managers in making decision for implemented projects.

Steady state costs, for activities such as hardware upgrades, system software changes, and ongoing user training, can consume a significant amount of IT resources, so an asset and IT capital investment plan should be developed for the continued support and operation of each IT project. Best Practice estimates show that ownership costs, operations and maintenance costs, and disposition costs can consume as much as 80 percent of a project's total life cycle costs. The IT analyst staff will provide facilitation and guidance in the development of any IT capital investment plans developed following the implementation of any IT capital investment.

G. Feeding Lessons Learned Back Into Selection and Control Phases

All of the PIR information gained in the Evaluate phase should be collected and maintained along with all other project information gathered during the Select and Control phases. Feedback regarding the Capital Planning and IT Investment process should be solicited and captured. Once this information has been acquired it must be readmitted into the Capital Planning process and documented as lessons learned for future IT investments. The refinement of the phases will help to augment project monitoring procedures and improve the subsequent results of prospective IT Capital Investments.

H. Completion of Evaluate Phase

Once all of the activities of the Evaluate phase have been completed, the project then goes into control phase to be controlled and monitored as a steady state project. Any of the modifications or actions recommended in the Evaluate phase decisions should be monitored and tracked as part of the normal steady state review process. Additional PIRs should be conducted every two years following the first PIR to ensure that the operational system is continuing to meet organizational needs.

I. Schedule of Updating Review Documentation

After the initial documentation has been completed for each of the systems in steady state, updated reviews must be conducted at regular intervals and updated documentation must be provided for the following documents:

Documentation	Frequency
Post Implementation Review (PIR)	Every two years.
Risk Analysis/Assessment	Every three years or whenever a significant change occurs to the installations (e.g., adding a local area network). (ref. Appendix III to OMB Circular No. A-130)
Security Review	Every three years. (ref. Section 7.b.2 of GSA Information Technology (IT) Security Policy.)
Integrated Project Team (IPT Charter)	Updated and signed annually.

WORKBOOK

Further information on the Evaluate process may be found in Appendix 9, which contains step-by-step instructions for completing the steps outlined in this chapter.

GSA Capital Planning and IT Investment Guide
Appendices

Project Summary Worksheets

The "Project Summary Worksheets" in this appendix are designed to collect Capital Planning and IT Investment data that substantiates and forms a basis for IT project/risk and value ratings assigned as part of the IT investment/project selection process. The worksheet is also used to collect acquisition planning, budget and IT planning information needed to prepare required plans, budget documents, and OMB data call responses. GSA's Internal Capital Planning and IT Investment Process now uses the Information Technology Investment Portfolio System (I-TIPS) to capture this project information. Additionally, all of the Raines' Rules (Chapter 1) are covered in this worksheet design and noted appropriately. I-TIPS requires that all of the Raines' Rules are addressed for each Major Project. The I-TIPS User Guide provides a crosswalk from the Worksheet to I-TIPS Folders and Screens.

The Project Worksheet is divided into two sections; the first for major projects/investments and the second for projects that are not major projects. The second section is much less detailed than the first.

To provide correct information in these worksheets, project managers need to first have completed analyses and plans that help them determine project cost, schedule, benefit and performance goal information needed to effectively manage the project and substantiate the information in this appendix. The types of analyses and plans that need to be completed depend on the phase of the project (planning, acquisition/development, deployment, operations and maintenance). The analyses and documentation requirements are listed in Appendix 8 and discussed in chapters 3, 6 and Appendix 9. Appendix 6 of the guide provides a Benefit-Cost Analysis methodology and accompanying excel spreadsheets are available from the Office of the CIO upon request.

Please select all that apply. If none of the criteria below apply, proceed to the non-major project section (Section 2) of this worksheet

CRITERIA DETERMINING A MAJOR PROJECT	APPLICABLE YES / NO
This project is NOT an Steady State system and its total life cycle costs* are $2.5 million or more	
Annual cost* is $1 million or more	
This project includes an IT capital investment (acquisition of equipment or software) totaling $500,000 per year or more.	
High executive visibility	
Supports a mandatory legal requirement levied on GSA	
Cross functionality application**	
Critical to the business operations of the agency	

*Cost includes all categories of resources in the OMB Circular A11-exhibits and IT Plan: equipment, software, contractor services, supplies, federal employee compensation and benefits, and inter/intra agency payments.

** A cross functionality application is one that provides critical support to more than one business area or mission.

(***Raines Rules 1-3)*** Please answer "Yes" or "No" and provide a brief narrative explanation to each of the following three questions:

- 1) Does the IT project/investment support mission functions that need to be performed by the Federal Government?

- 2) Does the IT project/investment have to be undertaken because no alternative private sector or governmental source can efficiently support the function?

- 3) Does the IT project/investment support work processes that have been simplified or otherwise redesigned to reduce costs, improve effectiveness, and make maximum use of commercial off-the-shelf technology?

To be considered a viable project, the S/SO must have already answered "Yes" to the 3 questions. If the answer is no, the IT project should not be undertaken at this point and functions may have to be reengineered. Refer to Chapter 2, section A, for a better explanation of these questions and related actions.

Project Summary Worksheet (Major Projects)

Date: Project Title:	Sponsoring Service: Point of Contact: Phone:	Sponsoring Executive: Phone:

I. Project Background

I.A. Project Phase (Check the appropriate boxes.)

1. Planning:		
• **Initial Concept**	Sponsor, but no formal cost/benefit, alternative or requirement analysis	
• **New Project**	Formal cost/benefit, alternative, or requirements analysis completed but not awarded.	
• **Acquisition Planning**	A decision has been made to contract part or all of the development effort and a formal acquisition plan is being developed.	
2. Acquisition/ Development	Software modules are being coded, hardware configuration is underway. If a procurement is involved, the acquisition plan has been approved and a procurement is underway or ongoing.	
3. Deployment	Software and hardware are actively being installed at the site that will use them	
4. Steady State	System is a working system implementing business applications on a regular basis or provides general infrastructure support to the organization.	

I.B. Project Documentation: Indicate the status of the following principal documents (Refer to table in appendix 8 to determine what analyses and documents should be completed during each project phase and regulations and guidelines pertaining to the analyses and documentation:

Product Status / Product	Initial Concept	Draft	Final	Not Applicable
Baseline Assessment and Statement of Need				
Functional Requirements Analysis				
Feasibility Analysis and Market research				
Alternatives Analysis including Benefit-Cost Analysis, Risk and Sensitivity Analysis				
Security evaluation/risk assessment				
Project Plan				
Preliminary Acquisition Plan (Part 1) (Acquisition Strategy)				
QA Plan				

Product Status / Product	Initial Concept	Draft	Final	Not Applicable
Description of Performance Based Management System for monitoring and measuring performance				
Risk Mgmt. Plan				
Detailed Acquisition Plan - (Part 2)				
Performance Based Statement of Work				
Security Plan				
Plans for Assets/IT investment in Use				
System Design Documentation				
Test plans or results (including of security controls)				
Training Plans				
Contingency plans				
Up-to date accreditation and certification statements				
Post Implementation Review				
Updated security documentation (such as security certification and contingency plans)				

I.C. Project Type (Check the appropriate box.)

Mission critical, program specific **business application** (project is critical to agency mission and program specific.)	
Mission critical, cross-functional **business application** (Project is critical to agency mission and cuts across more than one program or mission objective.) including administrative: e.g. accounting, payroll, etc.	
Infrastructure (Project provides "enabling technologies" essential to run other types of projects; includes telecommunications and networks.)	
Legally mandated **business application** (Project is mandated by law or government-wide regulation.)	

I.D. Project Description. Briefly describe the project and the mission and business processes it supports. Include an explanation of how the IT investment helps or will help meet GSA's mission, accomplish its long term strategic goals and objectives (identified in the GSA Strategic Plan, and adhere to the S/SO's annual performance plan. Estimate the risk and uncertainty of not meeting those goals.(A-11 Part 3)

I.E. Briefly describe the IT performance gap and how this system will help achieve the expected outcome. (Performance gap is the gap between capabilities provided by the existing resources and the capabilities required to meet program performance goals. Refer to Chapters 2 and 3 for more information on performance gaps and related actions.)

II. Business Case

II.A. Strategic Impact.

II.A.1. Strategic Impact on the organization (organizational risk).

	Yes		No
a) Will this system result in reorganization?			
b). If the answer to question "a)" is "Yes" is the scope of reengineering or reorganization:			
Agencywide			
Service Specific			
Region Specific			
Center Specific			

II.A.2. Assess the risk to GSA for not proceeding or continuing with this project:

	Yes		No
Business can continue and goals can be met without doing anything			
Business Process can continue but may not be able to meet performance goals or be reengineered			
Cannot continue current business operations (e.g. business will come to a stop.			

II.B. Scope of Beneficiaries

II.B.1. Cross-Functionality.

Identify the scope of the benefits this system provides or will provide. *Organizational range (check all that applies)-*

Center (3 symbols)		Regional		Agency-wide	
Service/Staff Office		Governmentwide		Public	

II.B.2. Quality of Work Life.

Describe how this project or system affects or will affect the quality of employee worklife. See Appendix 2 for examples of quality worklife.

II.C. Strategic Alignment

II.C.1. (Raines Rule 6) Briefly describe the method for securing involvement and buy-in throughout the project from officials and others (especially those who will be using the system) and if there is no process for obtaining buy-in or it was not obtained why not?

II.C.2. List the GSA IT Plan system catalog/GILS numbers pertinent to this project (if the system is Steady State):

II.C. 3. Performance Goals (Raines Rule 4) Identify how this project will improve or is improving the way GSA does business; i.e., in terms of internal program services, improved service to GSA customers, or mission performance improvements. Express as quantifiable performance goals with quantifiable measures relating to each goal and explain which S/SO performance plan goals and measures these improvements support. Improvement goals should be in terms of increased efficiency, effectiveness, or increased customer satisfaction. (See guidance in Chapter 4, Appendix 4, and Appendix 9. In describing performance goals and measures, it is important that they specifically state what is to be achieved by this system. It is not sufficient to say, "This system will provide reports 50% faster than the current system". The IPT will need to know the current output or performance of the existing system or process, the expected outcome (baseline goal), and the business needs. An example might be: "System X currently produces and distributes paper reports weekly. External customers have stated this no longer meets their needs and have requested an online system capable of providing daily automated reports. This system is projected to save $X by eliminating paper reports and improving customer satisfaction by 10% through on-line services.")

Following the guidance above, please fill out the table on the next page:

Performance Measurement, Strategic Plan Cross Reference Table												
Project/Initiative Name:												
	Existing Performance Baseline *(Without this new project) Provide a brief description and a quantity or percentage*	**Baseline Performance Goal** *(To be achieved with this IT project) Provide a brief description and a quantity or percentage*	**Performance Measure** *(Used to evaluate Actual Performance against Baseline Performance Goal)*	**GSA Strategic Plan Goal(s) Supported** *(Use x)*				**S/SO Perform-ance Plan Goals Supported**	**IT Strategic Plan Goals Supported**	**Actual Perf.[2]**	**Variance [3] %**
				1	2	3	4				
1											
2											
3											
4											

[1]**T = Type** *of Performance Measure, e.g. output, outcome.*
[2]**Actual Performance**: *Steady State system or module only*.
[3]**Variance**: *Percentage of Actual Performance compared to Baseline Performance Goal.*

II.C.4. (A-11, Part 3)

a. Briefly explain and provide a percentage estimate of the IT project related risk of not meeting the baseline performance goal(s).

b. Are the goals listed in the table on the previous page the original baseline goals? If they are new ones what is the justification.

III. Technical Factors

III.A. General Technical Characteristics.

III.A.1. ***(Raines Rule 6, A-11 Part 3) Does or will the project have the following (If this project involves no procurement activities, place an X in the N/A column next to the procurement related questions b, c):***

	Yes		NO		N/A
a. A dedicated project manager?					
b. A dedicated contracting officer?					
c. Performance based statement of work or contract?					
d. Quantitative performance goals documented?					
e. 1) Integrated project team approach? 2) If not, will one be established?					

III.A.2. Acquisition Strategy/Acquisition Plan - Part I (for additional guidance on acquisition planning, see Chapter 3)

III.A.2.a. What type of contract vehicle is being used?

None (Skip to # III.A.3. Technical Expertise)		Full and Open Competition		Other than Full and Open	
Acquire from Existing Contracts					

(A-11 part 3) Briefly describe below why this vehicle was chosen.

III.A.2.b. Briefly describe each of the following:

(1) Need for the project and its technical background.

(2) Feasible acquisition alternatives based on market research, and any in-house efforts and why some of these alternatives were not chosen (A-11 Part 3).

(3) Applicable conditions that affect the acquisition, such as requirements for compatibility with current or future systems, and any known schedule, capability or performance constraints.

(4) Any established cost goals for the acquisitions (this information should be in addition to the lifecycle information provided in the cost sensitivity section (IV) and should provided specifics on the acquisition/procurement related milestones.)

(5) Application of "should cost" analysis for major systems acquisitions as specified in FAR subpart 15.810

(6) Required capability or performance characteristics of times to be acquired, and how they relate to mission need.

(7) Basis for establishing performance-period requirements, especially as it constitutes justification for other than full and open competition.

(8) The expected consequences of trade-offs among various cost, capability or performance and schedule goals (information obtained from the market research may prove useful, and a benefit-cost analysis would include this type of information in its comparison of alternatives).

(9) Any plans to and procedures to encourage industry participation during design and development in recommending the most appropriate application and tailoring of contract requirements.

III.A.2.c. (Raines Rule 7,8) Risks (See chapter 3, Section E, for an explanation of the acquisition approaches listed below):

	Yes		No		N/A
Is risk shared between the government and contractors?					
Are contract payments tied to accomplishments?					
Does the acquisition process effectively use competition?					
Is the procurement structured in a modular manner?					
Is the procurement a two phase acquisition?					
Is a multi-agency contract be used?					
Is competitive prototyping being used?					
Is maximum advantage taken of commercial technology?					
(A-11 Part 3) Is the statement of work performance based?					

Briefly describe how you are planning to use any of the above or other approaches to manage or minimize risk in the project's acquisition phase.

III.A.2.d. (A-11 Part 3) Describe the performance-based management system(s) used to monitor achievement or deviation from baseline goals during the lifecycle of the acquisitions and use of the asset. Include the following information:

(1) is it an earned value management system
(2) how does the system a) identify the amount of planned work actually accomplished, b) compare actual work accomplished against planned work, and actual costs incurred by the contractor against planned costs, and c) establish the deviation percentage from goals.

III.A.3. Technical Expertise

Available Technical Expertise. (Check all that apply.)

In-house		Outsource		None	

III.A.4. Security Risk Management.
Answer yes or no to the following and explain any no answers immediately below the appropriate question:

	Yes		No
1) Is there an up-to-date security evaluation/risk assessment - OR, if the system is in development is an evaluation scheduled (date:) and funded? If no, explain:			
2) Is there an up-to-date security plan - OR, if the system is being developed, is completion of a security plan scheduled (date:)and funded? If no, explain:			
3) Has an up-to- date certification and accreditation statement been signed			

for this system - OR, if the system is being developed, is accreditation and certification scheduled (date:) and funded? If no, explain:			
4) Has an up-to-date contingency plan been developed, documented, and tested - OR, if the system is being developed, is preparation and testing of a contingency plan scheduled (date:) and funded? If no, explain:			
5) Has someone been designated as responsible for ensuring adequate security controls are designed/developed/implemented/maintained specifically for this system? If no, explain:			

Development Projects (including enhancements to existing systems and new initiatives) complete the next section, Steady State or Infrastructure projects skip Section III B and complete Section III C.

III. B. Development/ Enhancement Project Technical Characteristics.

III.B.1. Schedule Sensitivity (Raines Rule 4, A-11 Part 3)
III.B.1a) Schedule (enter completion dates - see appendix 8 for a table that lists the analyses and related documentation that is supposed to be completed during each project life cycle phase)

Project Life Cycle Phase Milestone *(use the information provided in the I-TIPS Cost and Schedule Folder)*	Original Planned baseline schedule goal	Current Planned baseline schedule goal	Actual completion	% Variance (express as percent deviation from baseline goal)
1) Planning				
2) Acquisition				
3) Development				
4) Deployment				
5) Steady State				

III.B.1.b. (Raines Rules 4, 6) *Briefly describe the risks* (and express as a percentage: ____%) that this project will fall behind (its currently planned) schedule and the plans for managing or minimizing such risks including (whether there is a dedicated project manager, an Integrated Project Team, and clear measures and accountability have been established). If the above "current plan" goals are new baseline schedule goals, please justify

III.B.2. Reengineering Effectiveness
a. What customer-identified needs will this system address?

III.B.3. (Raines Rule 4) Cost Sensitivity

III.B.3.a) Benefit/Cost impact:

	Yes		No
1) Has a formal Benefit-Cost analysis been completed and documented?			
2) Does the Benefit-Cost analysis include costs of risk and security management?			

If yes:
- What is the date of your analysis? _____

- For each alternative please provide the following: (at a minimum provide the NPV, BCR, total benefits and total costs. See Appendix 6 for Benefit-Cost analysis guidelines.)

ALTERNATIVE	NET PRESENT VALUE (NPV)	BENEFIT COST RATIO (BCR)	RETURN ON INVESTMENT (ROI)	PAYBACK PERIOD	TOTAL COST	TOTAL $ BENEFIT

(A-11 Part 3) Briefly describe below the alternative options that were considered.

III.B.3.b) Cost Analysis. Were cost estimates shown below derived from or reflect a:

	Yes		No
1) Formal alternatives and benefit cost analysis?			
2) Formal risk analysis?			
3) Other: (please explain in block below)			

Other:

If no formal BCA, please explain what kind of analysis cost estimates were based on:

III.B.3. c) Cost Estimates (A-11 Part 3). Indicate the estimated costs for the applicable phases of this project (if not known state To Be Determined). Cost Estimates should be consistent with the A-11 Exhibit costs and should include all the categories of resources shown on the Exhibits (see part IV of this appendix) that are pertinent to the project **(**For guidance on how to estimate project life cycle costs, see Appendix 6 - Benefit/Cost analysis methodology. See appendix 8 for a table that lists the analyses and related documentation that is supposed to be completed during each project life cycle phase)**:**

Project Life-Cycle Phase Milestones	Original Planned Baseline Cost Goal	Current Planned Baseline Cost Goal	Actual Cost	% Variance (express as percent deviation from original planned baseline goal)
1) Planning				
2) Acquisition/Development				
3) Deployment				
4) Steady State				
Total (project life-cycle cost)				

(Raines Rule 4, 6 and A11-part 3) Briefly describe below the risks of your project incurring cost overruns (include an estimate of the % risk of not meeting the current cost goals) and what the plans are for managing/minimizing these risks. If the above "current plan" goals are new proposed cost goals, please justify- also if some of your cost estimates are based only on the A-11 estimates that end in FY2005, please state this.)

III.B.4. Technical Approach
III.B.4.a). Software/Hardware Characteristics. Is the software:

(Raines Rule 4, 6)	Yes		No
1) Commercial-Off-the-Shelf (COTS)?			
2) Customized COTS?			
3) Custom development?			
4) Development more than 40% of total project cost			

III.B.4.b) Architectural Characteristics.

(Raines Rule 5)	Yes		No
1) Does the project/system comply with GSA's IT architecture?			
2) Does it integrate agency work processes and information flows?			
3) Is this system Year 2000 compliant or does it adhere to GSA's Year 2000 compliance plan?			
4) Does the system implement standards that enable information exchange and resource sharing?			

Briefly explain below, all yes or no answers in III.B.4. b):

III.B.5. Design Approach.

	Yes	No
a. (Raines Rule 6) Does the approach/system avoid or isolate custom-designed components?		
b. Has this product been used successfully in a similar private sector or government agency project?		

c. Briefly explain below your approach for reducing risk by isolating custom-designed components:

III.B.6. (Raines Rule 6) Before going into production, will/did you: (check all that apply)

Fully test pilots		Conduct simulations		Validate system checks	
Prototype		Perform parallel operation			

Briefly describe below how you will or are using the methods listed above to reduce risk:

III.B.7. Organizational Impact

Please fill in the following training table by placing an X in blocks that applies and stating time and costs for the total life of the project:

Training Personnel	Division	Region	Agency	Amount of Training (in days)	Cost of Training
Managers					
Systems Personnel					
System Users					
Others					

III.B.8. (Raines Rule 8) Modularity

	Yes	No	N/A
a. Will the design allow it to be implemented in phased, successive parts, as limited in scope and duration as practical?			
b. Will each part solve a specific part of the requirements, and deliver a measurable net benefit, independent of future parts?			

Briefly describe the modularity characteristics of your project.

Proceed to Section IV, Budget Information

III C. Steady State Project or Maintenance and Infrastructure Technical Characteristics

1. Steady State Products

Products	Delivery Schedule

2. Describe other alternatives to using this system, if any:

3. Technical Approach

3.a. Describe the technical approach used to sustain the system: (include consideration of the hardware, software, and infrastructure needed to support the project; also discuss the relative age, operating reliability and maintainability of the system)

3.b. Describe how you assess the extent to which the system meets customer's Steady State needs (current and future): (include methods of determining needs as well as system performance)

3.c. Describe how you discover and respond to customer identified concerns: (include methods of interaction with customers, response strategies)

4. ***Future plans.*** Describe any plans to discontinue or replace this Steady State system or plans to make a major enhancement or modification to this system (to be major an enhancement needs to satisfy the major project criteria).

5. ***Total project/system life cycle costs***:

5.a. ***Past cumulative costs*** - Describe the following costs for this Steady State system through fiscal year 1999 (these should be consistent with costs previously reported):

Development costs: $_____

Cumulative Enhancement Costs: $_____

Cumulative Operate/Maintains Costs: $_____

5.b. ***Total remaining Project Steady State and maintenance costs*** (including for disposal) through the remaining life of the system. (These should include all cost categories shown in A-11 Exhibits starting in fiscal year 1999 through the time the system/Steady State project will be replaced or discontinued - if your estimates are based on the A-11 cost estimates that end in 2005 because no better estimate is available of when the project/system will end, please state this next to the $ estimate):

Estimated fiscal year when project will end or be replaced: _____

Estimated cumulative total costs for the project starting fiscal year 1999 through the end of its estimated remaining life $_____

IV. BUDGET INFORMATION (A-11, Exhibits) (*Complete for this project)*

SSO Summary IT Investments								
	1999 & Before	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**IT Plan Total**
1a. Equipment Capital								
1b. Equipment Small								
Subtotal								
2a. Software Capital								
2b. Software Small								
Subtotal								
3. Services								
4. Support Services								
5. Supplies								
6. Personnel								
8. Intra-government Payment								
9. Intra-government Collections (Subtractions)								
10. Total Obligations								
11. WorkYears (FTE)								

Project Summary Worksheet (PSW) (Non-Major Projects)

Date: Project Title:	Sponsoring Service: Point of Contact: Phone:	Sponsoring Executive: Phone:

I. Project Background

I.A. Project Phase (Check the appropriate boxes.)

Planning: has sponsor, some cost/benefit, alternative or requirement analyses and acquisition planning may be under way or completed but the procurement has not yet begun and contract has not been awarded.	
Development/Acquisition/Enhancement: software modules are being coded, hardware configuration is underway	
Deployment: software and hardware are actively being installed at the site that will use them	
Steady State: the system is a working system implementing business applications on a regular bases or provides general infrastructure support to the organization.	

I.B. Project Type (Check the appropriate box.)

Infrastructure (Project provides "enabling technologies" essential to run other types of projects; includes telecommunications and networks.)	
Business application (includes systems that support a specific program and systems that are cross functional or administrative and support more than one program.	

I.C. Project Description. Briefly describe the project and the mission and business processes it supports (list and describe the types of projects that this PSW includes - such as business applications, studies, evaluations, etc.).

I.D. What GSA mission, product/services, goals and objectives (identified in the GSA Strategic Plan, the IT Strategic Plan, and the S/SO performance plan) does the project support?

Mission	
Product/Service	
GSA Strategic Plan Goal(s):	
GSA IT Strategic Plan objective:	
S/SO Performance Plan Goal:	

I.E. List the system catalog/GILS numbers pertinent to this project if the system is Steady State:

II. BUDGET INFORMATION (A-11, Exhibits) (*Complete for this project)*

SSO Summary IT Investments								
	1999 & Before	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**IT Plan Total**
1a. Equipment Capital								
1b. Equipment Small								
Subtotal								
2a. Software Capital								
2b. Software Small								
Subtotal								
3. Services								
4. Support Services								
5. Supplies								
6. Personnel								
8. Intra-government								
Payment								
9. Intra-government								
Collections (Subtractions)								
10. Total Obligations								
11. WorkYears (FTE)								

Appendix 1

Information Technology Investment Scoring Criteria Guide

Selection Scoring

Use this scoring guide in conjunction with the Project Summary Worksheet (Appendix 1) to score the various aspects of a project. It is important that project scores or ratings be consistent with and substantiated by the information provided in the Project Summary Worksheet**.**

If you are using I-TIPS to score the Project, enter the chosen score for each area into the Selection Scoring Folder for the Major project. Otherwise enter the chosen score in the worksheet provided later in this appendix.

A. General Strategic Factors

A.1. Organizational Risk. (maximum 4 points)
Assess the system in terms of the organizational impact of the system process requirements.

Four Points	This system does not or will not require reorganization of any unit.
Three Points	If this system requires reorganization within a center.
Two Points	If this system requires reorganization within a region.
One Point	If this system brings about reorganization within a service.
Zero Points	If this system brings about reorganization on an agencywide bases.

A.2 Risk Of Not Doing It. (maximum 4 points)
Assess the Risk to GSA for not proceeding or continuing with this project)

Four Points	Business can continue and goals can be met without doing anything.
Three Points	Business Processes can continue but may not be able to meet performance goals or be reengineered.
Two Points	Cannot continue current business operations (e.g. business will come to a stop.).

A.3. Cross-Functionality. (maximum 4 points)
Assess a higher score (zero to four) the broader the scope of beneficiaries.

Four Points	This system will be or is used Governmentwide or by the Public.
Three Points	This system will be or is used Agencywide.
Two Points	This system will be or is used by a Service/Staff Office or by several Regions.
One Point	This system is used by one Region.
Zero Points	This system will be or is used by a Center.

A.4. Quality of Work Life. (maximum 3 points)
Measures the improvement in quality of work life expected for the systems.

Three Points	A significant positive impact on the quality of work life results ***and*** affects a large number of employees.
Two Points	Positive contribution to the quality of work life will clearly result. For example, the system will improve medical care for dependents, allow work to be done from home, or increase the ease of physical access to technology, thereby increasing employee morale or job satisfaction.
One Point	Minor positive impact on the quality of work life.
Zero Points	No positive impact on the quality of work life. System may increase uncomfortable work required (e.g. additional data entry).

A.5. Strategic Alignment. (maximum 10 points) Measures to what degree the proposed investment supports strategic GSA objectives. Scoring is based primarily on explicit documentation of the need for the IT system in planning documents. Assess the degree of alignment with the GSA Strategic Plan. (See Appendix 1, II.C. Strategic Alignment)

Ten Points	Clear mapping and linkage to mission, product/service, GSA's Strategic Plan goal, GSA's IT Strategic Plan goal(s), and S/SO Performance Plan goal(s).
Eight Points	Proposed project or current system maps to S/SO Performance Plan goal, IT Strategic Plan goal(s), Strategic Plan goal(s), product/services, and mission.
Six Points	Proposed project or current system maps to S/SO Performance Plan goal, IT Strategic Plan objective(s), Strategic Plan goal(s), and product/services.
Four Points	Proposed project or current system maps to S/SO Performance Plan goal, IT Strategic Plan goal(s), and Strategic Plan goal(s).
Two Points	Proposed project or current system maps to S/SO Performance Plan goal and IT Strategic Plan goal(s).
One Point	Proposed project or current system map to S/SO Performance Plan goal only.
Zero Points	Proposed project or current system does not map to S/SO Performance Plan goal.

A.6. Level of Executive Interest. (maximum 9 points) Measures to what degree the proposed investment is supported by agency executives. Scoring is based primarily on explicit documentation of the need for the IT system in planning documents. This judgment should be consistent with the project description and based on the S/SO's knowledge of priorities. (See Appendix 1, I.C, D and E)

Assess the level of interest by the GSA Administrator and Congress. This information is obtained through the Criteria Determining A Major Project.

Nine Points	This system has high executive visibility and is required by law.
Seven Points	Legally mandated.
Five Points	Not legally mandated but has high executive interest.
Three Points	Not legally mandated but can be justified based on mission critical and/or cross-functionally.
Zero Points	Does not have high executive visibility, is not required by law, and no support for this system is expressed.

A.7. Mission Effectiveness. Measures the impact of the system on both external and internal customers. It is a measure of the system's ability to improve the performance of support or operational programs. This improvement should be measured in quantitative terms, but not in dollars. The economic (dollar) impact is captured in the benefit/cost ratio. However, the same benefits might be measured here in a different manner. For example, improvements might be expressed in terms of accomplishing a task sooner (hours or minutes), delivering a computer system for customer use (hours per month saved in time for system backups), or a number of similar terms. (See Appendix 1, II.C.3)

a.) Improved Mission Performance. (maximum 8 points) (See Appendix 1, II.C.3)
Assess the expected improvement in GSA mission performance. Score higher, the more improvement in mission performance.

Eight Points	This system expects to improve in three or more areas listed in the GSA Strategic Plan Goals or by 50% in three baseline performance goals. No performance goal variance is expected or has occurred.
Six Points	This system expects to improve in three or more areas listed in the GSA Strategic Plan Goals or by 50% in two performance goals. Performance goal variance expected or occurred is less than 10 %.
Four Points	This system expects to improve in two or more areas listed in the GSA Strategic Plan Goals or by 50% in one performance goal Performance goal variance of 10% to 30% is likely to occur or has occurred.
Two Points	This system expects to improve in two or more areas listed in the GSA Strategic Plan Goals or by 30% in one performance goal. Performance goal variance greater than 30% is likely to occur or has occurred or performance goals have not been established for this project.
Zero Points	No expected improvement and/or no performance goals have been established for this project.

b.) Improved Service to Customers. (maximum 8 points)
Assess the expected improvement in service to GSA customers (internal and external). Score higher, the more that customer service will be improved. (See Appendix 1, II.C.3)

Eight Points	This system expects to improve performance in three or more areas affecting customer service or by 50% in one customer service area. No performance goal variance is expected or has occurred.
Six Points	This system expects to improve performance in three or more areas affecting customer service or by 50% in two customer service areas. Performance goal variance expected or occurred is less than 10 %.
Four Points	This system expects to improve in two or more areas affecting customer service or by 50% in one customer service area. Performance goal variance of 10% to 30% is likely to occur or has occurred.
Two Points	This system expects to improve in two or more areas affecting customer service or by 30% in one customer service area. Performance goal variance greater than 30% is likely to occur or has occurred or performance goals have not been established for this project.
Zero Points	No expected improvement. and/or no performance goals have been established for this project.

B. General Technical Factors

B.1. Acquisition Strategy. (maximum 4 points) (See Appendix 1, III.A.2)

Four Points	Acquisition Plan Part II is complete, a contract has been awarded, there is a performance based statement of work, the project/contract will be or is being monitored using a performance based earned value management system (***unless*** the contract involves ongoing operational support or recurring services and an earned value monitoring system is not applicable), and the answer is ***yes*** for at least 4 of the questions in Appendix 1, III.A.2.c **OR** the project does not involve acquisition (this includes situations where Acquisition Plan Part I was completed but a later decision was made to not contract).
Three Points	Acquisition Plan Part II is available but contract award has not taken place and the answer is ***yes*** to at least 4 of the questions in III.A.2.c.
One Point	Acquisition strategy has been investigated, but Acquisition Plan Part I has not yet been completed.
Zero Points	No discussion of the acquisition strategy.

B.2. Risk/Security Management. (maximum 6 points)
(See Risk/Security Management (Appendix 1, III.A.4).)

Use the Security related questions and your PSW to score this section:

1) Is there an up-to-date security evaluation/risk assessment - OR, if the system is in development is an evaluation scheduled and funded?

2) Is there an up-to-date security plan - OR, if the system is being developed, is completion of a security plan scheduled and funded ?

3) Has an up-to- date certification and accreditation statement been signed for this system - OR, if the system is being developed, is accreditation and certification scheduled and funded?

4) Has an up-to-date contingency plan been developed, documented, and tested - OR, if the system is being developed, is preparation and testing of a contingency plan and funded?

5) Has someone been designated as responsible for ensuring adequate security controls are designed/developed/implemented/maintained specifically for this system?

Six Points	Yes has been answered to all 5 questions
Four Points	Yes has been answered at least to questions 1, 2, and 4.
Two Points	Yes has been answered to at least 2 questions
Zero Points	No has been answered to all questions. (If the system is operational, there are no up to date security evaluations, plans or other security documentation. If the system is in development, security evaluations and the development of plans and other documentation has not been completed, scheduled, or funded.)

Development/Enhancement projects ONLY use the scoring guidance in section C below. Steady State systems skip to section D.

C. Development/Enhancement Factors

C.1. Schedule. (maximum 8 points) (See schedule information in Appendix 1, III.B.1.)
It is generally easier to estimate a three month project versus a five year project. External forces such as slipping of project start dates, inability to award a contract in time to meet the schedule, or loss of personnel all may affect the critical path of a project. Using the criteria below evaluate the probability of achieving *this year's* schedule:

Eight Points	For this next year schedule predictions will not be affected.
Six Points	Factors on the critical path may impact this year's schedule by 10%.
Four Points	Factors on the critical path may impact this year's schedule by 20%.
Two Points	Factors on the critical path may impact this year's schedule by 30%.
Zero Points	Factors on the critical path may impact this year's schedule by 40%.

C.2. Cost Sensitivity. (maximum 8 points)
Evaluate the sensitivity or quality of the cost estimates. (See Cost Sensitivity in Appendix 1, III, B.3.b and c.)

Eight Points	Project or operational costs will not fluctuate from estimates.
Six Points	Situations may arise which may cause this year's system costs to go 10% over budget.
Four Points	Situations may arise which may cause this year's system costs to go 20% over budget.
Two Points	Situations may arise which may cause this year's system costs to go 30% over budget.
Zero Points	Project is complex and cost estimates require additional refinement. Software development is required and represents more than 40% of the predicted cost.

C.3. Benefit-Cost Impact(s). (maximum 12 points).
Measures the value of the system in dollar terms. The system benefit/cost ratio is the key indicator. This ratio is developed using the standard benefit-cost guidance OMB Circular A-94 and the GSA Capital Planning and IT Investment Guide, Appendix 6. The standard guidance ensures all system studies include a common set of costs and approach benefits definition in a similar manner. (See Appendix 1, III.B.3.a and b)

Twelve Points	Any benefit/cost ratio equal to or greater than 2.
Ten Points	Benefit/cost ratio of equal to or greater than 1.8 but less than 2.0.
Eight Points	Benefit/cost ratio equal to or greater than 1.6 but less then 1.8.
Seven Points	Benefit/cost ratio equal to or greater than 1.4 but less than 1.6.
Five Points	Benefit/cost ratio equal to or greater than 1.2 but less then 1.4 OR a Benefit Cost Analysis has been completed but did not use the methodology in the Capital Planning and IT Investment guide but produced a POSITIVE quantitative value for benefits and costs.

Three Points	A Benefit/cost ratio greater than 1 but less than 1.2 OR some form of benefit/cost analysis was completed at some time but the results are old or not quantifiable at present but positive benefits or cost savings were identified.
One Point	Benefit/cost ratio of one.
Zero Points	Any benefit/cost ratio is less than one or NPV is negative (i.e. costs exceed the benefit) or no Benefit-Cost Analysis has been done.

C.4. Technical Risk. (maximum 8 points)
Technical risk scoring is comprised of three components for a total score of 8 points; software/hardware risks (maximum 4 points), architectural risks (maximum 2 point), and technical experience (maximum 2 point). Scoring for technical risk is as follows:

Software/Hardware (2 points) (See Appendix 1, III.B.4.a)

- If you are using a COTS product give yourself two points.
- If you are using a COTS product that needs to be customized give yourself one point.
- If this system requires custom software give yourself zero points.

Architectural Risks (3 points) (See Appendix 1, III.B.4.b)

- If you answered yes to all four questions, give yourself 3 points.
- If you have answered "Yes" to questions #1 and #3 or at least three of the four questions give yourself two points.
- If your answer is yes to at least one question, give yourself one point.
- If your answer is no to all questions, give yourself zero points.

Technical Experience (1 point) (See Appendix 1, III.A.2)

- If there is little or no experience with this technology in GSA give zero points otherwise give yourself one point.

Modularity (2 points) (See Appendix 1, III.B.8)

- If your answer to a and b is yes, OR if your answer is N/A, give yourself two points.
- Otherwise give yourself zero points.

C.5. Organizational Impact. (maximum 4 points)
Assess the impact of the system on the knowledge, skill and training of GSA personnel if the system is implemented. (See Organizational Impact Table (training impacts) in Appendix 1, III.B.7)

Four Points	System requires no training of employees.
Three Points	System requires training of one to two groups listed in the Personnel and Training table.
Two Points	System requires training of three groups listed in the Personnel and Training table.
One Point	System Users and managers need training.
Zero Points	System is likely to require new skills to operate and/or maintain including training of managers, systems personnel, system users, and others.

D. Steady State and Infrastructure Technical Factors

D.1. Schedule. (maximum is 10 points)
For steady state systems schedule results are centered around productivity issues. This includes predicting how reliable the system is in providing its products and services to its customers for the next year. (See Appendix 1, III.C.1)

Ten Points	For this next year products and services will be routine and on schedule.
Eight Points	For this next year, minor modifications are planned but products and services will be routinely on schedule.
Six Points	Factors may affect this year's schedule by 10-20%.
Four Points	Factors may affect this year's schedule by 21-30%.
Two Points	Factors may affect this year's schedule by 31-50%.
Zero Points	Product schedule is routinely disrupted by operational problems.

D.2. Technical Risk (maximum 10 points)
Assess the technical Approach used to sustain the system. This is a combination of hardware, software, and infrastructure. For older systems, consideration needs to be given to problems associated with vendor abandonment of maintenance for older technology. If the technology used is current and supported by the current environment, there is less risk. (See Appendix 1, III.C.3.a)

Ten Points	The system described operates reliably and uses current, state-of-the-art, technology
Eight Points	The system operates reliably, but upgrades would improve performance.
Six Points	The system has occasional operational problems but continues to operate on current technology.
Four Points	The system runs reliably but is using software and/or hardware that is technologically obsolete and will require redesign/redeployment soon.
Two Points	The system is not reliable and uses software and/or hardware that is technologically obsolete and will require redesign/redeployment soon.
Zero Points	The system is not reliable and no plans are being prepared to repair or replace the system.

D.3. Meeting Operational Needs. (maximum 10 points)
This factor deals with the ability to meet and anticipate the needs of the customer. (See Appendix 1, III.C.3.b)

Ten Points	The customer's/system user's needs have been formally surveyed and current capacity of the system exceeds immediate need.
Eight Points	The customer's/system user's needs have been formally surveyed and current capacity of the system is approaching saturation, requires upgrades soon.
Six Points	The customer's/system user's needs have been formally surveyed and current capacity is saturated, resulting in occasional delays or crashes.
Four Points	No formal surveys of the customer's/system user's needs have been performed and the customer/system user is experiencing frequent operational problems.

Two Points	No formal surveys of the customer's needs have been performed but the customer/system user has entered no complaints or requests for changes.
Zero Points	No surveys have been performed of the customer's/system user's needs and no information exists regarding the capacity of the system.

D.4. Solving Customer Concerns (maximum 10 points)
This factor deals with the ability to ascertain customer concerns and to respond in a timely manner. (See Appendix 1, III.C.3.c)

Ten Points	A formal process exists to regularly survey the system users about system performance and future needs. A single point of contact exists for the system users to report problems or have questions about operations answered.
Eight Points	A formal process exists to regularly survey the system users about system performance and future needs.
Six Points	A formal process exists to regularly survey the system users about current system performance only.
Four Points	A formal process exists to regularly survey the system users about their relative happiness with the system and no quantitative information is obtained.
Two Points	No formal process is in use, but frequent personal interaction with users keeps operational personnel aware of any problems.
Zero Points	No formal process is in use to survey system users about their experiences with the users.

Select Strategic Factors Worksheet

The Strategic Factors Worksheet includes the selection of factors relating to management issues which bear on the decision-making process. This worksheet provides the opportunity for the BTC to shift the decision in favor of important agency initiatives. Fill in the table based upon the scoring criteria and the answers supplied in the Project Summary Worksheet or print the Selection Scoring Report from I-TIPS to produce it.

Issue	Points
1. Strategic Impact	
a) On the Organizational (max 4 points)	
b) Risk of Not Continuing (max 4 points)	
2. Scope of Beneficiaries	
a) Cross-Functionality (max 4 points)	
b) Quality of Work Life (max 3 points)	
3. Strategic Alignment (max 10 points)	
4. Level of Executive Interest (max 9 points)	
5. Mission Effectiveness	
a) Improved Mission Performance (max 8 points)	
b) Improved Service to Customers (internal and external) (max 8 points)	
Total	

Select Technical Factors Worksheet

The Technical Factors Worksheet includes critical technical factors for rating purposes. This worksheet is completed by the project manager for the ITC. Fill in the table based upon the scoring criteria and the answers supplied in Project Summary Worksheet or print the Selection Scoring Report from I-TIPS to produce it.

Issue	Points
1. General	
a) Acquisition Strategy (max 4 points)	
b) Security Management (max 6 points)	
Complete only one phase (Development or Operational):	
2. Development	
a) Schedule (max 8 points)	
b) Cost Sensitivity (max 8 points)	
c) Benefit-Cost Impact(s) (max 12 points)	
d) Technical Risk (max 8 points)	
e) Organizational Impact (max 4 points)	
3. Operational/Infrastructure	
a) Schedule (max 10 points)	
b) Technical Risk (max 10 points)	
c) Meeting operational needs (10 points)	
d) Solving customer concerns (10 points)	
Total	

Appendix 2

Linking Capital Planning, IT Investments, and the Budget

The linkage between GSA's IT Capital Planning Process and GSA's Budgeting Process begins in January/February when GSA services and staff offices prepare their Draft IT Plans. The financial data developed for the Draft IT Plans will be used when final decisions are made by the Business Technology Council (BTC), Council of Governors (CoG), and the IT Council on how much to spend and how to allocate the spending among the different IT investments proposed by GSA's services and staff offices. (This usually occurs during May and June). Once these decisions are reached, GSA's services and staff offices formally request funds for the BTC/CoG/ITC approved IT initiatives and existing projects and systems in their budget submission to the Office of Management and Budget (OMB) for the coming budget year. (This occurs during August and September).

The following reflects the "linkage" of the IT Capital Planning Process and the Budget Process via milestones/events that occur and products that are prepared over the course of a year:

November/December
- Current Fiscal Year Funding Allocations
- OMB Passback
- Approved Budget

Products - CFO issues funding allocations

January/February
- CFO inputs schedules into OMB Budget system
- GSA prepares detailed Congressional Budget Justifications
- President's Budget submitted to Congress

Products - Draft IT Plans from GSA services/staff offices including IT Performance Measures.
- OMB A-11 Exhibits/Congressional Budget

March/April
- ITC/CoG and BTC Review IT Investments
- Congressional Budget Hearings

Products - ITC/CoG and BTC select IT Investments to be funded
- GSA Business lines finalize performance goals, measures, and remaining IT Plan documents

May/June
- IT Investment control and evaluation phase begins
- New FY Budget season begins

Products - Councils conduct IT investment control and evaluation reviews
- CFO issues call for budget formulation, performance plans, and GSA Strategic Plan updates

July
- Budget preparation is underway
- Administrator makes decisions on new Budget

Products - CIO issues new IT Capital Plan including both Strategic Plan and Operational Plan
- Business lines submit budget summaries/Issue Papers

August/September/October

- Business lines finalize their budget justifications and performance plans
- FY allocation/allowance process begins

Products - CFO submits GSA budget request and Performance Plans to OMB
- CFO submits Capital Asset Plan and Justification (Exhibit 300B), Report on Information Technology (Exhibit 53) and Report on Resources for Financial Management Activities (Exhibit 40) to OMB
- CIO issues updated IT Strategic Plan
  Performance Plan

In addition to the financial data included in the formal Budget Request, detailed supporting information and documentation from the IT Capital Planning Process (such as a summary of spending of project stages, benefit cost analysis results, IT project schedule, cost and performance goals and measures and a full justification for the asset) are incorporated in the Budget Process via the Capital Asset Plan and Justification (Exhibit 300B), Report on Information Technology (Exhibit 53), and Report on Resources for Financial Management Activities (Exhibit 40/line 4002, amount for financial management systems).

The purpose of the Capital Asset Plan and Justification (Exhibit 300B) is to integrate more fully the OMB investment decision criteria for IT acquisitions (known as the "Raines Rules") to include mapping to the agency's IT architecture and technical infrastructure. (Part 3, Planning, Budgeting, and Acquisition of Capital Assets, of OMB Circular A-11, Preparation and Submission of Budget Estimates, provides guidance to agencies on planning, budgeting, and acquisition of capital assets, and defines the budget submission requirements for both new and in-process (steady state) acquisitions. This guidance incorporates the requirements of the Clinger-Cohen Act of 1996 for justifying budgets for capital assets.

Instructions for OMB A-11 Exhibits 40, 53, and 300A and B are found in Adobe format at: http://www.whitehouse.gov/WH/EOP/OMB/html/circulars/a011/98toc.html

The I-TIPS system allows for the collection of all information for the Capital Asset Plan and Justification for Information Technology (Exhibit 300). I-TIPS also allows for the production of the A-11 53 Exhibit as the Capital Asset Plans identify the mission area supported and the Financial Management Systems information that provides for the Exhibit 53 Report and the Exhibit 40/Line 4002.

Performance Measures Guidance, Examples, and Report Formats

A. Effectiveness Criteria for Selecting Effective Performance Measures

To be valid and useful, performance measures at each level (agency-wide, S/SO and program/project) should meet a number of criteria. The questions listed below, as well as their related evaluative issues, do not need to be specifically identified in a performance measure. But effective performance measures should address key components of each question.

1. Are we measuring the right thing? Does the performance measure(s):

   - Address improvement in performance of mission; goals and objectives;
   - Assess the "value-added" contribution made by the organization's overall investment in information management, individual programs, or applications;
   - Capture the requirements of internal and external customers;
   - Address the internal performance of the function;
   - Reflect improvements in organizational learning and innovation; and
   - Address costs, benefits, savings, risk, or return on investment (ROI).

2. Do we have the right measures? Is the performance measure(s):

   - Targeted to a clear outcome (results rather than inputs or outputs);
   - Linked to a specific and critical process in the organization;
   - Understood at all levels that have to evaluate and use the measures;
   - Effective in prompting action;
   - Credible and possible to communicate effectively to internal and external stakeholders;
   - Accurate, reliable, valid, and verifiable; and
   - Built on data that are available at reasonable cost, appropriate, and timely for the purpose.

3. Are the measures used in the right ways? Is the performance measure(s) used:

   - In strategic planning (for example, to identify baselines, gaps, goals, and strategic priorities);
   - To guide prioritization of project/program initiatives;
   - In resource allocation decisions;
   - In day-to-day management of tasks, dollars, and personnel; and
   - To communicate results to stakeholders.

The number of performance measures needed is dependent upon the value of what the measures are tracking. The larger or more important the project, the more measures should be used. Conversely, the smaller the project, the fewer measures are needed. It is better to have a few very effective measures than a number of ambiguous measures.

Existing or proposed performance measures should be evaluated according to the above criteria. In addition, the performance measures should be periodically reviewed to assure that they constitute a sound, workable mix addressing the program/project range of goals and allowing for changing management and program requirements.

Performance Measure information is collected for each Major project within the Performance Measure folder. See the I-TIPS User Guide, Section 3.

B. Types of Performance Measures

Performance measures must be targeted to their intended audience. At the program/project level, the measures are detailed in that they show how a specific project meets its assigned goals and objectives. S/SO level performance measures are less detailed about specific projects, but still show how the goals and objectives for the S/SO are achieved. Agency-level performances measures, therefore, have less detail about specific projects or S/SOs, but must show how GSA is meeting its goals, objectives and mission.

There are several types of performance measures. Major types include:

Type of Measure	Description
Input measure	The amount of resources used, e.g., staff, materials, and computer time.
Output measure	The calculation or recording of activity that can be expressed in a quantitative or qualitative manner.
Outcome measure	The assessment of the results of a program activity compared to its intended purpose.
Internal measure	A performance measure that is used but not reported to external customers.
External measure	An input/output/outcome measure that is reported to external customers and stakeholders, e.g. OMB, Congress.

For acquisition performance measures, specific policy guidance from OMB is explained in Chapter 4.

Baseline

The key in determining the success or failure of a project, program or function is establishing its current state before any changes are considered or implemented. This is the baseline. The baseline is used in a variety of areas. Gap analysis, for example, uses the baseline to show the difference between the existing state and the target goal or objective.

The emphasis of recent legislation passed by Congress is that agencies ensure that resources allocated to those agencies are used to accomplish their respective missions. Performance measures validate that the area/item being measured is performing its intended function and helping accomplish the goal of the agency.

C. Performance Measures — Some Examples

The organization needs to know what it wants to accomplish before it begins to measure. It is desirable to have a diversity of measures matched to the right organizational need. Measures can be categorized as output measures and outcome measures.

Output measures are the amount of work accomplished or services provided over a period of time. **Outcome** measures communicate information about a result, an impact on a problem or effect on customers or clients. Both of them are compared against a baseline, which is a reference position for measuring progress. It helps us to know how far we have traveled and how much further we have to go.

What is measured must directly align to agency goals/objectives. As an example, if the goal is "to provide cost effective IT", the objective could address what is plan to do in a specific time period. In the goal "To provide cost effective IT" the IT objective of a project might be "For FY99 at least 95 percent of the IT

services will cost less than those available from external sources" and the measure could be "Cost of IT services."

Some examples of performance measures include:

Error Rates

Output Not more than four percent of initial determinations of telephone charges shall be incorrectly calculated.

Outcome No errors materially affecting customers will be made.

Complaints

Output Percent of individuals seeking information who subsequently re-request the same information because the initial response was in complete.

Outcome Customers express a high degree of satisfaction.

Customer Satisfaction Levels (Output and outcome measures may often be indistinguishable).

Output For FY99, at least 75 percent of individuals receiving a service will rate the service as good to excellent.

Outcome At least 90 percent of customers will rate the service as good to excellent.

The following tables show additional examples of goals and measures.

Agency/Program General Goal 1 — Meet the strategic needs of the organization. IT Program/Project Goal — Improve financial performance. Measure — Percent of IT costs by major asset category. Measure — IT budget as percent of overall budget. Measure — IT budget compared to industry benchmark.

Agency/Program General Goal 2 — Meet customer needs. IT Program/Project Goal — Improve customer satisfaction. Measure — Percent of customer satisfied with IT services/system. Measure — Percent of complaints to the help desk/about system.

Agency/Program General Goal 3 — IT internal performance.

IT Program/Project Goal — Improve project performance.

Measure — Percent of projects on time.
Measure — Percent of projects on budget.
Measure — Percent of projects achieving desirable outcome.

IT Program/Project Goal — Implement Information Architecture.

Measure — Reduction in times information is rekeyed into different systems.

Agency/Program General Goal 4 — Raising technical skills of the staff.

IT Program/Project Goal — Increase the competency of staff.

Measure — Percent of staff trained in core technology.
Measure — Percent of IT budget devoted to training.
Measure — Percent of IT employees with training plans.
Measure — Percent of IT staff competent in client/server methodology.

D. Performance Measures: Additional Resources, Training

Sources for additional information on Performance Measures are available on the World Wide Web. Extensive material is available on different types of performance measures. In addition to making this guide available on the Web, **http://www.gsa.gov/gsacio/capcov.htm**, GSA provides another Web site with extensive information and references to other related sites on Performance Measurement: **http://www.itpolicy.gsa.gov/mkm/pathways/pathways.htm.** This site contains a copy of *Performance Based Management: Eight Steps to Develop and Use Information Technology Performance Measures Effectively,* as well as links to legislative references, government and private sector reports on performance measurement and a suggested reading list on performance measurement.

The CIO, upon request, provides training in developing IT performance measures. Training is provided by internal staff or via contractor(s) based on individual requirements.

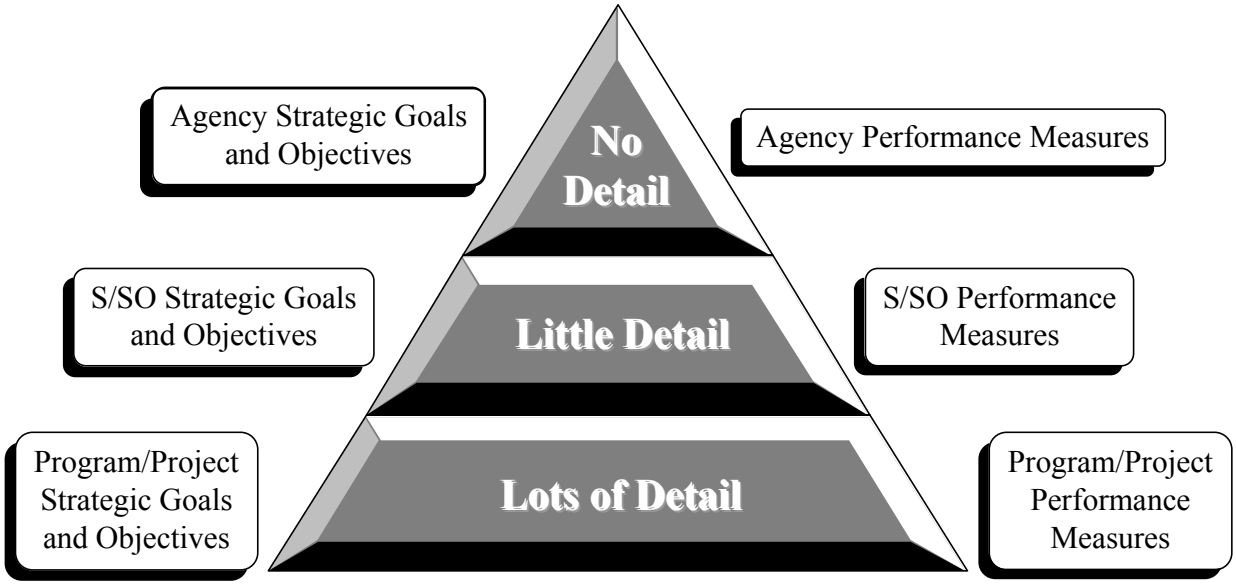
E. Performance Measure Reporting Format

Performance measures are to be reported in the **Performance Measurement, Strategic Plan Cross Reference Table** located in Appendix 1. This table, once completed, will comprise part of the answer for Raines Rule #4 as well as meet external and internal regulatory requirements.

F. Linkage Performance Measures Pyramid

The diagram on the following page illustrates the linkage of performance measures to strategic goals and objectives at each level of the agency.

Linkage of Performance Measures



The Descriptive Information folder provides for Program/Project, S/SO, and Agency Strategic Goal mapping. See I-TIPS User Guide, Section 3.

Appendix 4

Capital Planning and IT Investment Reporting and Assessments

This section provides instructions for preparing the narrative for the office summary and the executive briefs. The executive briefs will be presented to the ITC, CoG and BTC investment selection meetings and used for input for the OMB Circular A-11, part 3.

The executive brief will be filled out by the CIO planning analyst. The CIO planning analyst will compile the required information from the Capital Planning and IT Investment Process (I-TIPS) and the office summary. If the information isn't provided in I-TIPS nor in the office summary then the S/SO must supply the required information. Once the executive brief has been completed by the CIO planning analyst, it will be forwarded to the appropriate office for concurrence.

Office Summary Instructions

Mission

Provide a brief statement of your Service or Staff Office's (SSO) mission consistent with your program performance plan or the GSA Organization Manual.

IT Environment

Briefly describe your current IT environment. Also state how you are using IT to perform your business lines missions or business objectives. This section should provide an overview, at a high level. Try to use bullet lists rather than detailed prose.

Briefly describe your current IRM environment. For example:

- What kinds of computers support your S/SO's functions?
- What are your major operational applications? What are they?
- What are the key issues facing your S/SO?
- How do these issues impact fulfilling your mission?
- What action will you take to solve these issues?
- Are you developing any new applications? What are they?
- Are you planning or undergoing any major acquisitions/procurements? If so what are they?
- Do you share electronic data with others (internal or external)? Who? How?
- How will your organization support CyberGSA? In your response be sure to address the three areas of CyberGSA:
  - **CyberWork**—GSA plans to accommodate employees who work away from the office and interact with the office online;

- **CyberLearn**—GSA will offer accredited distance learning opportunities by universities as alternatives to more conventional training programs;
- **CyberShop**—GSA wants to make many of its fee-for-service programs available through CyberShop

- What are your plans for carrying out and enhancing your IT security program to address current technology threats and vulnerabilities?

- How is your organization using—or planning to use—Electronic Commerce (EC) to accomplish its mission? Although EC may be used in CyberGSA, please address EC separately.

S/SO IT Program support of GSA Strategic Plan, S/SO performance plan, and GSA IT Strategic Capital Plan goals

Briefly describe how your overall IT program supports the goals of the GSA Strategic Plan, SSO performance plan and the GSA IT Strategic Capital Plan - not every goal needs to be mentioned, only those to which your IT program is making a significant contribution.

Support of mission goals for each project is identified within the Descriptive Information folder for each initiative. See the I-TIPS User Guide, Section 3.

Accomplishments and Benefits realized

Briefly describe your major IT program accomplishments and/or benefits derived from your IT investment over the last fiscal year, including:

- Completed major projects or milestones
- Major deliverables
- Contracts awarded
- Performance goals, savings or other benefits realized

Overview of Projects

New Projects and Initiatives

Provide an overview of all new projects and initiatives.

Past/Current Projects

Provide an overview of all past/current projects.

Projects Deleted or Added since last selection process

List project that were deleted, added, or merged since the last selection process.

<Service/Staff Office>

GSA IT INVESTMENT AND EXECUTIVE REVIEW BRIEFING

IT Portfolio Summary

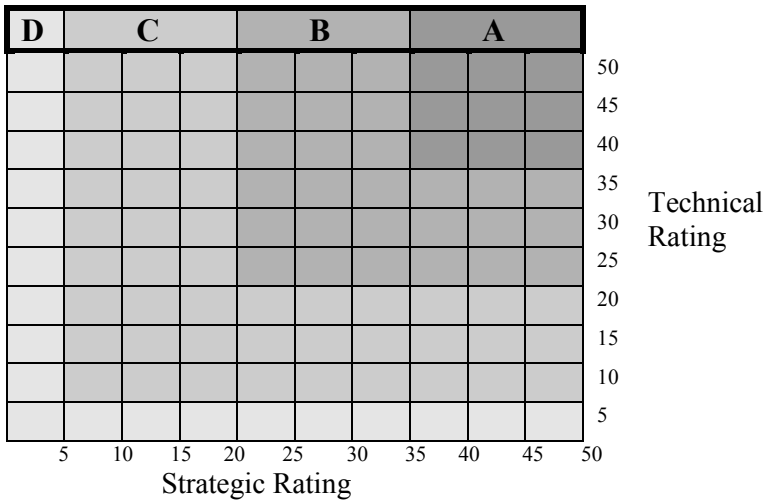
Overview of FY2001, FY2002

IT Budget (*Investment*)

- Any expected significant increases or decreases and reasons for them.
- Highlights (summarizing major projects on table)

Investment Highlights ($000)					
NAME	NEW?	FY2001	FY2002	START	END
Non Major (see list)					
Total					

Portfolio Priority Placement Grid



Summary of IT portfolio

Benefits

Risks

SUMMARY OF IT PORTFOLIO					
#	PROJECT NAME	TECHNICAL RATING	STRATEGIC RATING	PROJECT PHASE (D/M/E - SS)	PROJECT TYPE INFRAST./ BUS APP.
1					
2					
3					
4					
5					

SERVICE OR STAFF OFFICE ***List of Non Major Projects***	
Name of Non-Major Project	Brief Description

The IT Portfolio Summary report will be generated from the information used within I-TIPS. See the I-TIPS User Guide, Section 4.

<Service/Staff Office>

GSA IT Project Investment and Executive Review Briefing

<Project Name>

Overview

Type of Project (Using info from Appx. 1, Sect. IC):

Brief Statement of how project supports S/SO mission, GSA Strategic Plan, SSO Performance plan (Using info from Appx. 1, Sections I.D, E, II.A, and II.C.3):

BENEFITS (realized and/or expected - including performance goals (from Appx. 1, Sect. II.C.3)

INVESTMENTS (total life cycle costs from Appx 1, Sect. III.B.3.c or Life Cycle Costs 6 yr. estimate)

RISKS (strategic (including risk of not doing it), technical, cost, schedule - consistent with Appx. 1)

STATUS (if development, any schedule slippage, cost overruns, other problems etc., If operational - any cost overruns, performance failures (especially per pre-established performance goals), actions being taken etc.:

Schedule	
MILESTONE	**COMPLETION DATE (MO/YR)**
1. Planning:	
2. Acquisition/Development:	
3. Deployment:	
4. Operations and Maintenance:	

PORTFOLIO GRID PLACEMENT: __

Technical Factor	
ISSUE	**POINTS**
1. ***General***	
a) Acquisition Strategy (max 4 points)	
b) Risk/Security Management (max 6 points)	
Choose only one phase (Development or Operational)	
2. ***Development***	
a) Schedule(max 8 points)	
b) Cost Sensitivity (max 8 points)	
c) Benefit-Cost Impact(s) (max 12 points)	
d) Technical Risk (max 8 points)	
e) Organizational Impact (max 4 points)	
3. ***Operational/Infrastructure***	
a) Schedule (max 10 points)	
b) Technical Risk (max 10 points)	
c) Meeting operational needs (10 points)	
d) Solving customer concerns (10 points)	
Technical Rating Total	

Strategic Factor	
ISSUE	**POINTS**
1. ***Strategic Impact***	
a) Organizational Risk (max 4 points)	
b) Risk of Not Continuing (max 4 points)	
2. ***Scope of Beneficiaries***	
a) Cross-Functionality (max 4 points)	
b) Quality of Work Life (max 3 points)	
3. Strategic Alignment (max 10 points)	
4. Level of Executive Interest (max 9 points)	
5. ***Mission Effectiveness***	
a) Improved Mission Performance (max 8 points)	
b) Improved Service to Customers (internal and external) (max 8 points)	
Strategic Rating Total	

INVESTMENT HIGHLIGHTS ($000)								
	FY1999 & Before	**FY2000**	**FY2001**	**FY2002**	**FY2003**	**FY2004**	**FY2005**	**FY2005 & Beyond**
H/W								
S/W								
Srvcs								
Other								
Total								
Total Life Cycle Investment for all Fiscal Years Reported:								

The IT Project Review report will be generated from the information used within I-TIPS. See the I-TIPS User Guide, Section 3.

Methodology for Analyzing Benefits, Costs, and Risks

This appendix provides guidance for analyzing the benefits, costs and risks associated with an IT investment or project. Section F provides a methodology or model for performing a benefit–cost analysis (BCA). Other methodologies may be used for completing a BCA, as long as they comply with the requirements of OMB Circulars A-130 and A-94 and allow the project manager to provide a benefit-cost ratio and net present value. An example of another very thorough BCA or Cost-Benefit Analysis methodology that can be used is the one described in the National Institutes of Health (NIH) Cost-Benefit Analysis guide for NIH IT projects. This guide is available on the Internet. The URL is http://irm.cit.nih.gov/itmra/cbaguide.html.

A Benefit-Cost Analysis is required for every project. This Benefit-Cost Analysis can be loaded into the initiative Resource Library for the Major project. The I-TIPS system itself, allows for analyzing alternatives, benefits, costs, and risks, using the Major project information.

BCA Elements.

Consistent with OMB Circular A-94 guidance, a BCA should encompass and address the following elements:

- Explicit underlying assumptions used to arrive at the estimates of future benefits and costs.
- Evaluation of alternative means for achieving program objectives.
- Plans for periodic, results oriented evaluation of the actual costs, benefits, and program effectiveness attributable to the investment.

BCA steps.

The BCA process encompasses the following steps:

- Identify assumptions and constraints
- Identify alternatives and their schedules, costs and benefits
- Evaluate alternatives
- Perform risk and sensitivity analysis
- Develop performance goals and measures for monitoring the project

A. Assumptions and Constraints

Assumptions are explicit statements used to describe the present and future environment upon which the benefit/cost analysis is based. The purpose of assumptions is to reduce complex situations to problems of manageable proportions.

OMB Circular A-94 requires analyses to be explicit about underlying assumptions to arrive at estimates of future benefits and costs and include a statement of the assumptions, the rationale behind them, and a review of their strengths and weaknesses.

Examples of assumptions include estimated future workload, estimated useful life of an investment or system, and the period of time over which alternatives will be compared.

Constraints are factors external to the relevant environment which limit alternatives to problem resolution. They may be physical, time related, financial, or institutional/regulatory. They provide boundary limits for the alternative solutions to a particular problem.

B. Identifying and Estimating the Benefits and Costs of Alternatives.

Some examples of Information Technology (IT) related alternatives are:

- Do nothing,
- Use COTS package or purchase new equipment
- Modify existing hardware/software
- Develop new software
- Purchase services

One alternative that should always be considered is continuing the status quo.

Each alternative will have its own mix of resources. Costs must be identified and itemized at a level of detail consistent with the budgeting process. Alternatives will also have different benefits realization periods and some additional or direct benefits.

As the project or procurement process proceeds, the BCA and budget requests will be updated to reflect the most current information on alternatives based on the project and procurement progress.

The estimate of costs and benefits of an investment or project should show the difference that results from making the investment; specifically the change in cash flows as a result of undertaking the project. Basic questions to be asked are:

- What additional funds will be required to carry out the chosen alternative.
- What additional revenues will be created over and above any existing ones?
- What costs will be added or removed as a result of the investment?

The only data relevant and applicable in any investment analysis are the differential funds commitments as well as different revenues and costs caused by the decision, viewed in terms of cashflow.

Benefit-cost analysis for IT investments compares the costs of the IT investment or project (whether it be a new system, a replacement system, system enhancement, or a hardware/software purchase) to the savings derived from the expected business and operational improvements resulting from IT investment or project. The basic elements of cost comparison are the total IT investment/system and business costs if the system is implemented versus the total system and business costs if the system were not implemented or if the current system is continued. The savings resulting from the system implementation are associated with tangible benefits. Additional intangible benefits are also documented and considered in the decision to approve system development.

Consistent with OMB Circular A-94, both tangible and intangible benefits and costs should be recognized. The relevant cost concept is broader than private-sector production and compliance costs or Government cash expenditures. Costs should reflect the opportunity costs of any resources used, measured by the return to those resources in their most productive application elsewhere. A-94 provides additional guidance on identifying and measuring benefits and costs including:

- Incremental benefits and costs and sunk costs.
- Transfers.
- Indirect measures of benefits and costs.
- Multiplier effects.
- Treatment of inflation.
- Discount rates.

- Lease purchase analysis

After the decision has been made that it is beneficial for an agency to acquire the use of a capital asset, OMB Circular A-94 guidelines should be used to perform a Lease-Purchase analysis to determine if the agency should purchase or lease the asset. Lease-purchase analyses should compare the net discounted present value of the *life cycle cost* of leasing with the full costs of buying or constructing an identical asset

- **Identifying and Estimating costs**

When considering the costs of projects/alternatives, one must take into consideration the project's total life cycle cost, as defined in OMB Circulars A-94 and A-109 to include acquisition costs and the cost of operations.

Project Life

It is often difficult to estimate the life of a project. The accepted criterion is the continued ability to generate satisfactory cash flows or other intangible benefits. The period of time over which the savings or benefits to be gained from a project may be expected to accrue is the economic life of a project. The economic life is generally the lesser of physical life, technological life or mission/product-market life

- The mission life: that period of time over which a need for the asset or program is anticipated.

- The physical life: the period during which a facility or piece of equipment will be available for use.

- Technological life: the period of time before which improved technology would make an asset obsolete.

- Project life: Investment sometimes occur several years prior to the time the project starts providing benefits. This elapsed time period between initial funding and the commencement of the economic life is referred to as lead time. Project life consists of the total of the lead time and the economic life.

Methods of Alternative Comparison

Economic lives and lead times can vary among alternatives. The following guidelines are recommended for determining the comparison period.

a. Same Economic Lives and Lead Time. If both the economic lives and lead times for all alternatives are the same, there is no problem as the comparison will be between the same project life.

b. Same Economic Lives and Different Lead Times. In this case the first year that expenditures must be made for any one of the alternatives, should be considered the base year or first year for all the alternatives.

c. Different Economic Lives. One method is to let the economic life of the dominant asset prevail with subsidiary assets replaced as necessary. Another method is to use the shortest economic life and impute residual value in the asset with the longer life.

Because of the inherent uncertainties of making estimates in distant years, in some cases it may be necessary to set arbitrary limits on the planning horizon to be used in the analysis. This planning horizon can be shorter than the estimated economic life of the project. **Six** years, consistent with the GSA IT Plan and OMB Circular A-11 reporting requirements, is used in this guide's worksheets and can be used by S/SOs that cannot determine a more exact planning horizon.

Cost categories:

Cost categories to consider when estimating the cost of an alternative/project include the categories listed below, which are not mutually exclusive.

- Research and development: These costs are often associated with the development of new IT systems and include items such as pilot production or test bed costs.

- Investment: Investment costs are essentially one-time costs and include costs such as:
    - Land
    - New construction
    - Rehabilitation
    - Equipment
    - Software purchases
    - System development (functional requirements, design, analysis, programming, testing, conversion)
    - Relocation
    - One-time personnel costs (recruitment, separation, training, travel, etc.)

- Value of Existing Assets Employed: This is the value of existing assets. This value is included in the investment cost only when the existing asset is currently in use on some other project, or was intended for sale.

- Terminal/residual value: This is the expected value of buildings, equipment or other assets at the end of their economic lives and is treated as a reduction in the life cycle cost of the particular alternative for which the use of the asset is intended. Residual value is the computed value of assets as any point in time. Residual value may or may not coincide with terminal value. Terminal/residual value should be applied to existing asset replaced as well as new assets being acquired.

- Operation and Maintenance Costs: These costs occur continually over the useful life of the project. They include labor costs of operating and maintenance personnel, fuel and power costs, operating and maintenance supply costs, spare and repair parts costs, insurance costs, taxes, and a share of indirect (overhead/burden) costs. These costs can be substantial and occur over time until the structure, system or equipment is retired from service.

- Variable costs: These are a group of costs that vary in some relationship to the level of operational activity (such as direct labor, direct material)

- Fixed costs: These are a group of costs that do not vary with output.

- Total cost: This is the sum of all life cycle costs associated with the product/system.

- Unit cost: This is the total cost divided by some related base and may be expressed in terms of cost per item produced, per person, etc. Unit cost represents an average that may change with the magnitude of the numerator, denominator, or both.

- Recurring and nonrecurring costs. Recurring costs are those costs that occur from one period to the next at specified intervals; whereas, non-recurring costs are one-time, non repetitive costs. Life cycle costs embrace all costs, non-recurring and recurring that occur over the life of an alternative.

- Sunk Cost: These are costs that have already been incurred and cannot be recovered or altered by future action. They are irrelevant to the benefit-cost analysis because only the future consequences of investment alternatives can be affected by current decisions.

Cost Estimating Techniques:

A thoroughly reasoned benefit-cost analysis requires the collection of financial information called cost elements from budget documents along with estimates of proposed IT investment/system costs.

The selection of cost estimating techniques depends on the amount and detail of available data and the time and resources available to develop the cost. The required level of effort for the different estimating techniques ranges from extreme analytical detail to intuition.

- Industrial engineering/bottom-up method: This method consolidates estimates from several separate work segments into a total project estimate. It involves segmenting the total product into single parts for which detailed estimates can be established. Where detailed data exists, the industrial engineering approach can result in extremely detailed and complete estimates.

- Parametric cost estimating or parametric analysis method. This method focuses on what the project is supposed to accomplish or yield compared to similar projects. The yield or benefits form the basis or parameters for the cost estimates. Once these benefits and their measures are established, relationships between the parameters and their costs are developed, mainly form historical data. This method is used when data is inadequate for employing the industrial engineering approach. It is also a preferred method for deriving cost estimates at the earliest stages of development.

- Analogy method. This method uses judgment, specifically analogies, which are direct comparisons with similar, historical systems or products. This method requires expertise and intuitive reasoning. When little historical data is available and neither the industrial engineering or parametric methods can be used, the analogy method is used but it is seldom the most accurate.

In developing cost data for a life cycle cost analysis, one should initially investigate possible data sources to determine what is available for direct application to analysis objectives. If the required data are not available, the use of parametric, cost estimating techniques may be appropriate. Existing data banks, initial system planning data, supplier documentation, reliability and maintainability predictions, test data should all be investigated a potential data sources.

- **Identifying and estimating benefits**

S/SOs should identify all benefits resulting from each alternative. Both quantifiable and non-quantifiable benefits should be identified and described.

Determining benefits is the most difficult part of the benefit/cost analysis because it is often difficult to identify all benefits and accurately quantify and monetize them. OMB Circular A-94 suggests the principle of willingness-to-pay to obtain a given benefit and that market prices are a good place to start. To the extent possible benefits should be expressed in quantifiable terms and clearly linked to the program goals and needs identified in previous planning stages.

Most benefits will be in terms of improvements in effectiveness, efficiency, or customer satisfaction

Examples of areas of benefits include:

Operating efficiency	Reliability/Maintainability
Accuracy	Manageability
Availability	Service life
Quality	Ecology
Economy	Morale
Safety	Security
Regulatory compliance	

Examples of types of quantifiable and monetizable benefits are:

- Reduced resource requirements (such as support services, supplies, personnel, training, lease, rental, maintenance, computers)

- Improved data entry (resulting in reduced staff time, lowered error rates)

- Improved operational effectiveness (resulting in reduced error rates, improved timeliness, increased productivity, better quality products)

- Cost avoidance (by eliminating future staff growth, minimizing penalties for delays, elimination additional equipment requirements)

C. Evaluating Alternatives

IT investment alternatives should be evaluated using multiple decision attributes that include both financial and non-financial criteria. The system or process for analyzing costs and benefits associated with and investment should include qualitative and quantitative criteria of a financial and non-financial nature.

Quantitative methods.

This section addresses the quantitative methods of estimating and comparing costs and benefits of different alternatives. The section at the end of this appendix provides a model and worksheets that can be used to perform the quantitative analysis and calculations of the benefit cost analysis.

Net Present Value.

Per OMB Circular A-94, Net Present Value (NPV), the discounted monetized value of expected net benefits, is the standard criterion for deciding whether a Government program can be justified on economic principles. Net present value is calculated by assigning monetary values to benefits and costs, discounting future benefits and costs using an appropriate discount rate, and subtracting the sum total of discounted costs from the sum total of discounted benefits. Discount rates and the discount factors to be used are provided and defined in OMB Circular A-94.

Present value analysis is based on the principle that

- Benefits accruing in the future are worth less than the same level of benefits that accrue now.
- Costs that occur in the future are less burdensome then the costs that occur now.

The formula for calculating NPV is: NPV = Present Value of benefits - Present Value of costs.

The present value of a benefit or cost is calculated by multiplying the amount by a discount factor. The discount factor is equal to 1/(1+i)n where i is the discount rate and n is the number of periods over which discounting takes place. OMB Circular A-94 provides the discount rates to be used. *OMB Circular A-94 is updated periodically. Those conducting a BCA should ensure that they are using the proper discount rates, consistent with the latest version of OMB Circular A-94).*

If the NPV is positive, the financial return on the project is economically acceptable. This is because the cash flows generated by the investment over its economic life will:
- Recover the original outlay and any future outlays,
- Earn the desired return on the outstanding balance, and
- Provide a cushion of excess economic value.

If the NPV is negative, the project is not acceptable on economic grounds.

OMB Circular A-94 recommends that when a net present value cannot be calculated, agencies provide a comprehensive enumeration of the different types of benefits and costs and/or quantify benefits and costs even though it may not be possible to monetize them.

Additional methods of evaluating costs and benefits are available to help distinguish among alternatives with similar NPVs or ones where it is difficult to estimate present value.

- The Benefit cost ratio (BCR) or Profitability Ratio

The BCR measures the economic desirability of an investment by dividing the present value of its benefits (cash inflows) by the present value of the costs (outflows). The alternative with the highest BCR is the most cost effective because it returns the most benefits per dollar spent. The formula for this ratio is:

BCR = PV (benefits)/ PV (costs)

The BCR provides a measure of the benefits obtained per dollar spent. The higher the BCR the larger the return. Whereas the NPV is an absolute measure that refers to a specific set of values, the BCR allows comparison of different projects. In selecting among alternatives the BCR shows which alternative provides the largest return relative to costs.

- Return on Investment (ROI)

This ratio is calculated by dividing the average annual operating cash inflow (benefit) by the annual net investment. All this ratio does is calculate what percentage of the investment the annual benefit cashflow is.

This amount is calculated on an annual basis. The formula for this ratio may be calculated as:

ROI = Average annual operating cash inflow / Net investment.

This ratio is limited in its usefulness because it does not take into consideration the economic life of the project and assumes a constant annual return. The ratio also ignores the time value of money and, therefore should not be used except in relation to annual returns or when speaking in generalized or gross terms.

- The payback method.

This method estimates the time it takes to recover the original investment outlay. This value is calculated by dividing the net investment by the average annual operating cash inflow.

Payback (time) = Net investment / Average annual operating cash inflow.

This ratio gives a very rough test as to whether the investment will be recovered within its economic life span. However this ratio is limited in its use as it is insensitive to the economic life span and assumes constant annual operating cash inflows. It does not consider cashflows beyond payback and, therefore, does not measure profitability.

- The internal rate of return (IRR).

This method determines the discount rate that makes the net present value of a project equal to zero. When applied to both cash inflows and cash outflows over the project's economic life, it provides a zero net present value.- so that the present value of the inflows exactly equals the present value of the outflows.

- Hurdle rate

The hurdle rate is a minimum standard for the return required of an investment. A hurdle rate may be used by S/SOs to help select from among alternative investments when other decision criteria is lacking. For instance, a hurdle rate equal to the cost of capital as reported by the Treasury Department may be used.

Cost Effectiveness Analysis.

OMB Circular A-94 states that **c**ost-effectiveness analysis is appropriate wherever it is unnecessary or impractical to consider the dollar value of the benefits provided by the alternatives under consideration. A program is cost effective if, on the basis of life cycle cost analysis of competing alternatives, it is determined to have the lowest costs expressed in present value terms for a given amount of benefits. Cost-effectiveness analysis is appropriate whenever:

(1) each alternative has the same annual benefits expressed in monetary terms, or
(2) each alternative has the same annual effects, but dollar values cannot be assigned to their benefits.

Cost-effectiveness analysis can also be used to compare programs with identical costs but differing benefits. In this case, the decision criterion is the discounted present value of *benefits.*

Non-Quantitative Evaluation Considerations

There may be several economically acceptable projects but only limited financial resources.

Qualitative evaluation considerations including non-quantifiable or monetizable benefits may override quantitative criteria in the ranking or acceptance of projects. Such considerations include:

- relationship to business strategy,
- schedule risk,
- organizational and technical risks,
- social benefits,
- legal/regulatory requirements.

Such non-quantifiable considerations are addressed and incorporated in Chapter 5 and Appendix 1 of this guide. Non-quantifiable considerations for evaluating alternatives should be identified in the BCA and addressed at the S/SO and GSA wide level before the final IT investment portfolio decisions are made.

D. Identifying and Managing risks

Benefit and cost estimates are typically uncertain.

Having a strategy to deal with the risk that is inherent in large IT investments/projects is critical. One of the greatest risk factors to the success of IT projects is the amount of development that is planned. Full scale development is where the potential is greatest for significant cost and schedule overruns and lowered performance goals.

The types of risks in an IT project include:

- schedule risk
- risk of technical obsolescence
- cost risk
- technical feasibility
- dependencies between a new project and other projects or systems,
- risk of creating a monopoly for future procurements.

Risk Management.

Risk management is an organized method of identifying and measuring risk and developing, selecting, and managing options for handling risks. It consists of the following four elements:

Risk Assessment. This process identifies and assesses all potential risk areas, any parts of a project where there is uncertainty regarding future events that could have detrimental effect on meeting the program goal. Risk assessment continues throughout the life of the project as previous uncertainties become known and new ones arise.

Risk Analysis. This process characterizes each risk as to the likelihood of its occurrence and the severity of its impact. It results in a watch list of potential areas of risk. Risk analysis also continues throughout the life of the project.

Risk Treatment. After risk has been assessed and analyzed, a determination is made for how to deal with it.. Alternatives include:

- Transfer - risk may be transferred to a contractor or third party.
- Avoidance - it may be determined that the risks of any particular solution/alternative are too great and the alternative should be removed form further consideration.
- Reduction - necessary measures can be identified to minimize the likelihood of a risk occurring and/or minimize the damage of its impact on program goals should it occur
- Assumption - a decision may be made to assume a risk if effective control can be exercised, the probability of risk is small, or the potential damage is either minimal or too great for a contractor to bear.
- Sharing - if a risk cannot be appropriately transferred and should not be assumed, it can be shared with a contractor.

Risk Management Plan.

A risk management plan should be developed that includes information on:

- The types, probability and impact of risks pertinent to the IT project, including the risk that the funding request will not be approved or not approved in its entirety.

- Plans for how to treat and manage the risk, to include how to respond to lower funding.

Furthermore, risk can be accommodated by requiring a higher return for projects determined to be of higher risk.

Also, risk analysis estimates of the probability that an IT investment will fail an the impact this would have on the business can be subtracted from the expected benefits to adjust the ROI or NPV calculations to reflect risk.

Sophisticated risk assessment methodologies, such as, probabilistic simulation can be used to estimate ranges for total annual cash flows and key variables can be identified. Probability distributions can then be assigned to the outcomes for each of the variables. Computers can be used to run many iterations.

An independent risk analysis of the selected approach or alternative can be performed by a contractor and ROI can be adjusted accordingly.

At a minimum a high-level risk analysis of technical, cost, schedule and other risks is performed as part of the process described in chapter 5 of this guide.

- **Sensitivity analysis**

Sensitivity refers to the relative magnitude of change in one or more elements of an economic analysis that will cause a change in the ranking of alternatives. Sensitivity analysis is used for assessing the extent to which costs and benefits are sensitive to changes in key factors. In a sensitivity analysis, if one particular factor or cost element can be varied over a wide range without affecting the ranking of alternatives, the analysis is said to be insensitive to uncertainties regarding the particular event. A sensitivity analysis can provide a range of costs and benefits which are likely to be a better guide then a single estimate.

If there is certainty and the preference ranking establishes one alternative as markedly superior to the rest, sensitivity analysis is probably unnecessary. However if there is uncertainty with at least some of the assumptions and the alternative of choice is not clearly preferable to the rest, then a sensitivity analysis may be necessary.

As part of the sensitivity analysis, major assumptions should be varied and net present value and other outcomes recomputed to determine how sensitive outcomes are to changes in the assumptions. Assumptions deserving the most attention will depend on the dominant benefit and cost elements and the areas of greatest uncertainty.

For each alternative, key high risk factors should be changed to a less favorable number to test sensitivity.

Key elements to evaluate include:

- length of project life
- volume, mix, or pattern of workload
- requirements
- configuration
- assumptions
- discount rates
- cost and benefit estimates.

To conduct the sensitivity analysis, all parameters in the analysis are held constant except the factor being tested. The analysis is then reworked using different estimates for the factor under review. If this results in changes to the ranking of alternatives, the analysis is sensitive to that amount of change in the variable. Each parameter should be tested individually to determine its effect on the analysis.

E. Setting Cost, Schedule and Performance Goals

An outcome of the benefit/cost analysis process should be cost, schedule and performance goals that will be used to manage the investment/project.

These performance goals should stem from the needs/requirements that alternatives are fulfilling and should address the benefits they are expected to provide. Performance goals should be consistent with agency strategic plan goals and should be linked to or part of performance plan goals and measures.

Schedule and cost goals must also be established to help ensure projects adhere to planned costs and schedules.

Interim annual goals and measures must be established for multi-year projects to ensure the timely detection of problems and implementation of corrective action.

Performance goals and measures will be summarized in the Project Summary Worksheet, in Appendix 1 of this guide and will be included in the GSA Five Year IT Plan.

Refer to Chapter 4 and Appendix 4 of this guide for guidance on establishing and formats for reporting IT performance goals and measures.

F. Benefit-Cost Model and Worksheets

1. Benefit-Cost Analysis Framework

The decision to undertake an IT investment or project is based on the assumption that the business improvements resulting from the system exceed the costs of modifying business operations and maintaining the current IT or system (if it exists). Benefit-cost analysis makes explicit the assumed business rationale that justifies investments in IT/ information systems. Benefit-cost analysis has four major elements:

- Total business and system costs with the IT investment/new system
- Total business costs without the IT Investment/new system
- Tangible benefits
- Intangible benefits

The determination of costs and tangible benefits is based on five basic cost elements:

- Business costs with the IT investment new system--The total costs to carry out the business functions and processes to be automated by the IT investment/system.
- Business costs without the IT investment/new system--The total costs that would be incurred to continue the business functions and processes with the current level of automation (which may be no automation).
- Nonrecurring costs of the new system--One time expenditures that will be incurred in the design, development or acquisition, and implementation of the new system. These expenses will not be incurred after a system is operational.

- Recurring costs of the IT investment/new system--Ongoing expenses that will continue throughout the investment's/system's life cycle. Most of these costs will be incurred during the operational phase of the system.
- Costs to continue the current IT/system (if there is one) --The expenditures that would be made by GSA if they continued to operate the existing system (these may include recurring and non-recurring costs).

Business costs are presented as a total budget projection for the business operations affected by the proposed IT investment/system. Analysis of business costs should consider the same factors that are applied in developing multi-year budget projections. The estimates for the benefit-cost analysis should be comparable to those produced in other budget exercises.

Costs of an IT investment/system are the costs required to design, acquire, develop, implement, and operate the IT investment/system. These are the costs related to the IT/system itself and ***not*** the business functions supported by the IT/system. Costs include both business and system costs with and without the IT investment/system. This cost comparison quantifies the financial impacts of a "go" or "no go" decision. The cost of operating the business without the IT/system highlights the investment managers would be forced to make in maintaining current business practices and system operations. The cost of operating the business with the new or enhanced system highlights the tangible bottom line payoff of the proposed system. Total costs with the IT investment or new information system will in most cases be more than continuing current operations. Savings can accrue in the business operations that exceed the additional costs associated with design, development, acquisition, and maintenance of the IT investment/information system itself over a projected life cycle.

Tangible benefits can be measured as specific cost savings to GSA. Tangible benefits are the cost savings resulting from changes in business and system operations. Each item in the cost analysis that has a projected saving must be associated with an operational change that will produce the reduction in projected expenditures. For example, the cost of continuing operations without the IT investment/new system may include the hiring of additional clerical staff to continue to manually process projected increases in workload. If the proposed IT investment/system were implemented, technology would replace these manual processes and no additional personnel would be hired.

Intangible benefits are difficult to measure in financial terms. Despite their lack of financial rationale, they may be sufficient to justify the system independent of cost. In the Federal environment, compliance with legal and regulatory requirements is an intangible benefit that can, on its own, justify the investment in information systems. Other examples of intangible benefits are improved customer satisfaction, faster service, and increased employee job satisfaction. Intangible benefits must be supported by a clear link to specific outcomes of system implementation. A list is provided in paragraph F, to facilitate the identification and collection of intangible benefits.

2. Benefit-Cost Model Components

This section and those that follow present a discussion of the information collection requirements for the proposed benefit-cost model. It is organized around identifying fully allocated current IT/system costs and proposed project expenses. Growth values such as present value calculations, cost of money and interest expense are factored into this model through built-in tables. The model is expressed as simply as possible and is consistent with Federal guidelines governing benefit-cost analysis.

Information collection is intended to reflect a mixture of cost projections and assumptions that system owners have gained through operating experience. Information concerning new proposed systems should be organized and recorded on project worksheets. Backup documentation to these cost worksheets should be explained in a narrative form sufficient to clarify assumptions about the numbers. Complete information

describing the current systems should also be provided along with any foreseen benefits from continuing current operations.

The model is designed to allow comparison of costs with and without the IT investment/new system: non-recurring costs, recurring costs, residual values and benefits over an estimated systems life. Each benefit-cost worksheet should be carefully analyzed to ensure completeness in capturing fully allocated cost projections. Definitions of each cost factor included in the worksheets are presented in Section 9.

All cost worksheets should be completed for the full life cycle of the proposed IT project/system. The life cycle includes design, acquisition, development, implementation and maintenance. Supporting documentation should identify the expected time period for each life cycle stage of the system. A six year system life cycle is assumed in this methodology. Six years is consistent with the GSA IT planning cycle and also reflects impact of rapidly changing technology on the useful life of systems. Some IT/systems may have a longer or shorter life cycle. In these instances the benefit-cost analysis should include the rationale for the life cycle. The methodology and supporting worksheets can be adjusted to fit the projected system life cycle.

The benefit-cost analysis is supported by the development of worksheets. This section provides a brief overview of each worksheet and its contents.

3. Business Operation Costs

This category of cost elements will identify total costs to carry out the business functions first with the current level of automation and then when they are automated by the IT investment/new system. The costs need to be calculated both with and without the proposed new system/investment. Business operations are the activities and resources used to conduct the functions to be supported by the proposed investment/system. *Costs related to current and proposed information systems are excluded from this worksheet*. Business operation costs are defined by the following cost factors:

- Personnel salaries and fringe benefit
- Supplies
- Equipment
- Facility space occupancy
- Utilities
- Maintenance
- Travel
- Training
- Incidentals
- Interagency
- Other identified costs

4. Nonrecurring Costs of the IT Investment/New System

This category of cost elements identifies the one time expenditures that are incurred in the design, acquisition, development, and implementation of the new information system. Nonrecurring costs of the new system are defined by the following cost factors:

- Conversion Costs - Replacement or Upgrade Systems Only
- Hardware
- Software
- Communications
- Contracting
- Travel

- Training
- Studies
- Parallel Operations
- Incidental Expenses
- Residual Value
- Other identified costs

5. Recurring Costs of the IT Investment/New System

This category of cost elements identifies the ongoing expenses that are incurred to maintain and operate the IT/system after implementation is completed. Costs should be projected for the entire useful life of the system.

- Parallel Operations
- Hardware lease or rental
- Software lease or rental
- Communications
- Other equipment
- Facility space occupancy
- Utilities
- Maintenance
- Supplies
- Personnel salaries and fringe benefit
- Security
- Travel
- Training
- System Testing and Back-up
- Incidentals
- Interagency
- Other identified costs

6. Costs of Continuing the Existing IT, Old System

This category of cost elements identifies the information system costs that would be incurred if the existing level of automation were continued instead of developing the new system. The costs of continuing the old IT/system are defined by the following cost factors:

- Hardware lease or rental
- Software lease or rental
- Communications
- Other equipment
- Facility space occupancy
- Utilities
- Maintenance
- Supplies
- Personnel salaries and fringe benefit
- Security
- Travel
- Training
- System Testing and Back-up
- Incidentals
- Interagency
- Other identified costs

7. Calculated Values

Tangible benefits are calculated by comparing the costs of continuing the status quo (no automation or an existing system and current business operations) to the costs of developing the new system and modifying business operations. Figure 1 presents an overview of the calculations that are used to determine tangible benefits. Tangible benefits are derived from the following calculations:

In order to compare costs and benefits at a point in time, present value tables are used in the model. OMB Circular A-94 defines the standard criterion for deciding whether a Government program can be justified on economic principles as the net present value of benefits. Net present value is the projected savings resulting from the program reduced by the net investment required to develop and implement the program.

Using the costs of business operations and systems described above, five basic calculations are made to assess the benefits that will result from the new system. These calculations are described below and in Figure 1.

- Business Savings. The difference between the cost of business operations without the IT investment/new system and the cost of business operations with the new system. The result of this calculation is the business savings of the new system.

- Net System Costs. The difference between the cost to continue to operate the old IT/system (if there is some existing IT/system) and the cost to design, acquire, develop, implement and maintain the IT investment/new system. Net IT/system costs are the additional investment that GSA will make in the IT investment/new system or, if the IT investment/new system is less costly, the system-related savings that will result from the new system.

- Present Value Factor. Cost information is adjusted in the model using tables to multiply costs and benefits by discount factors consistent with OMB Circular A-94 guidance to determine the present value based on the year of occurrence. *Note: OMB Circular A-94 is updated periodically. Those conducting a BCA should ensure that they are using the proper discount rates, consistent with the latest version of OMB Circular A-94, by checking the internet at* http://www.whitehouse.gov/WH/EOP/OMB/html/circulars/.

- Net Present Value (Of Benefits). The business savings increased or decreased by the net IT/system costs. If the new system reduces system costs, tangible benefits will be higher than business savings. If the new system represents increased costs, tangible benefits will be less than the business savings of the new system.

- Benefit-Cost Ratio. The value of the tangible benefits compared to the net IT/system costs. Benefits will generally exceed costs and this ratio will almost always be greater than 1. If a system has a benefit-cost ratio less than 1, it must be entirely justified by its intangible benefits.

Cost Elements

Business Costs With New IT/System	Business Costs Without New IT/System	Costs of New IT/System (Recurring and Non-Recurring)	Costs to Continue Old IT/System

CALCULATIONS (Annual)

CALCULATION	FORMULA							RESULT
Business Savings	Business Costs Without the New IT/System	-	Business Costs With The New IT/System	=	Business Savings Factor	x	Present Value	=	(a) Present Value of Business Savings
Net System Costs	Recurring + Non-Recurring Costs of New IT/System	-	Costs of Continuing Old IT/System	=	Net System Costs	x	Present Value Factor	=	(b) Present Value of Net System Costs
Benefits	Present Value of Business Savings (a)	-	Present Value of Net IT/System Costs (b)					=	(c) ***Net Present Value*** of Benefits
Benefit-Cost Ratio	Present Value of Benefits (c)	÷	Present Value of Net System Costs (b)					=	Present Value ***Benefit-Cost Ratio***

Figure 1. Benefit-Cost Calculations

8. Benefits

New information systems provide opportunities for a broad range of improvements to business operations. Not all benefits of automation will result in a tangible benefit that reduces costs. Intangible benefits can be an important factor in deciding to proceed with the development of an information system. Intangible benefits should be documented as part of the benefit-cost analysis and included in the narrative that describes the proposed system. Intangible benefits should be considered with the benefit-cost ratio for determining the rationale for continuing with the proposed system. In identifying tangible and intangible benefits of the new system, the following should be considered:

- Reliability Improvements. The benefit gained in reduced risk of system malfunction or failure, and reduced downtime for batch program operations versus a comparison system, for performing the same or equivalent tasks.
- Error Improvements. The benefit gained in process simplification and streamlining. Ease of entry, data input, and accuracy rates that reduce overall errors are reported here.
- Labor Productivity Improvements. The benefit gained in performing the same functions and tasks for fewer hours of personnel time. These improvements may allow staff to work on other activities, but do not result in an actual reduction in personnel.
- Grade of Service Productivity Improvements. The benefit gained in performing a service more efficiently or effectively to the direct benefit of the taxpayers who interact with the functions of the system.
- Compliance With Legal And Regulatory Requirements. The benefit gained by meeting procedural or performance guidelines specified in laws and regulations.
- Customer Satisfaction. The benefit can be in terms of a reduction in time spent responding to customer complaints and a larger customer base.

9. Cost Factor Definitions

Communications - Nonrecurring	Total nonrecurring expenditure of communications equipment and services to make the fully configured and installed system operable at its inception. Include in this category data communications equipment, such as modems and data encryption devices, as well as other communications costs, such as local area networks.
Communications - Recurring	Yearly payments for communications costs. Include in this category data communications equipment, such as modems and data encryption devices, as well as other communications costs, such as local area networks.
Contracting	Total expenditure of contracts for construction, design, development, consulting, and installation of system.
Conversion Costs	For replacement or upgrade systems, the incremental costs incurred only from the costs to convert hardware (such as PCs, mainframes, disk drives, servers, printers) or software (such as database, batch programs, and expert systems) from one system to another. These costs are only incurred if the system under consideration is replacing another specific system. Examples are batch transfer programs, data re-entry, hardware modification.

Equipment	Yearly costs allocated for the purchase, lease or rental of other equipment to support business operations excluding equipment associated with the new system.
Equipment - Other	Yearly costs allocated for the purchase, lease or rental of other equipment to support the use of the system. Include in this category photocopiers, file cabinets, fire safes, microfiche, optical storage facilities and other office products.
Facility Space Occupancy	Yearly payments for allocated rents and building user costs for business operations other than the space allocated to the new system (excludes utilities).
Hardware - Nonrecurring	Total dollar expenditure, by year, of hardware to make the fully configured and installed system operable at its design inception. Include in this category mainframes, desktop, laptop, PCs, disk drives, tape drives, display monitors, keyboards, printers and other peripheral equipment. This does not include possible conversion costs for upgrading from older systems.
Hardware Lease or Rental - Recurring	Yearly payments for system hardware lease or rental. Include in this category mainframes, desktop, laptop, PCs, disk drives, tape drives, display monitors, keyboards, printers and other peripheral equipment.
Incidentals	Other minor costs associated with day to day business operations. Exclude incidental costs associated with the new system.
Interagency	Yearly payments to (less credits received from) other agencies for shared facilities used and services other than systems operations.
Maintenance	Yearly payments for maintenance of business operations. Exclude from this category all repair, maintenance, and emergency service support costs directly attributable to the system.
Parallel Operations	Expenditure needed for parallel operations or systems testing on a nonrecurring basis.
Personnel Salaries and Fringe	Yearly allocated costs for personnel who perform Benefits functions to be supported by the new system. This should include all organizational units and sites whose operations will change as a result of the system.
Residual Value	The salvage value of the entire system at the conclusion of its life cycle.
Security	Yearly costs to provide system security and integrity. Include in this category security monitoring systems, alarm systems, camera and voice recording and storage systems, lock and pass key systems, and security personnel costs.

Software - Nonrecurring	Total dollar expenditure of software to make the fully configured and installed system operable at its inception. Include in this category all system software packages, off-the-shelf software, and custom software, site or network license, and all original software programming and development costs. Important: do not include software conversion or upgrade costs here; instead, include these in conversion costs.
Software Lease or Rental - Recurring	Yearly payments for system software lease or rental. Include in this category all system software packages, off-the-shelf software, and custom software, site or network license, and all original software maintenance costs.
Studies	Total expenditure for studies necessary to implement this system alternative.
Supplies	Yearly payments for supplies to operations other than those associated with the new system.
System Testing and Backup	Recurring costs to test reliability and integrity of system in operation, including costs for memory back-up. This does not include costs for nonrecurring start-up and installation testing.
Training	Recurring training costs associated with routine business operations, e.g., training aimed at improving supervisory skills. Exclude costs for training associated with the new system.
Travel	Yearly travel expenses incurred in the normal course of business operations. Exclude any travel costs that are associated with the new system. Include train, bus, taxi, and airline tickets, gas, mileage and toll charges and auto rental expenses.
Useful System Life	Forecast of the planned useful system life from the first month of system implementation.
Utilities	Yearly payments for costs of utilities allocated to business operations other than the new system.

10. Benefit-Cost Model Worksheets

The development of GSA's benefit-cost analyses is supported by a series of structured worksheets. The worksheets presented on the following pages are contained in an automated benefit-cost model that links values across spreadsheets and performs all required calculations. This application is available through the Center for IT Capital Planning in the Office of the CIO.

BUSINESS OPERATION COSTS ***WITH*** NEW IT/SYSTEM							
COST FACTOR	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Total**
Personnel Salaries and Fringe Benefits							$0
Supplies							$0
Equipment							$0
Facility Space Occupancy							$0
Utilities							$0
Maintenance							$0
Travel							$0
Training							$0
Incidentals							$0
Inter-Agency							$0
							$0
							$0
							$0
							$0
Total Business Operation Costs With IT/System	$0	$0	$0	$0	$0	$0	$0

BUSINESS OPERATION COSTS ***WITHOUT*** NEW IT/SYSTEM							
COST FACTOR	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Total**
Personnel Salaries and Fringe Benefits							$0
Supplies							$0
Equipment							$0
Facility Space Occupancy							$0
Utilities							$0
Maintenance							$0
Travel							$0
Training							$0
Incidentals							$0
Inter-Agency							$0
							$0
							$0
							$0
							$0
							$0
Total Business Operation Costs Without IT/System	$0	$0	$0	$0	$0	$0	$0

NON-RECURRING COSTS OF ***NEW*** SYSTEM							
COST FACTOR	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Total**
Conversion Costs							$0
Hardware							$0
Software (Purchase)							$0
Software Development							$0
Communications							$0
Contracting							$0
Travel							$0
Training							$0
Studies							$0
Parallel Operations and Testing							$0
Incidental Expenses and Overhead							$0
Residual Value of Old System							$0
Residual Value of New System							$0
							$0
							$0
							$0
							$0
							$0
Total Non-Recurring Costs of New IT/System	$0	$0	$0	$0	$0	$0	$0

RECURRING COSTS OF ***NEW*** SYSTEM							
COST FACTOR	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Total**
Parallel Operations							$0
Hardware Lease or Rental							$0
Communications							$0
Other Equipment							$0
Facility Space Occupancy							$0
Utilities							$0
Software Maintenance							$0
Maintenance							$0
Supplies							$0
Personnel Salaries and Fringe Benefits							$0
Security							$0
Travel							$0
Training							$0
Incidental Expenses							$0
Timesharing							$0
Inter-Agency Services							$0
							$0
							$0
							$0
							$0
Total Recurring Costs of New IT/System	$0	$0	$0	$0	$0	$0	$0

COSTS TO CONTINUE ***OLD*** IT/SYSTEM							
COST FACTOR	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Total**
Parallel Operations							$0
Hardware Lease or Rental							$0
Communications							$0
Other Equipment							$0
Facility Space Occupancy							$0
Utilities							$0
Software Maintenance							$0
Maintenance							$0
Supplies							$0
Personnel Salaries and Fringe Benefits							$0
Security							$0
Travel							$0
Training							$0
Incidental Expenses							$0
Timesharing							$0
Inter-Agency							$0
							$0
							$0
							$0
							$0
Costs to Continue Old IT/System	$0	$0	$0	$0	$0	$0	$0

COST AND BENEFIT SUMMARY							
COST FACTOR	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Total**
Business Savings (a)							
Business Costs Without New IT/System							
Business Costs With New IT/System							
Business Savings							
Present Value Factor (based on 7% discount factor) **	0.9346	0.8734	0.8163	0.7629	0.7130	0.6663	
Present Value Of Business Savings							
New System Costs							
Non-Recurring Costs Of New IT/System							
Recurring Costs Of New IT/System							
Total New System Costs							
Net System Costs (b)							
Total New IT/System Costs							
Costs To Continue Old IT/System							
Net IT/System Costs							
Present Value Factor**	0.9346	0.8734	0.8163	0.7629	0.7130	0.6663	
Present Value of Net IT/System Costs							
Net Present Value (of Benefits) (c)							
Present Value of Business Savings (a)							
Present Value Of Net IT/System Costs (b)							
Net Present Value (of benefits)(a-b)							
Present Value Benefit-Cost Ratio							
Present Value Of Benefits (c)							
Present Value Of Net IT/System Costs (b)							
Present Value Benefit-Cost Ratio							

c/b

** Present value factor must be consistent and checked with the discount rates and guidance provided ***in the most current version of OMB Circular A-94.***

a, b, and c and calculations are defined in paragraph 7, Figure 1, of this Appendix.

COST/BENEFIT OVERVIEW							
COST FACTOR	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Total**
Present Value Of Business Savings (a)							$0
Total New System Costs							$0
Present Value Net System Costs (b)							$0
Net Present Value (of Benefits) (c)							
Present Value Benefit-Cost Ratio (c/b)							

** Present value factor must be consistent and checked with the discount rates and guidance provided in the most current version of OMB Circular A-94 a, b, and c and calculations are defined in Figure 1 (in paragraph 7) of this Appendix.

11. BCA Documentation Requirements

At a minimum the documented output from the BCA process should provide the following information:

- Business/program goals/objectives stemming from the GSA Strategic and the S/SO performance plans as they relate to the project/investment and functional requirements/needs analysis
- Assumptions, including constraints
- Alternatives considered, including results of market research
- Cost analysis for each alternative (including computations and methods used to develop estimates and encompassing planning, development/acquisition, operation and maintenance, and disposal costs)
- Benefit Analysis (including a description of the benefits expressed in quantifiable terms wherever possible and methods used for quantifying and monetizing benefits)
- *Comparison of alternatives (to include results of quantitative and qualitative evaluation methodologies used and* conclusion and recommendation (to include recommended alternative and summary of rationale for selecting it*) - at a minimum quantitative evaluations should calculate the net present value (NPV) and benefit-cost ratio (BCR) of each alternative.* ***The quantitative information should be summarized in a format similar to the one shown below.***

The initiative Resource Library Documentation Set provides the ability to collect and maintain these documents within I-TIPS. See User Guide, Section 5.

ALTERNATIVE	NET PRESENT VALUE (NPV)	BENEFIT COST RATIO (BCR)	RETURN ON INVEST-MENT (ROI)	PAYBACK PERIOD	TOTAL COST ($)	TOTAL BENEFIT ($)
1						
2						
3						
4						
5						

- *Cost, schedule and performance goals and measures to be used to monitor project progress and performance on an annual basis.*

- *Risk Analysis and Risk Management Plan that describes 1) the types, probability and impact of risks pertinent to the project - including that funding requests will not be approved in their entirety, and 2) Plans for how to treat and mange the risk, to include how to respond to lower funding.*

Appendix 6

Capital Planning and IT Investment Integrated Project Team Charter

Mission Statement: An Integrated Project Team (IPT) is formed to provide project management for major GSA Information Technology (IT) Projects. The mission of the IPT is to provide the leadership needed to insure the success of the project.

Objective: The objective of the IPT is to increase the probability of project success by providing adequate project planning and guidance. The duties of the IPT include:

- Assisting the project development office with project definition, funding justification, fulfilling reporting required by the Capital Planning Process and project documentation;
- Ensuring that the project has a defined business objective and quantifiable business related performance goals and measures;
- Ensuring the adequacy of the IT development methodology used for the project;
- Evaluating the adequacy of project documentation; and;
- Monitoring the progress of the project and reporting project status to the project sponsors, the Office of the Chief Information Officer (CIO) and the Information Technology Council (ITC).

Resources/Constraints: Management will support the IPT by providing needed resources. This includes providing expert analysts (IT and subject-matter), professional facilitation, training, and advice as necessary for the proper functioning of the team. Other resources required may be negotiated as the need arises.

The success of the IPT will be predicated on the expertise and dedication of its members.

Team: The IPT is lead by a Project Leader and includes representatives from the project's staff, the user community, and the CIO Office planning and systems analysis teams, and the S/SO IT planning representative. If a project involves a procurement the IPT will include procurement specialists. The IPT may include additional personnel as needed such as financial analysts, IT experts, or communications experts. The S/SO ITC member is the controlling authority of the IPT who ensures the completion of the necessary analyses and documentation and reviews capital planning documentation. Funding decisions will be coordinated with the Office of Budget.

Team Duration: The IPT is formed and will exist from project inception through Post Implementation Review for a development project. An IPT formed for a special project or to evaluate an operational system will exist until a final report is submitted and accepted by the sponsors.

Project sponsor signature _____ Date:

Project manager/team leader signature _____ Date:

List of IPT Members

Member Name	Organization	Phone Number

Appendix 7

Life Cycle Phases and Required Documentation and Plans

Project Life Cycle Phase	Required Analyses Documentation and Plans	References and Requirements
Planning This phase includes: - forming an IPT - analyzing requirements - analyzing alternatives to include costs and benefits - acquisition planning	1. Baseline Assessment and Statement of Need (Existing resource baseline, IPT formation, Performance Gap Discussed).	OMB-CPG, pp 5-6, OMB-A-11-300B, II.B GSA Information Architecture, IT Plan systems catalog, GSA- CPG (IPT charter)
	2. Functional Requirements/ Analysis (to be achieved to bridge performance gap)	OMB-CPG, pp. 6-7, GSA-CPG Ch. 2, 3.
	3. Alternatives Analysis (3 pesky questions answered)	OMB-CPG, pp. 7-12, GSA-CPG Ch. 2, 3
	4. Feasibility Analysis and Market Research	OMB-CPG, pp. 10, 11, GSA-CPG, Ch 2, 3
	5. Benefits-Cost Analysis (including Risk and Sensitivity Analysis)	OMB-CPG, pp7-8, GAO Guide, pp 23-51 OMB-A-11-300B, II.A GSA-CPG Ch. 2, 3, Appx. 6
	6. Security Evaluation/Risk Assessment	OMB-A-130
	7. Project Plan (Specifies Cost/budget and Schedule Baseline, deliverables, critical path decision points, to include testing).	OMB-A-11-300B, III.C GAO Guide, p. 21 GSA-CPG, Ch. 6, Appx.9
	8. Preliminary Acquisition Plan (Part 1)/Acquisition Strategy (included in PSW)	OMB-CPG, pp. 13-15, GSA-CPG, Ch 3, PSW FAR Part 7
	9. QA Plan (Performance Goals/Measures Baseline)	OMB-A-11-300.B.III.C GSA-CPG, Ch. 6, Appx.9
	10. Description of Performance Based Management System for monitoring and measuring performance.	OMB-CPG, pp.15, 53, OMB-A-11-300.B.III.A
	11. Risk Management Plan	OMB-CPG, pp. 13, 15, 22, GSA-CPG Ch. 3, Appx. 6
	12. Project Summary Information (I-TIPS Select, Control and Evaluate) (includes business case justification, performance goals/measures, IT portfolio scoring and other information required by laws, GAO Guide, OMB Guides and A-11)	Clinger-Cohen Act, OMB-CPG pp. 16-17 OMB-A-11 GAO Guide, p. 23-25, 39-51 GSA-CPG, Appx. 1
	13. Other	Other Federal or GSA regulations

Project Life Cycle Phase	Required Analyses Documentation and Plans	References and Requirements
Acquisition/Development This phase includes: - Awarding a contract - Designing a system - Coding software - Testing	1. Detailed Acquisition Plan (Part 2)	OMB-CPG, pp.13-15 OMB-A-11, 300B.II.C and IIIA, C GSA-CPG, Ch. 3 FAR Part 7
	2. Performance Based Statement of Work	OMB-A-11, 300B.II.C and IIIA OMB Memorandum M-94-21, Performance Based Service Contracting OMB Policy Letter 91-2, Service Contracting
	3. Security Plan	Computer Security Act
	4. Plans for Assets/IT investment in Use (Operational Analysis, Operational Plan and Disposal Plan)	OMB-CPG, p.15, 51-55
	5. Systems design documentation	GAO Guide, p. 21
	6. Test plans and results (including of security controls)	OMB-A-11, 300A, A.6.
	7. Other	Other Federal or GSA regulations
Deployment This phase includes: - Installation - Training - User Acceptance Testing	1. Contingency Plan Certification and Accreditation statements	Computer Security Act, A-130
	1. Other	Other Federal or GSA regulations
Steady State - This phase includes: - Operation - Maintenance - Disposal	1. Post-Implementation Review 2. Updated security documentation	OMB-CPG p. 53 GAO Guide p. 70 GSA-CPG, Ch. 6, App. 9 Computer Security Act and OMB-A-130
	1. Other	Other Federal or GSA regulations

The complete set of required documentation is collected within the initiative Resource Library Documentation Set. See I-TIPS User Guide, Section 5.

Legend:
OMB-CPG: OMB Capital Programming Guide, July 1997
OMB-A-11-300: OMB Circular A-11, Part 3, Planning, Budgeting and Acquisition of Capital Assets.
GAO Guide: Assessing Risks and Returns, a Guide for Evaluating Federal Agencies' IT Investment Decision Making, February 1997
GSA-CPG: GSA Capital Planning and IT Investment Guide
PSW: Project Summary Worksheet (Appendix 1)

IT Project Control and Evaluate Process

RETURN ON INVESTMENT

The Office of Management and Budget (OMB) requires all federal agencies to show how they are investing their information technology (IT) dollars and what the federal government receives in return for this investment. An IT project that cannot be justified through sound project management performance and measurable outcomes will jeopardize continued funding.

An Integrated Project Team (IPT) is chartered by the project sponsors to provide project management for a major GSA IT project. The sections contained in this appendix are designed to assist the IPT in providing the leadership needed to insure the success of an IT project. These sections also provide the basis for reporting a project's status to project sponsors, the Office of the Chief Information Officer (CIO), the Information Technology Council (ITC), the Council of Governors (CoG), and the Business Technology Council (BTC).

CONTROL AND EVALUATE

This appendix contains sections for the Control and Evaluate process. These sections and contents are as follows:

- Section 1 – Control Process

  A. Overview
  B. Process Flow
  C. Process Description
     1. Step 1 – Input Control Screening Criteria Information
     2. Step 2 – Input Control Cost and Schedule Information
     3. Step 3 – Perform Investment Review
     4. Step 4 – Prepare for ITC/CoG
     5. Step 5 – ITC/CoG Review Investments

- Section 2 – Evaluate Process

  A. Overview
  B. Process Flow
  C. Process Description
     1. Step 1 – Charter PIR team
     2. Step 2 – Review Post Implementation Assessment Criteria
     3. Step 3 – Conduct User Satisfaction Survey
     4. Step 4 – Review and Evaluate Project Information
     5. Step 5 – Update Financial Information & Performance Measures
     6. Step 6 – Feeding Lessons Learned Back Into Selection and Control Phases

SECTION 1 - CONTROL PROCESS

A. OVERVIEW

The purpose of the Capital Planning Control Process is to provide decision-makers such as senior managers, project managers, and IPT members with IT investment information about projects throughout the agency. Senior managers are provided with a global snapshot of GSA's total value on IT investments to assist them in making informed choices that impact the overall business of GSA as an enterprise. Project managers and IPT members develop detailed project milestones to assist them in investing, controlling, and implementing individual projects.

The assessment and management of GSA IT investment's total value is based on many factors, including those measured in units other than dollars or other conventional forms of measure. The Control Process allows decision-makers to recognize that IT investments have an extensive impact on the entire organization and its customers. Financial measurements alone are seldom sufficient to support decisions with long-term enterprise impact. Decision-makers must consider the financial return on IT investment in relationship to other factors such as risk, feasibility, and long term goals that impact the overall mission and business processes of GSA.

The Control Process furnishes the means to successfully maintain IT investment decision-making and management by supplying senior managers, project managers, and IPTs with the following information:

- An enterprise view of GSA's total value on IT investments;
- Evaluation of IT investment outcomes;
- Comparison of expected costs and benefits to actual results;
- Project implementation schedules, and any deviations;
- Contractor resources being utilized, and potential resource constraints;
- Training requirements and timeframes, reflecting regional impacts;
- Identification of security overlaps between applications;
- Identification of project cost deviations.

B. PROCESS FLOW

The Control Process of the IT Capital Planning and Investment process requires the continuous monitoring of ongoing IT initiatives through their development or acquisition life cycle up to the point of deployment and operation. At that point, the initiative will enter the Evaluate Process and undergo a Post Implementation Review.

During this process, the IPT will gather all necessary documentation to monitor and review the initiative and then update the information in the I-TIPS system.

A high level outline of GSA's IT Capital Planning and Investment Control Process is presented in the flowchart in Figure 9.12. Detailed information for each step of the control process is contained in the process description.

C. PROCESS DESCRIPTION

Step 1 – Input Control Screening Criteria Information

PURPOSE: The purpose of the Input Control Screening Criteria information is to ensure that when projects are compared against one another the information is current and up to date for project managers to make informed choices. There are four steps in this process:

a) REVIEW CONTROL SCREENING INFORMATION
b) REVIEW LIFE CYCLE COST INFORMATION
c) REVIEW DOCUMENTATION; AND
d) REVIEW PROJECT RISKS.

a) Review Control Screening Information

PURPOSE: The Control Screening menu provides the IPT with a checklist of items to be considered when completing a revision. The steps laid out in this section are critical to assisting the project managers in comparing projects and are incorporated in the Control Screening menu. The IPT should periodically review the Control Screening menu to see if there are any additional tasks to be performed.

I-TIPS Steps for Control Screening Information:

1. Using your login and password to access I-TIPS, open your project's folder;
2. Under **Investment Manager** open the most recent Revision;
3. Select **Control Information**;
4. Select **Control Screening Information**;
5. Select **Add Screening Information**.

CONTROL SCREENING CHECKLIST

- ☐ Chartered an Integrated Project Team
- ☐ Identified current risks (if any)
- ☐ Updated documentation
- ☐ Updated cost and schedule information

Figure 9.1 Control Screening Checklist

b) Review Life Cycle Cost Information

PURPOSE: The purpose of reviewing the information in the Life Cycle Cost section in I-TIPS is to ensure that all costs are still valid and to assist in filling out the Control Cost and Schedule section. The costs in the Life Cycle Cost section are sent to OMB once a year around March. Periodic checking and updating this information will avoid any last minute rush in gathering this information. The life cycle cost information should reflect a realistic identification of all support and operational costs. Figure 9.2 illustrates a Life Cycle Cost chart in I-TIPS.

I-TIPS Steps for Life Cycle Cost Information:

1. Using your login and password to access I-TIPS, open your project's folder;
2. Open **Revision Number 1** folder;
3. Under **Investment Manager** open the most recent Revision;
4. Open **General Information** folder;
5. Open **Financial Information** folder;
6. Open **Life Cycle Cost Information** folder.

LIFE CYCLE COST INFORMATION

($ in thousands)

Life Cycle Cost Name/Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
(D/M/E) Agency Infrastructure:	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(D/M/E) Equipment:	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(D/M/E) FAST Program:	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(D/M/E) IT Solutions:	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(D/M/E) Other:	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(D/M/E) Other Agency Payments:	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(D/M/E) Personnel:	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(D/M/E) Services:	$0	$0	$2,000	$3,110	$0	$0	$0	$0	$0	$0
(D/M/E) Software:	$0	$0	$0	$282	$0	$0	$0	$0	$0	$0
(D/M/E) Supplies:	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(D/M/E) Support Services:	$0	$0	$0	$864	$1,200	$200	$100	$0	$0	$0
(D/M/E) Telecommunications:	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(D/M/E) Training Costs:	$0	$0	$0	$277	$0	$750	$250	$0	$0	$0
(SS) Agency Infrastructure:	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(SS) Equipment:	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(SS) FAST Program:	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(SS) IT Solutions:	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(SS) Other:	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(SS) Other Agency Payments:	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(SS) Personnel:	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(SS) Services:	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(SS) Software:	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(SS) Supplies:	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(SS) Support Services:	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(SS) Telecommunications:	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(SS)Seat Management:	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(SS)Training Costs:	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Totals	**$ 0**	**$ 0**	**$2,000**	**$4,533**	**$1,200**	**$ 950**	**$ 350**	**$ 0**	**$ 0**	**$2006**

Figure 9.2 Life Cycle Cost Information

Review Process: The **Life Cycle Cost Checklist** provided in Figure 9.3 may be useful in identifying all support and operational costs entered in the Life Cycle Cost section.

LIFE CYCLE COST CHECKLIST

☐ **HARDWARE/EQUIPMENT (PURCHASE AND LEASE)**

- Client desktop workstations, laptops, and peripherals
- Servers; local workgroup and enterprise servers
- Communications hardware (hubs, routers, bridges, switches)
- Power protection devices
- Memory upgrades
- Off-line storage devices
- Network cabling
- Network interface cards
- Lab or test equipment (% of use dedicated to specific project)
- Network upgrades
- Auxiliary furnishings (printer stands, etc.)

☐ **SOFTWARE**

- Purchased COTS applications
- Periodic COTS license fees
- Desktop/workgroup software
- Network operating systems
- Application development tools
- Network and systems management applications
- Help desk tools for management
- Contractor supplied development and maintenance

☐ **LABOR (FULLY BURDENED)**

- Installation costs
- Maintenance
- In-house development and modification
- Requirements development/documentation
- Testing
- System and network administration/management
- Help desk support
- Acquisition/contracting
- Procedures development
- IT staff training and education
- End-user training
- Supplemental staffing
- Data maintenance
- Research and planning

☐ **INFRASTRUCTURE**

- Upgrades or additions to telecommunications backbone
- Upgrades to power lines

☐ **MISCELLANEOUS**

- Contractor costs
- Data storage costs
- Supplies (diskettes, toner, printer ribbons, paper, etc.)
- Facilities costs (system-related floor space and utilities costs)
- Consultants

Figure 9.3 Life Cycle Cost Checklist

c) Review Documentation

PURPOSE: The purpose of reviewing the following checklist is to ensure that all documents are available in I-TIPS to assist in filling out the Control Cost and Schedule section. I-TIPS provides a documentation library so all project documentation may be kept in one location. The IPT reviews project documentation on a periodic basis for completeness and accuracy. As documentation is completed, it should be entered into I-TIPS by the IPT.

OMB requires specific documentation for each project. I-TIPS allows the project manager the capability to attach this documentation electronically. However, not all projects need each of these documents. Also some of these documents may exist as pieces of other documents.

The IPT will determine what documents are required at the beginning of the project. It is important that the information required by OMB is included in project documents. A summary of each document and the required information is listed in the **Documentation Checklist.**

I-TIPS Steps for Documentation

1. Using your login and password to access I-TIPS, open your project's folder;
2. Under **Investment Manager** open the most recent Revision;
3. On the left hand side of the screen select **Resource Library**;
4. Select **Documentation Set**;
5. Select the appropriate phase your project is in, either **Planning**, **Acquisition and Development**, **Deployment**, or **Steady State**;
6. Select the document you would like to enter or review.

Review Process: The **Documentation Checklist** provided in Figure 9.4 may be useful in identifying OMB documentation requirements.

DOCUMENTATION CHECKLIST

☐ **ALTERNATIVES ANALYSIS:**

- Answer the ***Three Pesky Questions.***

1) Does the investment in a major capital asset support core/priority mission functions that need to be performed by the Federal Government?

2) Does the investment need to be undertaken by the requesting agency because no alternative private sector or government source can better support the function?

3) Does the investment support work processes that have been simplified or otherwise redesigned to reduce cost, improve effectiveness, and make maximum use of commercial, off-the-self technology?

☐ **PROJECT PLAN:**

- Major milestones with schedule
- Deliverables
- Critical path decision points
- Resources
- Integrated Project Team

☐ **ACQUISITION PLAN – PART ONE:**

- Statement of need
- Significant conditions affecting acquisition
- Capability or performance
- Tradeoffs
- Risks
- Modular contracting

☐ **BASELINE ASSESSMENT AND STATEMENT OF NEED:**

- Baseline assessment criteria
- Functionality
- Full life cycle cost
- Expected funding levels cost
- Security Plan
- Capacity to manage asset
- Existing resource baseline
- Performance gap

☐ **BENEFITS COST ANALYSIS (BCA):**

- Assumptions and constraints
- Alternatives and their schedule, costs, and benefits
- Risk and sensitivity analysis
- Performance goals and measures for monitoring the project

☐ **FEASIBILITY ANALYSIS AND MARKET RESEARCH:**

- Feasibility:
  - Availability
  - Affordable
  - Cost & Benefits
- Market Research:
  - Availability of commercial items to meet the need, and whether they require modification
  - Distribution and support capabilities of suppliers

☐ **FUNCTIONAL REQUIREMENTS ANALYSIS:**

- Performance criteria, goal, or ultimate output
- Definition of the common uses of the IT investment
- Ranking of each requirement in order of importance
- Decomposition of functional requirements into self-contained features
- Requirements should be described in terms of:
  - Business outcome
  - Purpose
  - S/SO program components involved
  - Operating constraints
  - Mission
  - Capability
  - Schedule and cost objectives

☐ **QA PLAN:**

- Life cycle process
- Periodic independent review

☐ **RISK MANAGEMENT PLAN:**

- Risks including costs, schedule and technical
- Potential risks

Figure 9.4 Documentation Checklist

DOCUMENTATION CHECKLIST (CONT.)

☐ **SECURITY PLAN:**

- Government information protected from misuse, loss and unauthorized access
- Security responsibilities assigned
- Systems security plan reviewed by security specialist
- Rules of the system
- Training issues
- Incident response capabilities
- Interconnectivity security addressed
- Security controls reviewed

☐ **ACQUISITION PLAN - PART TWO:**

- Source of supply
- Competition description
- Source selection procurement
- Contracting consideration
- Budgeting and funding
- Product description
- Priorities
- Contractor vs. Government preference
- Performance Management System
- Test and evaluation
- Logistics considerations
- Indicate Government furnished property
- Indicate Government furnished information

☐ **PLANS FOR ASSETS / IT INVESTMENTS:**

- Operational analysis
- Steady State Plan
- Schedule Post Implementation Review
- Asset Disposal Plan

☐ **DISASTER/RECOVERY AND CONTINGENCY PLAN:**

- Strategy for mission performance and recovery from loss of existing support
- Plans for continuous testing of the system

☐ **POST IMPLEMENTATION REVIEW:**

- System reviewed and documented on a regular basis
- PIR conducted by an independent evaluation team
- Customer user satisfaction reviewed
- Internal business reviewed
- Strategic impact and effectiveness reviewed
- Innovation reviewed

Figure 9.4 Documentation Checklist (cont.)

d) Review Project Risks

PURPOSE: The purpose of identifying any risks that may impact the project or other projects is to provide the project manager, IPT, ITC, and CoG a means to monitor detail information about any potential areas of conflict. A sound investment selection requires planning for risk. IT investments can be subjected to many risk factors, both external and internal. A repeatable risk management process can help GSA reduce avert catastrophes on IT investments.

Risk management is an organized method for identifying and measuring risk and developing, selecting, and managing options for handling these risks. In order to have the greatest impact on the IT project at hand, the following steps taken from the Federal CIO Council, Capital Planning and IT Investment Guide can be useful:

- Identify all potential risk areas
- Quantify identified risks
- Evaluate risks
- Proactive and reactive risk mitigation

I-TIPS Steps for Projects Risk:

1. Using your login and password to access I-TIPS, open your project's folder;
2. Under **Investment Manager** open the most recent Revision;
3. Select **General Information**;
4. Select **Descriptive Information**;
5. Select **Edit**;
6. Enter your Risks under Risk Analysis.

Review Process: The following Project Risks Checklist in Figure 9.5 represents a sample of areas considered as potential risks that may inhibit a project's success.

PROJECT RISKS CHECKLIST

- ☐ **Strategic Risk**
  - Alignment with the agency's overall business strategy
  - Clarity of expression of anticipated project outcomes.
  - Presence of metrics to verify the successful completion of each project phase.

- ☐ **Financial Risk**
  - Size of expenditure required.
  - Existence of cost/benefit analysis.
  - Existence of defined payback and time frame of payback.
  - Reputation and financial status of vendor(s).

- ☐ **Project Management Risk**
  - Experience of project management teams
  - Existence of work plan for entire life cycle.
  - Degree of development of measurable milestones.
  - Length of time for project implementation.
  - Existence of system for tracking unresolved issues.
  - Definition of user and development skill requirements.

- ☐ **Technology Risk**
  - Plan for validating that user needs are met.
  - Existence of load test in accordance with industry standards
  - Evaluation of technology options.
  - Maintainability and ability to upgrade key technologies.
  - Vendor's ability to implement technology.

- ☐ **Security Risk**
  - Perform risk assessment.
  - Implement security controls.
  - Security training and awareness.
  - Contingency planning & disaster recovery.
  - Comply with security policy.

- ☐ **Change Management/Operational Risk**
  - Development of acceptance plan.
  - Experience and ability of existing staff to support new system.
  - Organization's familiarity with proposed hardware/software environment.
  - Development of system operating procedures.
  - Impact to organization of system failure.
  - Magnitude of change introduced by system.
  - Number of business units impacted.

Figure 9.5 Project Risks Checklist

Step 2 – Input Control Cost and Schedule Information

PURPOSE: The purpose of inputting Control Cost and Schedule Information is to track whether a major project is going to impact or be affected by another major project and to track the progress of all major projects.

I-TIPS Steps for Control Cost and Schedule Information:

1. Using your login and password to access I-TIPS, open your project's folder;
2. Under **Investment Manager** open the most recent Revision;
3. Select **Control Cost and Schedule Information**;
4. You may enter milestones or update cost and schedule information.

I-TIPS Review Process: Each of the major milestones identified in the initiative's Control Cost and Schedule Information folder in I-TIPS is tracked on a regularly scheduled basis by the IPT. This folder is shown in Figure 9.6.

By entering high-level milestone information, one project can be compared against other agency projects. Global information about all projects can be provided to project managers, IPTs, CIOs, ITC, and CoG. Comparing milestones of all agency projects will allow project managers to avoid conflicts with other initiatives and may result in cost savings.

For example, if three projects are planning on training users in Region A in the third quarter of 2002, reports generated by I-TIPS will identify potential areas of conflicts. Under further analysis project managers will be able to, in this case, determine 1) if the training can be merged to consolidate resources; 2) if the training impact on Region A would be so great as to require one of the projects to shift their training schedule; or 3) if training in one system should occur before another system.

To compare milestones, it is essential that they be descriptive and limited to a few high level milestones per year. Region A Training is more descriptive than Train Users. Likewise Region A Oracle Training is much more descriptive and will help in comparing projects.

In order to track the Control Cost and Schedule Information on a regular basis, an initial baseline must be developed and entered into the I-TIPS system. This baseline information should be established during the GSA Capital Planning and IT Investment Briefings as part of the Select process. The milestones planned for the next fiscal year should be identified along with the planned costs and schedule allowing the BTC to make an informed assessment of each investment. The baseline can be refined up until the beginning of the Fiscal Year when the baseline is locked and the scheduled tracking begins. At this point, the actual cost and schedule information is collected and compared against the planned cost and schedule estimates.

a) Initial Baseline:

The Initial Baseline phase is a process which is performed once as part of the project planning and Select process. This identifies the milestones, costs, and schedules that are planned for each project for the next fiscal year. It will be the basis of the Exhibit 300B that must be submitted to OMB each September.

The following information must be gathered for the initial baseline and is entered into the Control Cost and Schedule Information (Figure 9.6):

Description (Milestone). Identify one or more major event or milestone that is to be accomplished for the year. An event or milestone may be "Training Region 4, 5, and 6 in Oracle" or "Deploy HR System to Regions 1, 2, and 3". It is important to be as descriptive as possible. "Training Region 4, 5, and 6 in Oracle" tell far more than "Training Users" or "Training Users in Oracle".

Milestones may, but do not have to, expand the entire fiscal year. While it is understood that milestones sometimes do run over fiscal years, for accurate reporting purposes a milestone should be broken up to explain what is being accomplished by fiscal year.

Planned Start Date. Date the major milestone will start.

Planned End Date. Date the major milestone will end.

Planned Duration Hours. The total number of hours planned to be expended on the milestone.

Planned Cost (BCWS). Costs associated with this milestone. Planned costs should never exceed the total cost reported in the Life Cycle Cost Information.

When adding or editing main milestones, you can also elect to **"POST TO CALENDAR",** which will reflect the milestone data in a calendar summary format for that particular project. Additional project-related data can also be entered into the calendar format, without going through the milestone edit process.

b) Monthly and Quarterly Update:

Once the baseline is established and the fiscal year begins, the initiative enters the Control process and the regularly scheduled reviewing begins. Development/Maintenance/ and Enhancement (DM&E) projects are reviewed on a monthly basis and steady state projects are reviewed on a quarterly basis. The review focuses on capturing the actual costs and schedules for each milestone and estimating the level of completion for each milestone

During the review, the following information should be collected and entered into the Control Cost and Schedule information folder in the I-TIPS system.

Actual Start Date. If work on a milestone has begun since the last reporting date, the actual start date should be recorded in this field.

Actual End Date. If a milestone was completed since the last reporting date, the actual end date should be recorded in this field. This will reflect the true time frame that this milestone was completed and will be compared with the planned start and end dates to determine variances in the schedule.

Actual Duration in Hours. The number of hours expended on this milestone is recorded in this field.

% Complete. The project manager must assess the % complete for each of the milestones. This assessment should be gathered from the project management package or methodology that the project manager is using to manage and control the project

Actual Cost. The cumulative costs for each milestone should be reported. This will reflect the true costs for this milestone and will be compared with the planned costs to determine variances in the cost.

c) Calculated fields:

Once the information has been updated through the Initial Baseline and Update processes, the following fields are calculated by the I-TIPS system and updated into the Control Cost and Schedule information folder.

Once the information has been updated through the Initial Baseline and Update processes, the following fields are calculated by the I-TIPS system and updated into the Control Cost and Schedule information folder.

Planned Duration Days. The number of calendar days this milestone is planned to last. It reflects the difference between the planned start and end dates.

Actual Duration Days. The number of calendar days this milestone lasted. It reflects the difference between the actual start and end dates.

Target Schedule - Start Date. This will match the Actual Schedule - Start Date and will be used to calculate the Target Duration - Days and the Target Duration – Hours.

Target Schedule - End Date. If the milestone is less than 100% complete, this is the revised estimated target date that the milestone will be completed based on the percentage complete and the Target Duration - Days. If this milestone is 100% completed, this figure will match the Actual Schedule – End Date.

Target Duration - Days. If the milestone is less than 100% complete, this is the revised estimated duration of the milestone based on the percentage complete and the number of days already expended on this milestone. If this milestone is 100% complete, this figure will match the Actual Duration – Days.

Target Duration - Hours. If the milestone is less than 100% complete, this is the revised estimated number of hours that will be expended on this milestone based on the percentage complete and the number of hours already expended on this milestone. If this milestone is 100% complete, this figure will match the Actual Duration – Hours.

Earned Value. *Cost Information Earned Value (BCWP)*: The value of completed work expressed in terms of the budget assigned to that work. The determination of earned value depends on the type of effort used to measure the value of the milestone. There are a number of established methods to measure earned value, but the GSA Capital Planning process will use the "percent complete estimate" Earned Value measurement method for measuring milestone performance. This method allows for a monthly estimate of the percentage of completed work to be made by the individual in charge of the work package. These estimates are expressed as cumulative values against 100 percent of the milestone value. The Earned Value is then calculated by applying that percentage to the total budget for the work.

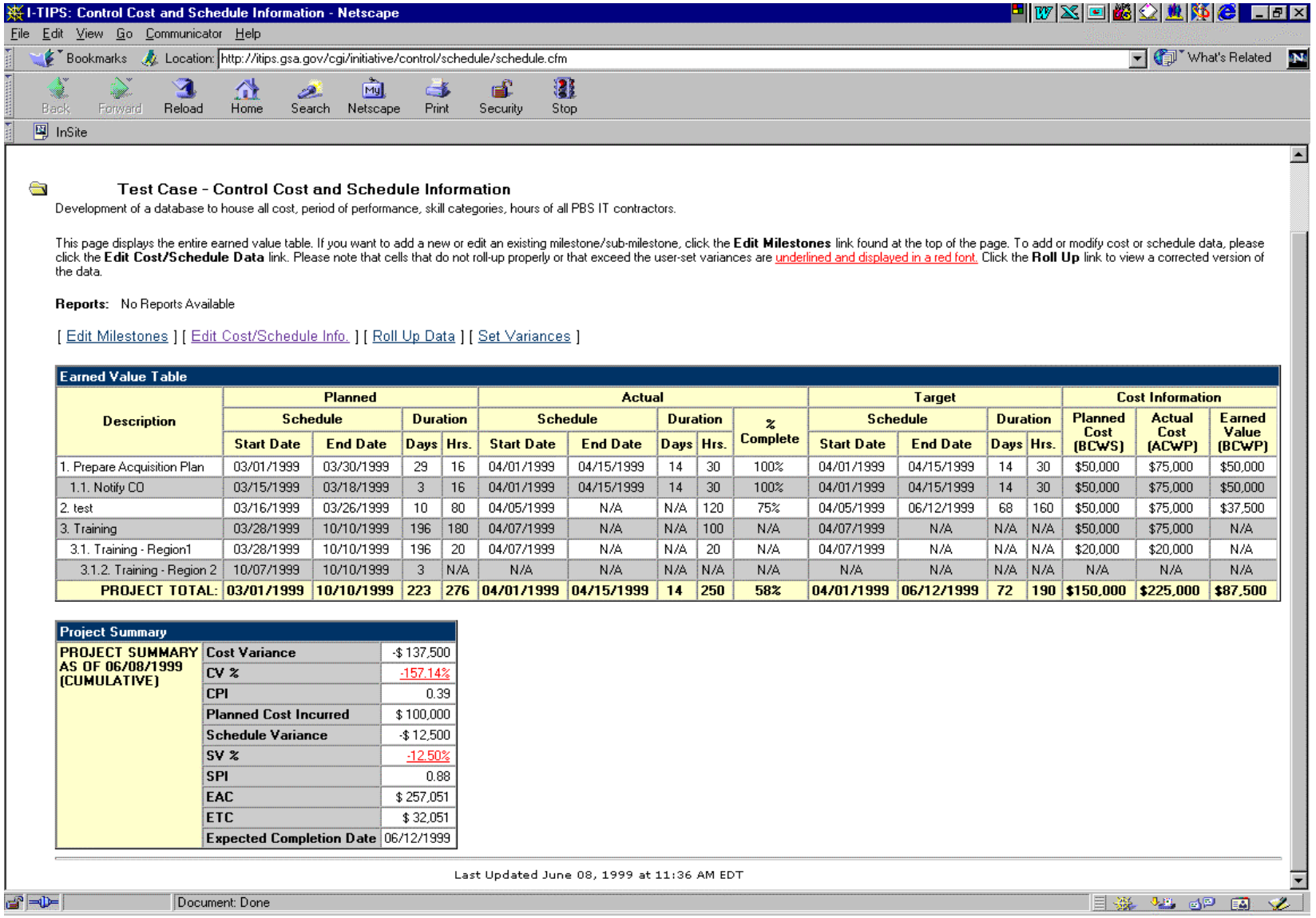


Figure 9.6 Control Cost and Schedule Information

Step 3 – Perform Investment Review

PURPOSE: The purpose of the Investment Review is to certify the information entered into I-TIPS and to mitigate milestone conflicts between the project and the rest of the service's projects.

I-TIPS STEPS FOR PERFORM INVESTMENT REVIEW:

1. Using your login and password to access I-TIPS, open your project's folder;
2. Under **Investment Manager** open the most recent Revision;
3. Select **Control Status**;
4. You may enter control information.

Review Process: The IPT should generate both the Major Milestone Cost and Schedule Report and the Project Impact Analysis Report. The Major Milestone Cost and Schedule Report shows milestone conflicts which may exists from one system to another within each service and provides detailed financial information about each system. This report is a service provided to the S/SO and project managers to control service systems. Figure 9.7 shows the Major Milestone Cost and Schedule Report.

The Project Impact Analysis Report identifies beneficiaries, contractors, security, and risks. The purpose of this report is to help identify any potential areas of conflicts that may affect system implementation. Figure 9.8 shows the Project Impact Analysis Report.

These reports will assist in identifying potential areas of improvement to the project plan or identify conflicts to be resolved. The IPT will be capable of comparing milestones, costs, risks, benefits, security and other issues between projects within the service.

For example, after comparing milestones between projects, three projects may identify training as a major milestone within the same quarter of the fiscal year. The IPT should investigate the various training that may be occurring. Some of the questions which it may wish to ask are; 1) What training is going to be provided? 2) Will regions be adversely affected?; 3) Can this training be consolidated and provide cost savings to the service?

The IPT needs to determine if corrective actions are required for this particular system or if changes may be required within another projects. If the project needs to be adjusted then, prior to going to the ITC/CoG, changes need to be adjusted in the Control Screening Criteria and the Control Cost and Schedule Information folder in I-TIPS. If another project should be adjusted then the IPT should coordinate with the other projects to ensure service goals are achieved.

SERVICE/PROJECT MANAGER REPORT - PROJECT MILESTONE COST AND SCHEDULE

Service Name:

Initiative (Project Name)	Major Milestone	Planned Start Date	Planned End Date	Actual Start Date	Actual End Date	Planned Cost	Actual Cost	% Complete	Schedule Variance	Cost Variance

Figure 9.7 Project Milestone Cost and Schedule

SERVICE/PROJECT MANAGER REPORT - PROJECT IMPACT ANALYSIS

Service Name:

Initiative (Project Name)	Major Milestone	Direct Beneficiaries	Contractors Being Used	IT Security Status	Risk Analysis

Figure 9.8 Project Impact Analysis

Step 4 – Prepare for ITC/CoG

Purpose: The purpose of this step is to provide the appropriate information to the S/SOs, ITC, and CoG to assist in their investment decisions.

Review Process: Once the information is entered into I-TIPS and certified by the IPT, the Office of the CIO will generate the appropriate reports for the ITC and CoG for their review. These reports will be provided to the service's CIO one week prior to being provided to the ITC and CoG to correct any outstanding issues.

Step 5 – ITC/CoG Reviews Investments

Purpose: The purpose of the ITC/CoG Investment Review is to insure conflicts between projects are minimized and agency investment objectives are achieved.

Review Process: The Office of the CIO will provide the ITC and CoG with information on the investment portfolio based upon I-TIPS through three reports; the Target Report, the Council Project Milestone Schedule Report, and the Council Project Data Sheet. The Target Report shows each project as it relates to other projects based upon their cost and schedule variances. Figure 9.9 shows the Target Report.

These reports assist in identifying investment needs or conflicts to be resolved between services. The ITC/CoG will compare milestones, costs, risks, benefits, security and other issues between projects across the agency.

For example, after comparing milestones between projects, three projects from different services may identify training as a major milestone within the same quarter of the fiscal year. The ITC/CoG will resolve conflicts that may exist among agency projects. Some of the questions which the ITC/CoG may wish to ask are; 1) What impact will one service milestones have on another service milestones?; 2) What security implications will the implementation of a project have on my projects?; or 3) Can some milestones be consolidated to provide cost savings to the agency and between services?

The ITC/CoG will determine if investment actions are required between services. If a project needs to be adjusted then the IPT will adjusted the Control Screening Criteria and the Control Cost and Schedule Information folder in I-TIPS and note the changes.

Project Target Report: The target report is a graphic representation of where each project rates in terms of the cost and schedule variances. It also shows how the project relates to other projects based on their variances. It is similar to the Priority Placement grid which integrates technical and strategic factor ratings in the Select phase outlined in chapter 5 of this document.

The percentage variances are calculated in the Project Summary table in the Control Cost and Schedule (Figure 9.6). The overall project's rating is determined by locating the intersection of the cost and schedule percentage variances. The cost variance percentages

are plotted on the vertical axis with negative values in the bottom half of the grid and positive values in the top half of the grid. The schedule variance percentages are plotted on the horizontal axis with negative values in the left half of the grid and positive values in the right half of the grid.

A negative cost variance means more was spent for the work accomplished than was planned (Over Cost) while a positive cost variance means that less was spent for the work accomplished (Under Cost). A negative schedule variance means less work was performed than planned (Behind Schedule) while a positive schedule variance means more work was performed than planned (Ahead Schedule). Ideally, the project should plot as close to the center of the grid as possible. This would indicate a project that is on cost and on schedule. Any large variances could indicate a project severely over cost, severely behind schedule or poor cost and schedule estimating.

Once all projects have been plotted on the grid, it will be easy to identify which projects are on target, slightly off target, or severely off target. Any projects within the smaller double-lined grid are projects that have cost and schedule variances between 1% and 5%. Any projects between the smaller double-lined grid and the larger double-lined grid are projects that have cost and schedule variances between 6% and 10%. Any projects outside of the larger double-lined grid are projects which have cost and schedule variances between greater than 10%. These are projects that require special monitoring and possible corrective action since OMB requires cost and/or schedule variances greater than 10%. This grid will also help in detecting agency-wide trends if a majority of projects are clustered together into one quadrant of the grid.

The following are several examples of projects with different variances and how they would plot on the grid (Figure 9.9):

Project #	***Project Name***	***Cost Variance %***	***Schedule Variance %***	
1	*Project A*	*+ 3%*	*+ 3%*	*Over Cost, Ahead Schedule*
2	*Project B*	*+ 6%*	*- 7%*	*Over Cost, Behind Schedule*
3	*Project C*	*+ 6%*	*- 2%*	*Over Cost, Behind Schedule*
4	*Project D*	*- 15%*	*+ 3%*	*Under Cost, Ahead Schedule*
5	*Project E*	*- 1%*	*- 1%*	*Under Cost, Behind Schedule*

PROJECT TARGET REPORT

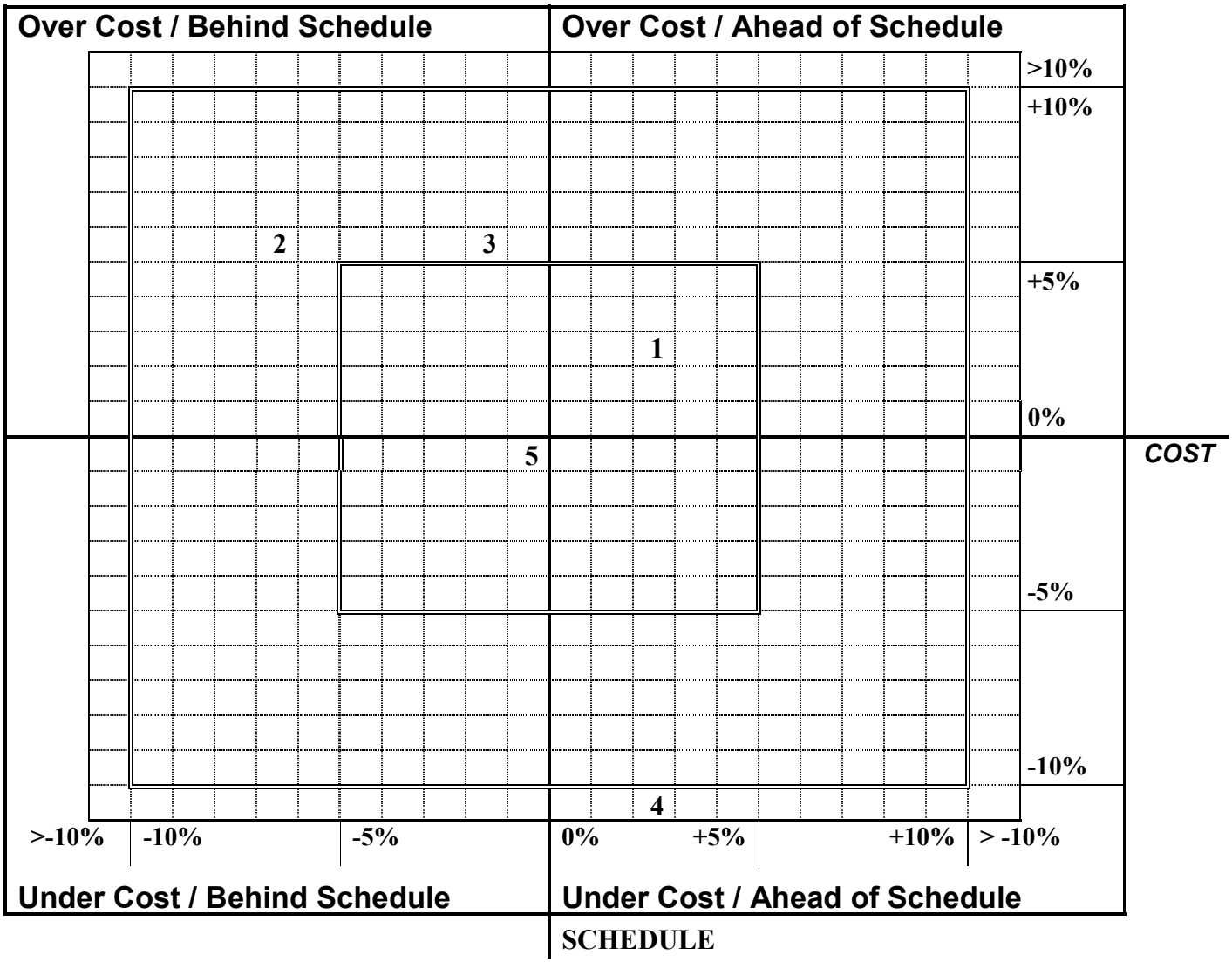


Figure 9.9 Project Target Report

The Project Milestone Schedule is provided to the ITC/CoG for identifying potential areas of conflicts that may exist between project milestones. Figure 9.10 shows the Council Project Milestone Schedule Report.

PROJECT MILESTONE SCHEDULE

Service/Staff Office	Initiative (Project Name)	Major Milestone	Planned Start Date	Planned End Date	Actual Start Date	Actual End Date
ZYX	Project A	1) Acquisition Plan	03/01/1999	03/30/1999	04/01/1999	04/15/1999
		2) Test	03/16/1999	03/26/1999	04/05/1999	N/A
		3) Training	03/28/1999	10/10/1999	04/07/1999	N/A
	Project B					

Figure 9.10 Council Project Milestone Schedule

Major Milestone. One or more major events or milestones that are to be accomplished.

Planned Start Date. The date when this milestone was scheduled to begin.

Planned End Date. The date when this milestone was scheduled to end.

Actual Start Date The date when this milestone actually began.

Actual End Date The date when this milestone actually ended.

The Project Data Sheet is provided to the ITC/CoG for identifying areas of risks and security issues that may exist within and between projects. Figure 9.11 shows the Council Project Data Sheet.

PROJECT DATA SHEET				
Service/Staff Office	Initiative (Project Name)	Major Milestone	IT Security Status	Risk Analysis
ZYX	Project A	1. Acquisition Plan		
		2. Test		
		3. Training		
	Project B			

Figure 9.11 Council Project Data Sheet

Major Milestone. One or more major events or milestones that are to be accomplished.

IT Security Status. Indicates the rating for IT Security. This is taken from the Initiative Code 3 field in the General Information folder in I-TIPS. The following are the possible levels:

> Level 4 - Essential Security processes and controls are in place and requirements are being adequately addressed.
>
> Level 3 – Essential Security processes and controls are in place and or being implemented and requirements are being addressed.
>
> Level 2 – Security requirements are being addressed but not all essential security processes or controls are in place.
>
> Level 1 – Few or no Security Requirements or Processes are in place.

Please refer to GSA/I-TIPS User guide for additional information.

Risk Analysis. Describes the risks associated with this project. This is taken from Risk Analysis field in the General Information folder in I-TIPS.

IT Capital Planning and Investment Control Process

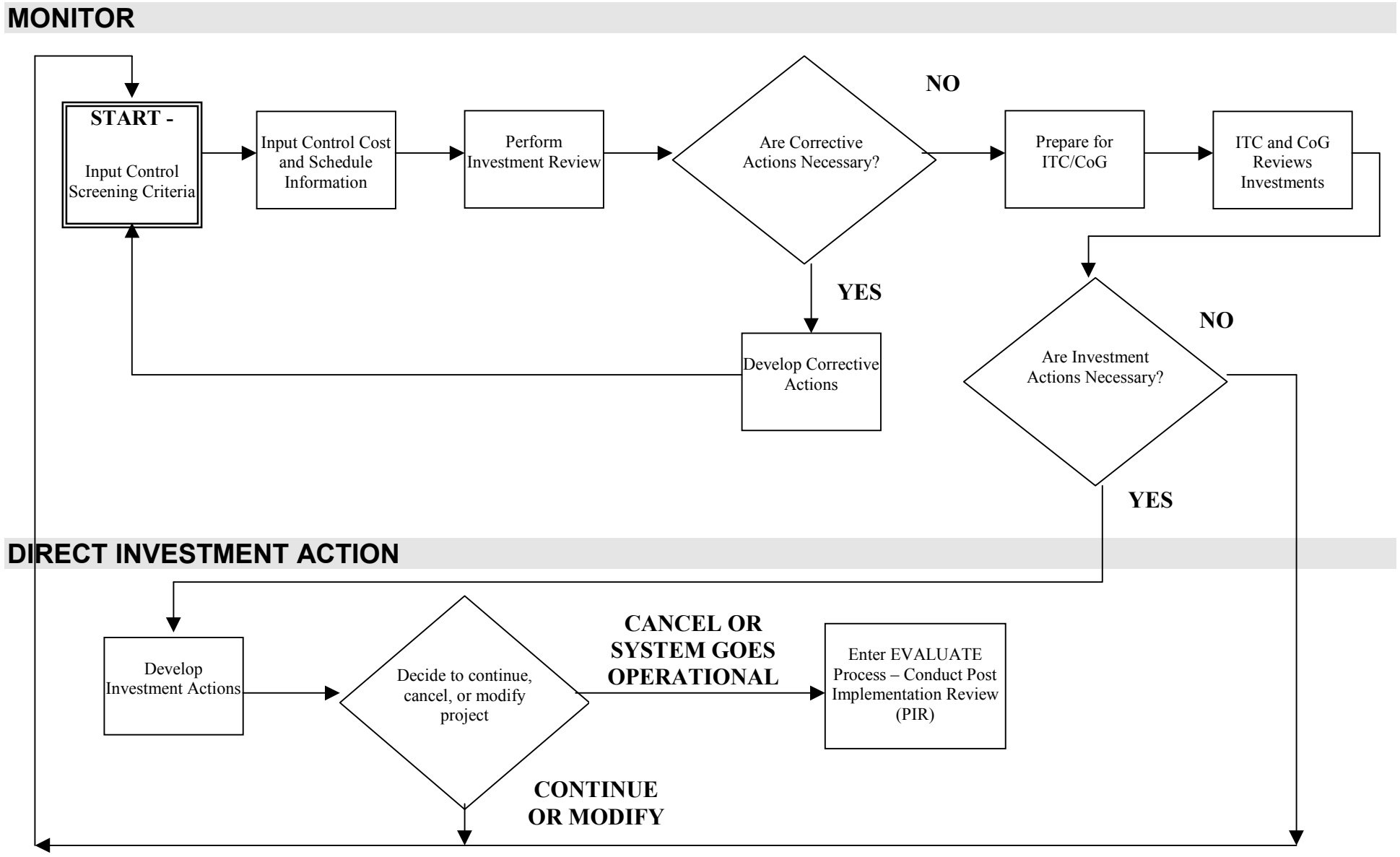


Figure 9.12 Control Process Flowchart

SECTION 2 - EVALUATE PROCESS

A. OVERVIEW

The Capital Planning and IT Investment Evaluate process "closes the loop" on the IT development effort by comparing the actual results against estimates in order to assess performance and identify areas where future decision-making can be improved. It also allows for sharing the development experiences of the just completed initiative with ongoing or new development initiatives. Lessons that are learned during the Evaluation phase shall be incorporated into future Selection and Control decisions.

The information used to evaluate the system is gathered in a Post-Implementation Review (PIR) which should be conducted once the project has reached a final end point (e.g., the project is fully implemented, the project has been cancelled, etc). The purpose of the review is to conduct an assessment of the implemented project and to forward the results to Senior Management.

Once the PIR has been completed, the HSSO or Regional Administrator (RA) who owns the system will have an opportunity to review all information collected by the PIR. Subsequently the ITC and the CoG will be briefed with the results of the review. The ITC and the CoG, along with the system owner, then decides whether to continue, modify, or cancel the operational system and will decide on any adjustments that must be made to the system. Adjustments should be carried out by the IPT, while the ITC and the CoG monitors the progress of such adjustments.

The final activity of the Evaluate phase provides lessons learned back into the investment Selection and Control phases so that they may significantly improve the chance of success of future projects and improve the investment management process. The system is then passed into the Control phase as a steady state project.

All of the data that has been analyzed as part of the PIR will be captured in a written document form and posted in the knowledge base (I-TIPS). Examples of the data that should be posted are:

- Customer surveys and interviews
- PIR results
- Documents
- Lessons Learned

This information will allow both positive and negative experiences to be shared with all of the other initiatives and improvements in the Capital Planning investment management and project management processes made.

B. PROCESS FLOW

The Control phase of the IT Capital Planning and Investment process requires the continuous monitoring of ongoing IT initiatives through their development or acquisition life cycle up to the point of deployment and operation. At that point, the initiative will enter the Evaluate phase and undergo a Post Implementation Review (PIR).

During this phase, the Integrated Project Team (IPT) will gather all necessary documentation to monitor and review the initiative and then update the information in the I-TIPS system.

A high level outline of GSA's IT Capital Planning and Investment Control Process is presented in the flowchart in Figure 9-19. The more detailed information for each of the processes is contained in the following sections.

C. PROCESS DESCRIPTION

The Post Implementation Review Report provides senior management with a snapshot view of a system that has recently become operational. This report is only generated one time for each system – upon completion of the Post Implementation Review. The intent is to provide an assessment of the implemented project and identify areas where future decision making on other projects can be improved.

The Post Implementation Review Report is designed to signal *potential* problems in seven areas that are deemed important by OMB, GAO and GSA. These areas are performance goals, business improvement, user support, user training, user documentation, outstanding issues, and process improvement. Items that are identified as potential trouble areas may receive special attention by senior management.

Based upon quantitative project measures, the project manager gives each area a green, yellow, or red indicator that is verified by the IPT and analyzed by the capital planning analysts. One red indicator for a project does not constitute a project in trouble, whereas multiple yellow indicators may. Senior management reviews the Post Implementation Review report and may request further information based upon their evaluation.

Completing Post Implementation Review Reports will provide a reference point measurement for other projects and will provide senior management the ability to identify trends within a project and within the Capital Planning and IT Investment process. If one project shows a consistent red under Cost, senior management can then drill down into the information and take corrective action. Multiple projects that show a consistent red under Cost may indicate a process problem (e.g. more training is required to help project managers better estimate IT costs).

Using the status information, the capital planning analysts develop the Post Implementation Review Report for briefing senior management at the Information Technology Council (ITC) and the Council of Governors (CoG). The evaluation criteria used by GSA for project evaluation follows.

Step 1 – Charter PIR team

It is highly recommended that the review be conducted by a group other than the integrated project team (IPT) which has been responsible for development of the system. This will ensure that it is conducted in an independent and objective manner.

Step 2 – Review Post Implementation Assessment Criteria

Purpose: This is an overall assessment of the completeness of topics that should be included in the Post Implementation review. The topics which should be assessed were gathered from several Post Implementation Reviews which have been conducted in GSA and also from Post Implementation Review guidance in GSA directive IRM 2170.1B (GSA Automated Information Systems (AIS) Quality Assurance Program). Figure 9-13 identifies the eight topics that should be examined in the PIR and a list of the criteria that should be addressed. The figure should be used as a checklist to identify whether key criteria was addressed or not in each of the eight topics. The results of the checklist will provide an assessment of the completeness of the topics and indicate any areas for improvement.

Review Process: The Post Implementation Review Assessment checklist provided in Figure 9.13 outlines areas to be evaluated as part of a complete PIR. Each topic must be documented with a summary of findings that support the conclusions and recommendations.

POST IMPLEMENTATION REVIEW ASSESSMENT CHECKLIST

☐ **Mission**

Determine whether the implemented system has achieved its proposed impact on the agency's business. The status of the following criteria needs to be analyzed:

1. Delivery of services or products.
2. Estimation of cost savings.
3. Compliance with the information technology architecture.
4. Evaluations of the information product.
5. Identification of additional maintenance and security.

☐ **System Description**

A specific description of the functions of the system need to be documented and an explanation of how this system contributes to the organizational mission should be included. The following are criteria used to assess the functional and task oriented information that should be included in the PIR documentation:

1. Have all hardware, software and necessary applications been documented?
2. Have all personnel requirements and geographical locations that provide input, receive output, or assist in system processing been identified?
3. Has the system's contribution to the agency mission been documented?

☐ **Change Control**

The change control process and procedures for the system should be documented and evaluated for efficiency. The following are criteria used to assess the change control information that should be included in the PIR documentation:

1. Has the number and severity of the changes made that have impact on the stability of the system been evaluated?
2. Has an assessment been made in describing the system's ability to respond to changing requirements?

☐ **Operation**

An analysis of the system operation, including hardware, and system and application software should be conducted and compared against those projected. Also, recommendations regarding system changes and redesign based on projected comparisons and operational problems needs to be documented. The following are criteria used to assess the operational information that should be included in the PIR documentation:

1. Has an analysis of the system operation, including hardware, and system application software been conducted and compared against those projected?
2. Have recommendations regarding system changes and redesign based on projected comparisons and operation problems been documented?

☐ **Security**

A security evaluation should be conducted to verify that the appropriate security requirements are documented and enforced. If problems are identified in this area, these should be outlined and corrective actions need to be identified. The following are criteria used to assess the security information that should be included in the PIR documentation:

1. Has a security evaluation been conducted and have the all security issues been identified and enforced?
2. Has there been an evaluation conducted to measure cost effectiveness?
3. Has there been an evaluation conducted to measure systems security measures?
4. Has there been an evaluation conducted to determine the effectiveness of PIR recommendations?
5. Have contingency plans been checked to ensure they are current, feasible and designed to mitigate loss?

Figure 9-13 Post Implementation Review Assessment Checklist

POST IMPLEMENTATION REVIEW ASSESSMENT CHECKLIST

☐ **Outputs**

The outputs of the new system reports, data, formats, etc. need to be compared to those, which were initially proposed. The impact of any changes on the initial design, geographic locations, or telecommunications factors should also be evaluated and documented. The following are criteria used to assess the output information that should be included in the PIR documentation:

1. Have the outputs of the new system reports been compared to those initially proposed?
2. Has the impact of any changes on the initial design, geographic locations, or telecommunications factors been evaluated and documented?

☐ **Documentation**

Any system documentation such as User's Guides, Operations Manuals, etc should be reviewed for completeness, accuracy, and timeliness. A list of all required documentation should be developed and kept up to date.

1. Has all systems documentation such as User's Guides, Operations Manuals, etc been reviewed for completeness, accuracy, and timeliness?
2. Has a list of all required documentation been developed and kept up to date?

☐ **Management**

A review of the support organization structure should be examined. The organizational structure and responsibilities as implemented should be compared against those documented during the project.

1. Has a review of the support organization structure been conducted?
2. Have the organizational structure and responsibilities as implemented been compared against those documented during the project?
3. Has the system ownership and individual authorities and responsibilities been verified and updated, as required?
4. Have all areas where there is conflicting, unidentifiable or inappropriate management or supervision been identified and corrected?

Figure 9-13 Post Implementation Review Assessment Checklist

Step 3 – Conduct User Satisfaction Survey

Purpose: The ultimate success of the project depends on the customer/user's satisfaction with the end product. Customers and users need to be surveyed to determine the level of satisfaction or dissatisfaction with the product. The survey should focus on whether the project has delivered the planned performance and benefits projected at the beginning of the project. The original performance goals and measures need to be compared against the final performance results quantitatively to see how successful the project was in meeting its goals. Intangible benefits that were identified at the outset also need to be surveyed as to the customers and end users assessment of using the final product. These include ease of use of the new system, system performance, system documentation and training, and user support. If deficiencies or problem areas are uncovered as a result of the survey, corrective actions need to be identified and implemented.

Review Process: Conduct User Survey.

Step 4 – Review and Evaluate Project Information

Mission/Program Impact

An evaluation is to be made of the technical capabilities of the project, both current and future. Such an evaluation is focused on factors such as the competency of the workforce to use the new system and employee satisfaction or retention, the extent to which advanced technology was used, and the methodological expertise of the development team.

Technical Capability

An evaluation is to be made of the technical capabilities of the project, both current and future. Such an evaluation is focused on factors such as the competency of the workforce to use the new system and employee satisfaction or retention, the extent to which advanced technology was used, and the methodological expertise of the development team.

Measurements of Actual vs. Projected Performance

The focus of the PIR is on evaluating a project's actual results compared to estimates in terms of cost, schedule, performance, and mission improvement outcomes. An attempt should also be made to determine the causes of major differences between the planned and final results. Also, the PIR should be used to help identify any inappropriate systems development and project management practices.

The PIR should provide a wide range of information regarding both the project and the process used to develop and implement the project. Specific information should include:

- An assessment of the project's effectiveness in meeting the original objectives.

- An identification of benefits that have been achieved, an assessment of whether they match projected benefits, and a determination of reasons for any discrepancies.
- An assessment of mitigated risk and accomplished benefits, ascertained by risk benefits analysis.
- An evaluation of the validity of the original business assumptions used to justify the project.
- A comparison of actual costs incurred against projected costs.
- A determination of how well the project met time schedules and implementation dates.
- Management and user perspectives on the project.

Evaluation of Outstanding Issues

If the PIR reveals issues that still require attention, these issues need to be identified and documented. The issues should clearly document the estimates of cost and time, the risks for not addressing the issue, any tradeoffs or alternatives, and provide a recommendation from the PIR review team. The issues should then be sent to senior management for evaluation and a final decision on the actions to be taken.

Step 5 – Update Financial Information & Performance Measures

Purpose: The purpose of the Update Financial Information & Performance Measures is to input the actual final financial and performance measurement information for the initiative. There are five evaluations to be completed in this process:

a) **Evaluation of Cost Information**
b) **Evaluation of Financial Return Information**
c) **Evaluation of Non-Financial Return Information**
d) **Evaluation of Acquisition and Procurement Information**
e) **Evaluation of Budget and Financing Information**

a) Create an Evaluation

Purpose: Before the Evaluation criteria can be entered, an evaluation folder must be created. This folder will contain the evaluation name, evaluation comments and subfolders for the areas to be evaluated.

I-TIPS Steps for Evaluation of Cost Information:

1. Using your login and password to access I-TIPS, open your project's folder;
2. Under **Investment Manager** open the most recent Revision;
3. Select **Evaluation Information**;
4. Select **Create an Evaluation**;
5. Enter Evaluation Name;
6. Enter Evaluation Comments.

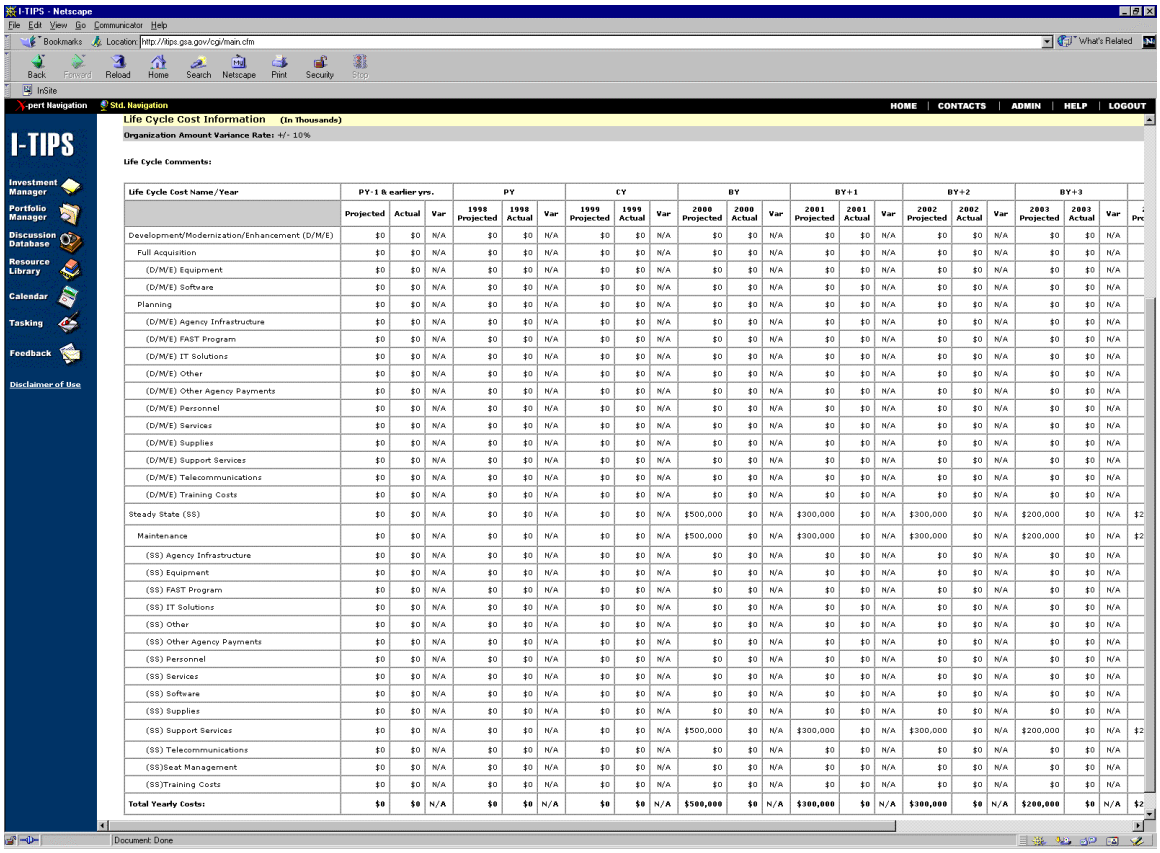
Once the evaluation has been created, the specific evaluations can be completed.

b) Evaluation of Cost Information

Purpose: The Evaluation of Cost Information allows for the modification of actual cost information for the initiative. The Life Cycle Cost Information, which is entered in the General Information folder, is reviewed and the actual costs incurred for each of the years is entered into the table. The variances between the actual and the projected costs are calculated and any variances exceeding +/- 10% are highlighted.

I-TIPS Steps for Evaluation of Cost Information:

1. Using your login and password to access I-TIPS, open your project's folder;
2. Under **Investment Manager** open the most recent Revision;
3. Select **Evaluation Information**;
4. Select **Evaluation of Cost Information**;
5. Select **Edit mode** to enter the actual costs for the appropriate life cycle item for each of the years entered;
6. The variances will be calculated by the system and documented in the life cycle cost table illustrated in Figure 9-14.



Life Cycle Cost Name/Year	PY-1 & earlier yrs.			PY			CY			BY			BY+1			BY+2			BY+3			
	Projected	Actual	Var	1998 Projected	1998 Actual	Var	1999 Projected	1999 Actual	Var	2000 Projected	2000 Actual	Var	2001 Projected	2001 Actual	Var	2002 Projected	2002 Actual	Var	2003 Projected	2003 Actual	Var	Pro
Development/Modernization/Enhancement (D/M/E)	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	
Full Acquisition	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	
(D/M/E) Equipment	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	
(D/M/E) Software	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	
Planning	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	
(D/M/E) Agency Infrastructure	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	
(D/M/E) FAST Program	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	
(D/M/E) IT Solutions	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	
(D/M/E) Other	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	
(D/M/E) Other Agency Payments	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	
(D/M/E) Personnel	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	
(D/M/E) Services	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	
(D/M/E) Supplies	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	
(D/M/E) Support Services	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	
(D/M/E) Telecommunications	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	
(D/M/E) Training Costs	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	
Steady State (SS)	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$500,000	$0	N/A	$300,000	$0	N/A	$300,000	$0	N/A	$200,000	$0	N/A	$2
Maintenance	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$500,000	$0	N/A	$300,000	$0	N/A	$300,000	$0	N/A	$200,000	$0	N/A	$2
(SS) Agency Infrastructure	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	
(SS) Equipment	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	
(SS) FAST Program	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	
(SS) IT Solutions	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	
(SS) Other	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	
(SS) Other Agency Payments	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	
(SS) Personnel	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	
(SS) Services	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	
(SS) Software	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	
(SS) Supplies	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	
(SS) Support Services	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$500,000	$0	N/A	$300,000	$0	N/A	$300,000	$0	N/A	$200,000	$0	N/A	$2
(SS) Telecommunications	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	
(SS)Seat Management	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	
(SS)Training Costs	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	$0	$0	N/A	
Total Yearly Costs:	**$0**	**$0**	**N/A**	**$0**	**$0**	**N/A**	**$0**	**$0**	**N/A**	**$500,000**	**$0**	**N/A**	**$300,000**	**$0**	**N/A**	**$300,000**	**$0**	**N/A**	**$200,000**	**$0**	**N/A**	**$2**

Figure 9.14 Evaluate – Life Cycle Cost Information

c) Evaluation of Financial Return Information

Purpose: The Evaluation of Financial Return Information allows for the comparison of actual vs planned results for the initiative. The Financial Performance measures, which are entered in the General Information folder, are reviewed and the actual results for each of the years are entered into the table. The variances between the actual and the projected results are calculated and any variances exceeding +/- 10% are highlighted.

I-TIPS Steps for Evaluation of Financial Return Information:

1. Using your login and password to access I-TIPS, open your project's folder;
2. Under **Investment Manager** open the most recent Revision;
3. Select **Evaluation Information**;
4. Select **Evaluation of Financial Return Information**;
5. Select **Edit mode** to enter the actual cost results for the appropriate life cycle item for each of the years entered;
6. The variances will be calculated by the system and documented in the life cycle financial return table illustrated in Figure 9-15.

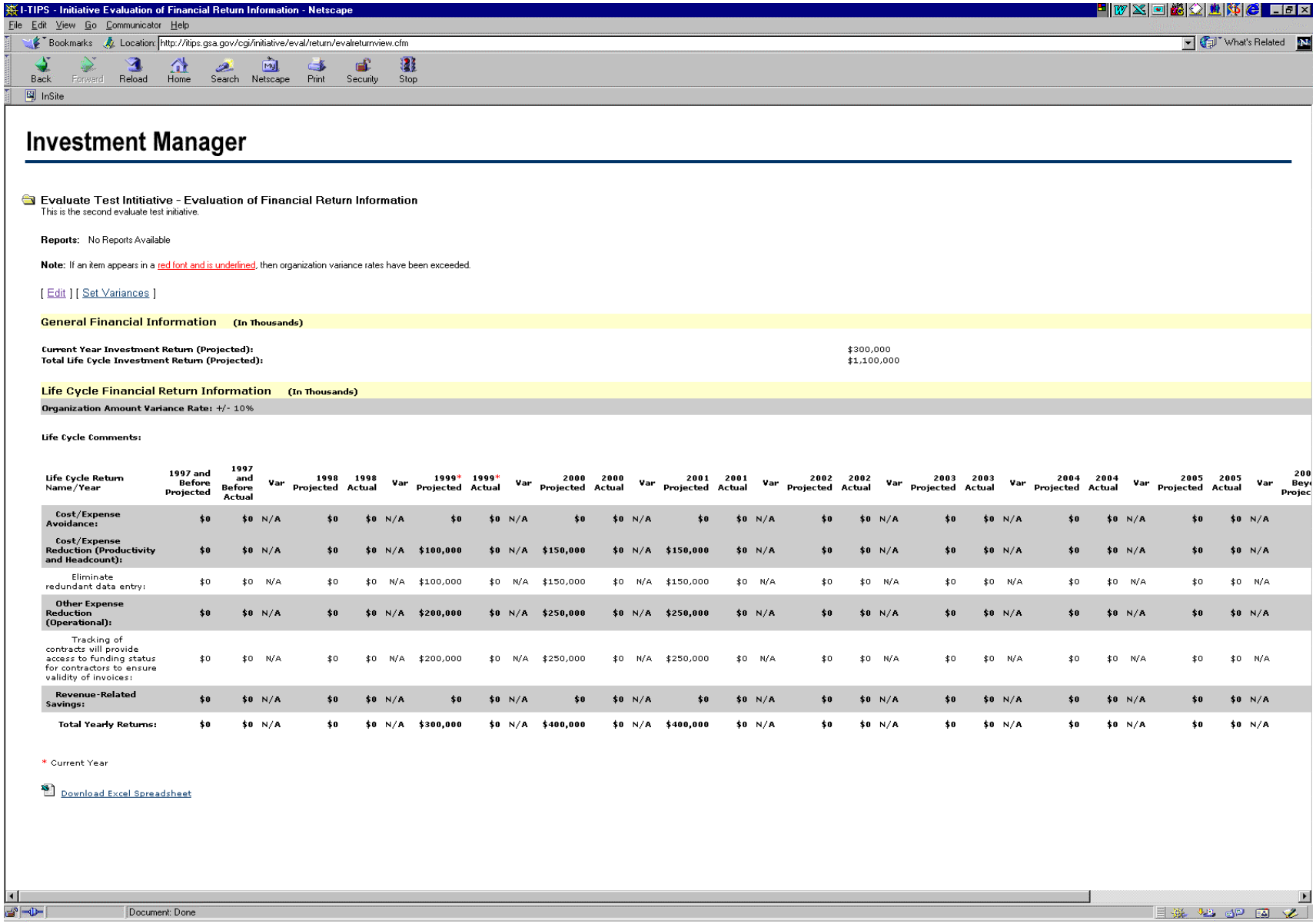


Figure 9.15 Evaluate – Financial Return Information

Appendix 9

Review Process: The Life Cycle Cost checklist provided in Figure 9.3 may be useful in identifying all support and operational costs entered in the Life Cycle Cost section.

d) Evaluation of Non-Financial Return Information

Purpose: The Evaluation of Non-Financial Return Information allows for the comparison of actual vs planned results for the initiative. The Non-Financial Performance measures, which are entered in the General Information folder, are reviewed and the actual results for each of the years are entered into the table. The variances between the actual and the projected results are calculated and any variances exceeding +/- 10% are highlighted.

I-TIPS Steps for Evaluation of Non-Financial Return Information:

1. Using your login and password to access I-TIPS, open your project's folder;
2. Under **Investment Manager** open the most recent Revision;
3. Select **Evaluation Information**;
4. Select **Evaluation of Non-Financial Return Information**;
5. Select **Edit mode** to enter the actual cost results for the appropriate life cycle item for each of the years entered;
6. The variances will be calculated by the system and documented in the life cycle non-financial return table cost table illustrated in Figure 9-16.

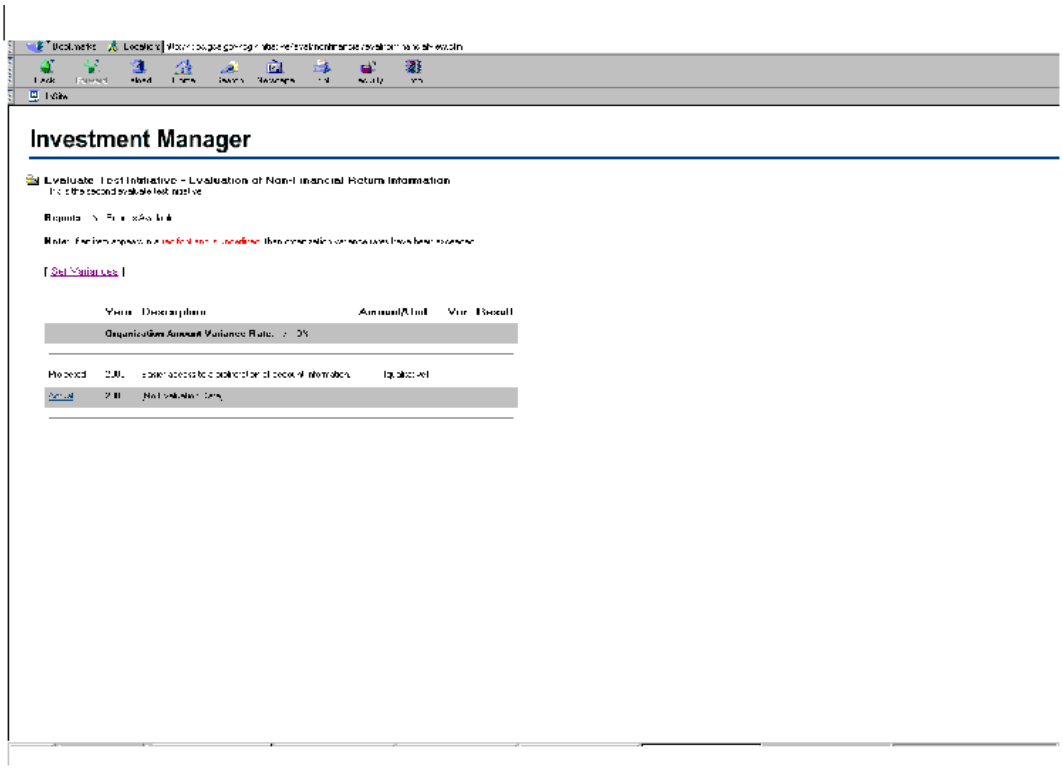


Figure 9.16 Evaluate – Non-Financial Return Information

e) Evaluation of Acquisition and Procurement Information

Purpose: The Evaluation of Acquisition and Procurement Information allows for the comparison of actual vs planned results for contract and contractor information for the initiative. The general contract and contractor information, which is entered in the General Information folder, is reviewed and the actual results for each of the years are entered into the table. The variances between the actual and the projected results are calculated and any variances exceeding +/- 10% are highlighted.

I-TIPS Steps for Evaluation of Acquisition and Procurement Information:

1. Using your login and password to access I-TIPS, open your project's folder;
2. Under **Investment Manager** open the most recent Revision;
3. Select **Evaluation Information**;
4. Select **Evaluation of Acquisition and Procurement Information**;
5. Select **Edit mode** to enter the actual costs for the appropriate contract item for each of the years entered;
6. The variances will be calculated by the system and documented in the financial acquisition and procurement table illustrated in Figure 9-17.

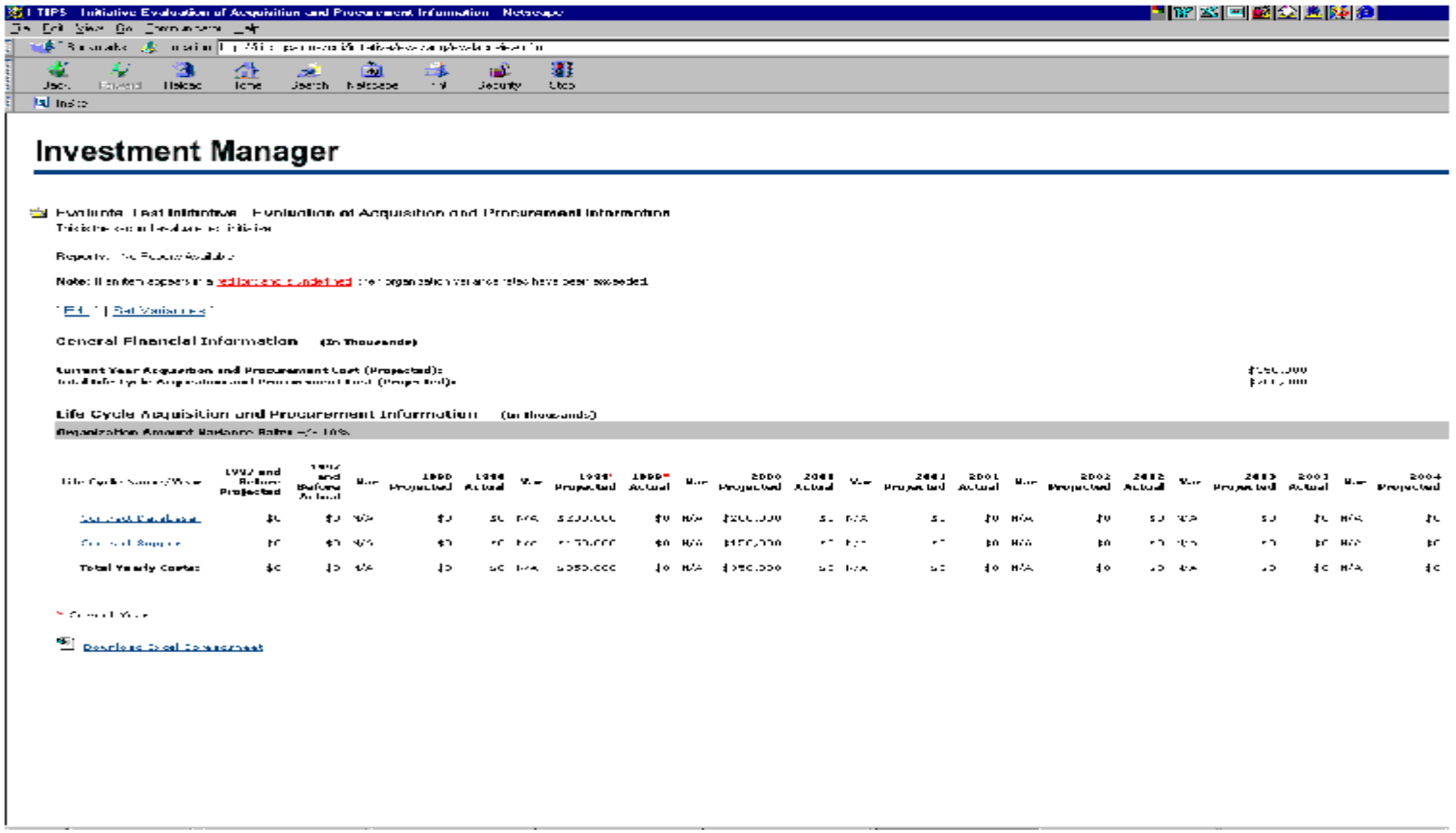


Figure 9.17 Evaluate – Acquisition and Procurement Information

f) Evaluation of Budget and Financing Information

Purpose: The Evaluation of Budget and Financing Information allows for the comparison of actual vs planned results for funding source and general budget and financing information for the initiative. The general funding source information for the initiative, which is entered in the General Information folder, is reviewed and the actual results for each of the years are entered into the table. The variances between the actual and the projected results are calculated and any variances exceeding +/- 10% are highlighted.

I-TIPS Steps for Evaluation of Budget and Financing Information:

1. Using your login and password to access I-TIPS, open your project's folder;
2. Under **Investment Manager** open the most recent Revision;
3. Select **Evaluation Information**;
4. Select **Evaluation of Budget and Financing Information**;
5. Select **Edit mode** to enter the actual costs for the appropriate life cycle item for each of the years entered;
6. The variances will be calculated by the system and documented in the financial acquisition and procurement table illustrated in Figure 9-18.

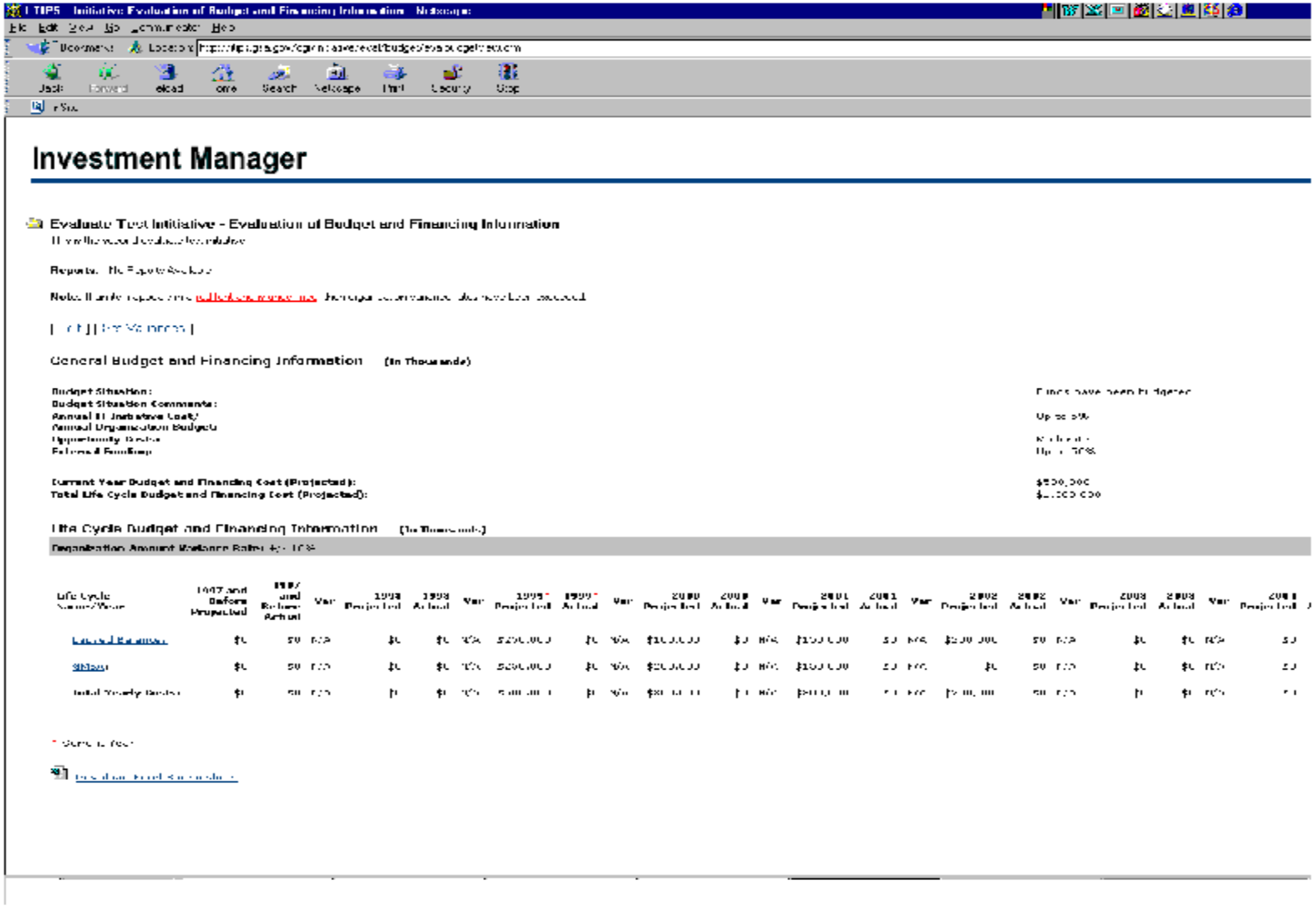


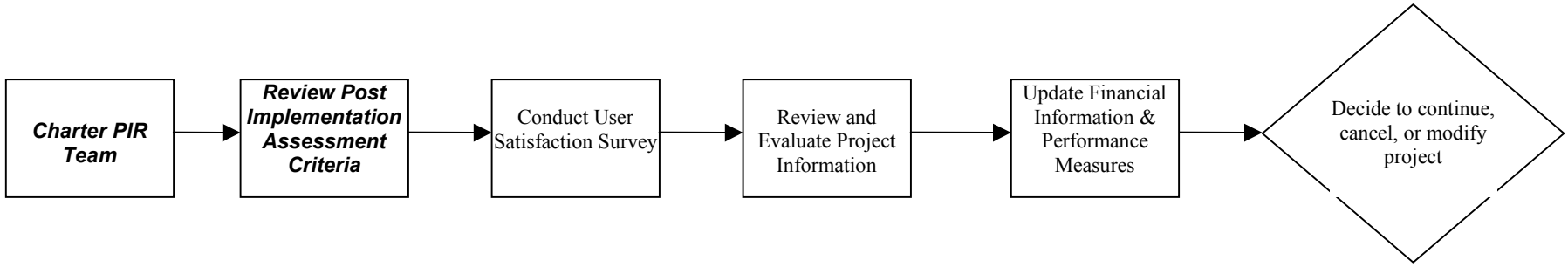
Figure 9.18 Evaluate – Budget and Financing Information

Step 6 – Feeding Lessons Learned Back Into Selection and Control Phases

All of the PIR information gained in the Evaluate phase should be collected and maintained along with all other project information gathered during the Select and Control phases. Feedback regarding the Capital Planning and IT Investment process should be solicited and captured. Once this information has been acquired it must be readmitted into the Capital Planning process and documented as lessons learned for future IT investments. The refinement of the phases will help to augment project monitoring procedures and improve the subsequent results of prospective IT Capital Investments.

IT Capital Planning and Investment Evaluate Process

CONDUCT POST IMPLEMENTATION REVIEW



APPLY LESSONS LEARNED

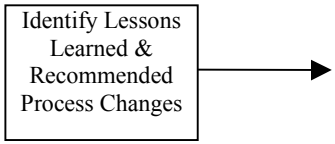


Figure 9-19 Evaluate Phase Flowchart

Capital Planning – Regulations and Responsibilities

A. Laws and Other Regulations

This section summarizes the basic governmentwide laws and guidelines that relate to capital planning.

Information Technology Management Reform Act of 1996

(Available on the World Wide Web at http://cio.gov/s1124_en.htm)

The Clinger-Cohen Act, Pub L. 104-106, which President Clinton signed into law on February 10, 1996, repeals Section 111 of the Federal Property and Administrative Services Act of 1949 (popularly referred to as the "Brooks Act") and establishes a new statutory scheme for information technology management and acquisition within the executive branch.

The Clinger-Cohen Act requires agencies to appoint a Chief Information Officer (CIO) whose primary duty is IRM. The CIO replaces and performs the functions of GSA's Designated Senior Official, in accordance with the Paperwork Reduction Act. The Administrator of GSA established the Office of the CIO on December 21, 1995. The head of this office is the CIO who provides agencywide IT leadership and reports directly to the Administrator. The Office of the CIO also includes a Deputy CIO who reports directly to the CIO and provides day-to-day IT management.

The Clinger-Cohen Act also requires that the head of each agency establish an effective and efficient capital planning and investment control process for selecting, managing, and evaluating the results of all of its major investments in information systems and prescribes minimum requirements for these processes.

The Paperwork Reduction Act of 1995

(Available at http://thomas.loc.gov)

The PRA requires agencies to:

- Develop and maintain a strategic IRM plan that describes how information resources management activities help accomplish agency missions;
- Maintain a current and complete inventory of the agency's information resources;
- Ensure that IRM operations and decisions are integrated with organization planning, budget, financial management, human resources management, and program decisions;
- Develop a full and accurate accounting of IT expenditures, related expenses, and results; and
- Establish goals for improving IRM's contribution to program productivity, efficiency, and effectiveness, methods for measuring progress towards those goals, and clear roles and responsibilities for achieving those goals.

The Government Performance and Results Act of 1993

(Available at http://thomas.loc.gov or on FinanceNet, i.e., Gopher//pula.financenet.gov:70.00/docs/legis/gpra93.gov)

The GPRA requires all Federal agencies to develop strategic plans, to develop annual performance plans that are tied to their budgets, and to report actual results against performance plans.

Congress, GAO, and OMB are placing emphasis on capital planning and investment control processes and, as part of the budget submission process, are looking at how agencies are implementing and executing these processes.

The Federal Acquisition Streamlining Act (FASA)

(Available at http://www.gsa.gov/staff/v/mvi/fara.htm)

The FASA requires agencies to define cost, schedule, and performance goals for federal acquisition programs (including IT projects) and to monitor these programs to ensure that they remain within prescribed tolerances. If a program falls out of tolerance (failure to meet 90 percent of cost, schedule, and performance goals), FASA gives the agency head the authority to review, and if necessary terminate, the program.

These laws, regulations, and guidance can be found within the public Resource Library within I-TIPS. See User Guide, Section 5.

Instructional Letter CIO IL-98-1

MEMORANDUM FOR HEADS OF SERVICES, STAFF OFFICES
AND REGIONAL ADMINISTRATORS

FROM: SHEREEN G. REMEZ
CHIEF INFORMATION OFFICER (I)

SUBJECT: GSA Information Technology Capital Planning

1. Purpose. This instructional letter describes policy and responsibilities for GSA's Information Technology (IT) capital planning, including IT strategic and operational planning. It updates GSA's IT planning process and reporting requirements to incorporate GSA's Capital Planning and IT Investment process, consistent with the Clinger-Cohen Act, and reflects the creation of the Office of the Chief Information Officer (CIO) and the elimination of the Information Technology Service.

2. Background. The following paragraphs summarize governmentwide laws and regulations that form the basis for the capital planning processes described in this letter.

2.a. The Paperwork Reduction Act (PRA) of 1995 requires an ongoing process to ensure IT operations and decisions are integrated into organizational planning, budget, financial management, human resources management, and program decisions. Agencies must develop and maintain an IT Strategic Plan as required by 44 U.S.C. 3506. More specifically, the PRA requires agencies to:

Develop and maintain a strategic Information Resources Management (IRM) plan that describes how information resources management activities help accomplish agency missions;

Maintain a current and complete inventory of the agency's information resources;

Ensure that IT operations and decisions are integrated with organization planning, budget, financial management, human resources management, and program decisions;

Develop a full and accurate accounting of IT expenditures, related expenses, and results; and

Establish goals for improving IT's contribution to program productivity, efficiency, and effectiveness, methods for measuring progress towards those goals, and clear roles and responsibilities for achieving those goals.

2.b. The Clinger-Cohen Act of 1996 (also known as the Information Technology Management Reform Act) repealed Section 111 of the Federal Property and Administrative Services Act of 1949 (popularly referred to as the "Brooks Act") and established a new statutory scheme for IT management and acquisition within the executive branch. The following are some of the significant requirements.

2.b.(1) The Act requires agencies to appoint a Chief Information Officer (CIO) whose primary duty is IRM. The CIO replaces and performs the functions of GSA's Designated Senior Official, in accordance with the Paperwork Reduction Act. The Administrator of GSA established the Office of the CIO on December 21, 1995. The head of this office is the CIO who provides agencywide IT leadership and reports directly to the

Administrator. The Office of the CIO also includes a Deputy CIO who reports directly to the CIO and provides day-to-day IT management.

2.b.(2) The Act requires that the head of each agency establish an effective and efficient capital planning and investment control process for selecting, managing, and evaluating the results of all of its major investments in information systems and prescribes minimum requirements for these processes.

2.b.(3) The Act requires that the head of each agency establish goals for improving the efficiency and effectiveness of agency operations and the delivery of services through the effective use of IT, prepare an annual report to be included in the agency's budget submission to Congress on the progress of achieving the goals, and ensure that performance measurements are prescribed for IT used by or acquired for the agency and that the performance measurements measure how well the IT supports the agency's programs.

2.c. The Government Performance and Results Act (GPRA) of 1993 requires all Federal agencies to develop strategic plans, to develop annual performance plans that are tied to their budgets, and to report actual results against performance plans.

2.d. The Federal Acquisition Streamlining Act (FASA) of 1994 requires agencies to define cost, schedule, and performance goals for federal acquisition programs (including IT projects) and to monitor these programs to ensure that they remain within prescribed tolerances. If a program falls out of tolerance (failure to meet 90 percent of cost, schedule, and performance goals), FASA gives the agency head the authority to review, and if necessary terminate, the program.

2.e. OMB Circular A-130 requires management to devote attention to IT planning. Agencies should plan to use information technology in ways that make dealing with the Federal Government as user-friendly to the public as possible.

3. Effective Date. Upon signature.

4. Expiration Date. Upon publication of the final directive.

5. Cancellation. IRM 2130.1C is canceled.

6. Coverage. This letter applies to all GSA services, staff offices and regions.

7. Reference Directive. GSA Order, GSA Information Resources Management (IRM) Policy (IRM 5400.1A).

8. Process. Heads of Services and Staff Offices (HSSOs) are required to manage their IT investments or projects as prescribed by this instructional letter and the GSA Capital Planning and IT Investment Guide (Guide). The Guide provides guidelines, procedures, and worksheets.

8.a. Overview of Capital Planning and IT Investment process and its objectives. The Capital Planning and IT Investment process is a systematic approach to managing risks and returns of IT investments for a given mission. It is an integrated management process which provides for the continuous selection, control, life-cycle management and evaluation of IT investments and is focused on achieving a desired business outcome. The objective of GSA's Capital Planning and IT Investment process is to deliver substantial business benefit to GSA or return on investment for the taxpayer. More specific objectives are:

- Achieve GSA's mission and business objectives.

- Balance potential benefits against costs and risks.
- Align proposed systems investments with strategic and tactical goals.
- Measure performance and net benefit for dollars invested.
- Provide continuous feedback to help senior managers make decisions on new or ongoing investments.
- Ensure that taxpayer dollars are spent effectively.

8.b. Major projects. Major IT projects are projects that are critical to the agency mission and require continuing management attention because they have high development, operating, or maintenance costs, or have significant impact on the administration of agency programs, finances, property, or other resources. Attachment 1 lists the dollar thresholds and other criteria that should be used to determine if a project is a "major project". The criteria is also in Chapter 2 and Appendix 1 of the Guide. GSA's Capital Planning and IT Investment selection, control and evaluation processes described in the Guide apply to all major IT projects. Services and Staff Offices (S/SOs) should develop their own capital planning processes for selecting and monitoring their complete IT investment portfolio, including non-major projects.

8.c. Capital Planning and IT Investment processes and events. Capital Planning and IT Investment is linked to or part of other agency processes and plans. Below is a summary of GSA Capital Planning and IT Investment processes and other related processes and events listed in the sequence in which they normally occur during an annual cycle. Attachment 2 is a table that shows the times of various agency planning and budget events linked to or part of the GSA Capital Planning and IT Investment process.

8.c.(1) Strategic planning. GSA develops an agencywide strategic plan that addresses agency mission, vision, long-term goals/objectives, relationship of the goals/objectives to annual performance plans and their goals, and factors affecting achievement of long-term goals/objectives.

8.c.(2) Determining the existing baseline and developing performance plans. Heads of Services and Staff Offices (HSSOs) establish program performance plans that include performance goals and establish a current baseline (a reference position) from which progress should be made consistent with the GSA's strategic plan objectives.

8.c.(3) Gap analysis. For some programs there may be a gap between the capabilities provided by existing resources, including IT resources and information systems, and program objectives and performance goals as stated in program performance plans. S/SOs identify gaps with respect to specific program goals and performance objectives as stated in performance plans. Some performance gaps may be resolved by reengineering processes with or without the use of IT. If reengineering of a process is needed it should be done before determining what IT investments are needed to support the redesigned process. To avoid making IT investments in support of functions that are inefficient (need reengineering) or which should no longer be performed by GSA, the following three questions must be asked before embarking on any IT investment.

8.c.(4) The three pesky questions. Before planning any IT investment, HSSOs, in consultation with the CIO, determine:

 # 1 - Does/would the IT project/investment support mission functions that need to be performed by the Federal Government?

If not, consideration of the investment should end and the function should be privatized or eliminated.
 # 2 - Does/would the IT project/investment have to be undertaken because no alternative private sector or governmental source can efficiently support the function?

If not, consideration should be given to devolving the function to State or local governments, sharing resources within GSA, with another Federal agency, a university, not for profit organization, or outsourcing to the private sector; or

If an agency is currently performing a function that could produce the requirement (e.g. an in-house software function) the decision to use in-house or contract resources must consider the requirements of OMB Circular A-76.

 # 3 - Does/would the IT project/investment support work processes that have been simplified or otherwise redesigned to reduce costs, improve effectiveness, and make maximum use of commercial off-the-shelf technology?

If not, S/SOs in consultation with the CIO, should reengineer the business processes first, then search for alternatives, or the S/SO may issue a very broad statement of the requirements in a solicitation to the private sector and allow the private sector to do the reengineering in proposed solutions.

S/SOs should also improve internal processes through cutting red tape, empowering employees, reusing or pooling existing assets within GSA or with other agencies resource re-deployment, or training.

If the answers to the three questions is yes and indicate that an IT investment is warranted, the events below would follow.

8.c.(5) Planning for an IT project: Planning for an IT project starts once it is determined that an investment in IT is needed. This phase includes determining functional requirements, completing a feasibility analysis, and an analysis of alternatives and their costs and benefits. Chapter 3 and Appendix 6 of the Guide provide guidance, and worksheets in this area. Project life cycle phases and required analyses and documentation are shown in Attachment 3 of this letter and Appendix 8 of the Guide. The analyses required for the planning phase of a project are essential for determining a project's full life cycle costs, risks and returns. All the necessary analyses and documentation that are part of a project's planning phase (as shown in Attachment 3) should therefore be completed before the project or any of its useful segments can be submitted through the selection process and senior management review for inclusion in budget and before any procurement action can be initiated for software, hardware or system development or design. Program and project managers should plan ahead to ensure their budgets include sufficient resources to complete all the requisite planning phase analyses and documentation for new major IT initiatives.

8.c.(5)(a) Establishing an Integrated Project Management Team (IPT). At a project's inception, during its planning phase, and before it is presented for selection into the agency's portfolio, an Integrated Project Team (IPT) is formed. The purpose of the IPT is to help ensure GSA's projects are successful. An interdisciplinary team is crucial to the ultimate success of the project. The IPT is lead by a Project Leader, normally from the S/SO, and includes representatives from the project's staff, the user community, and the CIO Office planning and systems analysis teams, and the S/SO IT planning representative. IPTs for projects involving procurements must include procurement specialists. The IPT may include additional personnel as needed such as financial analysts, IT experts, or communications experts. The S/SO ITC member is the controlling authority of the IPT who ensures the completion of the necessary analyses and documentation and reviews capital planning documentation. Funding decisions must be coordinated with the Office of Budget. When an IPT is formed the project sponsor and project team leader sign off on a charter that describes team responsibilities. An IPT charter is provided in Appendix 7 of the Guide. The IPT assists the project manager in completing and documenting the analyses needed for each project life cycle phase and the capital planning selection, control, and evaluation processes.

8.c.(5)(b) Preliminary Market Research. The S/SO (IPT) should begin conducting the preliminary "Market Research" (see the Federal Acquisition Regulation (FAR) Part 10) during the IT planning phase. The IPT must perform a feasibility analysis to ascertain if the market can provide the desired assets or solution to meet the program requirements. This analysis includes preliminary "market research" designed to produce a list of alternatives, with accompanying data necessary to assess affordability, benefits and costs.

8.c.(5)(c) Benefit-Cost Analysis. Once the IPT determines that it has sufficient market information on alternative solutions, it should compare the initial acquisition cost and other life-cycle cost elements of the various alternatives. It is critical that the cost estimates are realistic estimates of the final and total project life cycle costs. When seeking funds during the budget process, the credibility of the costs will be examined by OMB and Congress. The selection of the best alternative to compare with other projects should be based an a systematic analysis of expected benefits and costs, using a benefit-cost analysis methodology. Such a methodology is provided in Appendix 6 of the Guide.

8.c.(5)(d) IT Performance Goals and Measures. Upon completing the benefit-cost analysis, the S/SO (IPT) should establish and describe, in quantitative terms, performance goals and measures that will be used to evaluate whether the recommended IT project (alternative) is delivering the expected benefits, and bridging the performance gap. Chapter 4 and Appendix 4 of the Guide provide guidance on performance goals and measures.

8.c.(5)(e) Develop Acquisition Strategy. If the S/SO (IPT) determines that the IT project is likely to involve a procurement/acquisition, the IPT develops an acquisition strategy tailored to their particular major system acquisition requirements. This strategy is the requesting office's overall plan for satisfying the mission need in the most effective, economical and timely manner. The strategy must be in writing and prepared in accordance with the requirements of FAR Subpart 7.1 - Acquisition Plans. Chapter 3 and Appendix 1 of the Guide provide guidance and show the information required in developing acquisition strategies and plans.

8.c.(6) IT Investment Selection Process. After S/SOs complete the previous steps, they recommend an IT investment and document its costs, risks and benefits (to include quantifiable performance goals and measures) by completing the process and documentation described in Chapter 5 of the Guide. S/SOs develop the documentation with help from the IPT and the CIO staff as part of the IT Planning collection process. S/SOs prepare this information for all major investments, including new IT initiatives, ongoing development/enhancement projects or acquisitions, and operational systems. The information for each major project is presented to the Information Technology Council (ITC), the Council of Controllers (COC), and the Business Technology Council (BTC). For non-major projects, S/SOs, prepare summary project documentation that does not require risk and benefit scoring processes. Information about non-major projects is presented to the ITC and BTC in a consolidated manner and these projects are not reviewed individually by the committees.

8.c.(6)(a) Project Screening. S/SOs should develop and implement their own capital planning processes for selecting their IT portfolio and controlling and monitoring all their IT investments (major and non-major). All IT investments should be screened by S/SOs prior to being submitted to the GSA Capital Planning and IT Investment selection process or included in S/SO budget submissions. Before including any project in their budget requests or submitting it to the GSA IT investment selection process, S/SOs should ensure their projects meet the following basic criteria:

- Project planning phase analyses listed in Appendix 8 have been completed (these include functional requirements analyses, feasibility analyses, market research, benefit cost analyses, and risk and sensitivity analyses)
- Have a yes response to the three pesky questions

- Their projects have a benefit-cost ratio greater than one, a positive return on investment, or are mandated by law
- Have a project sponsor
- Have an IPT
- Comply with GSA's IT architecture
- Have Identified benefits performance goals and measures.

8.c.(6)(b) Information Technology Council (ITC) technical review. S/SO ITC members present information on the S/SO's overall IT program and major projects to the ITC and COC at joint meetings of the two councils. The ITC and COC review the documentation prepared by the IPT and provide recommendations. The IPT updates documentation to incorporate ITC and COC recommendations prior to review by the BTC. Chapter 5 of the Guide describes the ITC review process and documentation in more detail.

8.c.(6)(c) Business Technology Council (BTC) strategic review and IT portfolio selection. HSSOs present their IT programs to the BTC. The BTC reviews the IT program and project documentation prepared by the IPT with a strategic business focus and selects those projects that should be funded. S/SOs develop budget submissions that are consistent with the BTC decision. Chapter 5 of the Guide describes the BTC review and documentation in more detail.

8.c.(7) IT Capital Plan issue**.** After the annual IT investment selection process has been completed, the Office of the CIO updates and issues the GSA IT Capital Plan that includes strategic and operational information based on the outcome of the selection process and linked to GSA's Strategic and S/SO performance plans.

8.c.(8) Budget, Performance Plans and GSA strategic plan preparation. IT initiatives and existing projects and systems that have been selected for new funding or continued funding are included in budget submissions as appropriate. Information and documentation from the IT strategic, capital and operational planning process (such as benefit cost analysis results, IT project schedule, cost and performance goals and measures, OMB Circular A-11 exhibits) are incorporated, as appropriate, in S/SO budget submissions, OMB Circular A-11, Exhibits 300 A and B, performance plans, and updates to the next GSA and IT Strategic Plans. Beginning with the fourth year shown in the IT Operational Capital Plan, resource information should form the basis for IT budget requests. When seeking funds during the budget process, the credibility of the costs will be examined and agencies will be held accountable for meeting the cost goals. Alternative solutions that are not affordable within potential budget availability should be dropped from consideration, but documented. The information needed to determine if a proposed project or acquisition is affordable is based on three factors: 1) availability of potential funding, 2) agency mission objectives the investment will help achieve, and 3) the impact that the new investment has on funds available for other agency mission objectives. The selection of the best alternative should be based on a systematic analysis of expected benefits and costs, a benefit-cost analysis. Estimates of costs and benefits should show explicitly the performance and budget changes that result from undertaking the project. Also, Frank Raines, Director, OMB, issued policy guidelines for capital planning and funding approval of IT investments. These guidelines, referred to as the "Raines' Rules" are listed in Attachment 4 and have been incorporated as selection criteria in Appendix 1 of the Guide.

8.c.(9) New initiatives and modifications. During the year immediately following the IT selection process, S/SOs will submit IT investment selection documentation for any new IT initiative or any enhancement or modification to an existing operational system, if the initiative, enhancement or modification:

- Meets the major project criteria, and
- Did not already individually undergo the IT investment selection process.

Continuing approval of ongoing development or acquisition projects with schedule, cost, or other modifications will be part of the control process.

8.c.(10) IT project/system control and evaluation processes. Major IT projects that have been selected will be monitored and reported on throughout their life as described in Chapter 6 and Appendix 9 of the Guide. The project manager and IPT will ensure project life cycle analyses and plans are completed and updated as necessary throughout the life of the project. The IPT will monitor the status, including cost and schedule, and prepare status reports on IT projects that are ongoing developments, acquisitions, or enhancements. The IPT will perform post-implementation reviews 3 to 6 months after a new system becomes operational. The Office of the CIO will synthesize project status data prepared by the IPTs and submit summary control reports and summary post-implementation review reports to the ITC and BTC. Variances in project schedule or cost goals of 10 percent or more must be reported to the ITC and BTC. Any variance or slippage in actual performance from established goals must also be reported to the ITC and BTC. In addition, when warranted, special reviews of approved projects and operational systems may be conducted and the results presented to the ITC and BTC.

8.c.(10)(a) Updating project selection information. Once a year, the project status and post-implementation review information is used to update the Capital Planning and IT Investment Selection process information, including technical and strategic ratings for all major projects, as part of the annual investment selection process that precedes budget submissions.

8.c.(10)(b) Monitoring Procurements. Before a procurement is awarded, the S/SO and IPT must ensure that all planned IT major project acquisitions have a complete and approved acquisition plan, a performance based statement of work, and a performance based management system to monitor actual performance against planned baseline schedule, cost and performance goals. Once a contract has been awarded, the administering contracting office will provide general administration. The IPT monitors the status of the acquisition to ensure achievement of planned schedule, cost and performance goals. Variances in schedule or cost goals of 10 percent or more must be reported to the ITC and BTC. Any variance or slippage in actual performance from established performance goals must also be reported.

8.d. Responsibilities. Capital Planning and IT Investment responsibilities are as follows:

8.d.(1) Chief Information Officer (CIO). The CIO will:

8.d.(1)(a) Ensure the development of IT goals and strategies that support the GSA Strategic Plan and the missions, goals, strategies, and priorities of the agency;

8.d.(1)(b) Ensure agency and Government guidance and training is provided to assist S/SOs in their implementation of Capital Planning and IT Investment processes.

8.d.(1)(c) Assist S/SOs in carrying out capital planning processes, and conducting reviews of projects and processes.

8.d.(2) Business Technology Council (BTC). The BTC is composed of the Administrator and Deputy Administrator of GSA and the Heads of Services and Staff Offices, the CIO, the Chief Financial Officer and three regional administrators. The mission of the BTC is to determine the direction, interface and impact of IT on achieving business objectives. In carrying out its mission, the BTC participates in all major IT investment decisions and ensures the complete review of the benefits, risks and costs associated with IT investments. Meetings of this committee are held monthly or as needed.

8.d.(3) Information Technology Council (ITC). The Information Technology Council is composed of senior IT executives in the agency and chaired by the Chief Information Officer. The mission of the ITC is to propose and monitor IT policies and programs ensuring their consistency throughout the agency. The ITC establishes GSA's IT Strategic Plan that provides a cohesive IT direction and business focus for GSA's internal IT program. The ITC proposes and monitors internal GSA IT policies, standards, performance measures, benchmarks, and strategies to ensure IT activities are consistent with Governmentwide policy, and GSA's approved strategic/business plans. The ITC supports the BTC. As part of its capital planning responsibilities, the ITC reviews selection, control, and post-implementation review documentation for all major projects, focusing on technical issues such as technical, cost, and schedule risks, training, and technical resource needs. The findings and recommendations of the ITC are provided to the BTC. The ITC makes recommendations to the BTC on other strategic IT investments or issues for the agency. Meetings of the ITC are held monthly or as needed.

8.d.(4) Services and Staff Offices. Each S/SO will:

8.d.(4)(a) Appoint a planning representative to coordinate and develop Capital Planning and IT Investment submissions using the guidance, training and assistance provided by the Office of the CIO.

8.d.(4)(b) Ensure the appointment of an Integrated Project Team throughout the life of the project.

8.d.(4)(c) Develop Capital Planning and IT Investment submissions in conformance with the GSA Strategic Plan, the S/SO Performance Plan, the IT Strategic Plan goals and objectives and the GSA Capital Planning and IT Investment Guide. The S/SOs Capital Planning and IT Investment submission must contain the IT activities of its total organization including the requirements of its regional offices.

8.d.(4)(d) Coordinate Capital Planning and IT Investment activities with the regions to include: Collecting input from regional offices on their IT requirements and provide feedback on final budgetary and management decisions pertaining to the regional IT Plan submissions; Resolving differences with regions consistent with agencywide policy; Incorporating regional office requirements in its Capital Planning and IT Investment submission, indicating where in the submission regional requirements are included; and providing copies of the issued IT Plan and subsequent modifications to Capital Planning and IT Investment selection documentation to regional offices.

8.d.(4)(e) Submit Capital Planning and IT Investment documentation to the Chief Information Officer (CIO) for review prior to presentation to the ITC and BTC.

8.d.(4)(f) Ensure accuracy of resource requests. Each S/SO must consider the resources needed to support its IT activities. Each S/SOs annual budget request must include the resources needed to support its IT projects consistent with the OMB Circular A-11 Exhibits submission, the IT investment selection process, and the IT Capital Plan. The resources specified beginning the fourth fiscal year of the Plan become the basis for upcoming budget requests.

8.d.(4)(g) Develop IT performance goals and measures for its IT programs and projects that are consistent with and support its business mission and the goals in the GSA and IT Strategic Plans and the S/SO performance plans.

8.d.(4)(h) Use performance measures to track if expected project benefits are being realized.

8.d.(4)(i) Manage its IT projects and activities to ensure progress as scheduled and within the resources planned and to ensure realization of expected benefits.

8.d.(4)(j) Perform and document the requisite analyses as necessary and appropriate to the life cycle phase of the project or acquisition and provide required life cycle/acquisition management documentation to the Office of the CIO, the ITC or the BTC upon request.

8.d.(4)(k) Update Capital Planning and IT Investment IT investment selection documentation and project cost/schedule status information on all major IT projects as required and submit it to the Office of the CIO.

8.d.(5) The Office of the CIO. The Office of the CIO will:
8.d.(5)(a) Prepare and update an Capital Planning and IT Investment Guide detailing guidelines and procedures for implementing IT planning.

8.d.(5)(b) Appoint analysts from the Office of the CIO to participate in S/SO IPTs and assist each S/SO in developing Capital Planning and IT Investment submissions and in monitoring and evaluating their projects;

8.d.(5)(c) Provide staff support to the Business Technology Council, Information Technology Council, the IT Planning Committee, and the interagency Committee on Capital Planning and IT Investment;

8.d.(5)(d) Assist each S/SO in developing submissions to the IT Plan;

8.d.(5)(e) Review and analyze each Capital Planning and IT Investment selection submission, including coordination of ITC and BTC Investment selection and review activities;

8.d.(5)(f) Provide assistance and training to help S/SOs complete and document Capital Planning and IT Investment and life cycle management processes and analyses;

8.d.(5)(g) Coordinate the development of OMB Circular A-11 Exhibits (Agency-Wide Summary Report on Obligations for Information Technology) and Part 3 (Planning, Budgeting, and Acquisition of Capital Assets) using the Plan with the GSA Office of Budget;

8.d.(5)(h) Ensure compliance with appropriate GSA orders and handbooks;

8.d.(5)(i) Develop and publish the IT Plan that includes IT strategic, capital, and operational planning information;

8.d.(5)(j) Make the approved plan available electronically;

8.d.(5)(k) Notify the S/SOs and regions when the IT Plan is issued;

8.d.(5)(l) Monitor all major IT projects to ensure compliance with GSA's IT program.

8.d.(5)(m) Appoint a quality assurance analyst from the Office of the CIO to assist each S/SO in monitoring their projects, and keeping life cycle management and project status information up to date.

8.d.(6) Integrated Project Team (IPT). IPTs provide project management for GSA's major IT projects. An IPT helps ensure S/SO project management responsibilities are implemented for each major project to ensure its success. IPT responsibilities include:

8.d.(6)(a) Assisting the project development office with project definition, funding justification, fulfilling reporting required by the Capital Planning Process and project documentation;

8.d.(6)(b) Ensuring that the project has a defined business objective and quantifiable business related performance goals and measures;

8.d.(6)(c) Ensuring the adequacy of the IT development methodology used for the project;

8.d.(6)(d) Evaluating the adequacy of project documentation; and

8.d.(6)(e) Monitoring the progress of the project and reporting project status to the project sponsors, the Office of the CIO and the ITC.

8.d.(7) IT Planning Committee. The S/SO planning representative responsible for developing the S/SO's Capital Planning and IT Investment submission is a member of the IT Planning Committee. This committee, chaired by the Director of the Center for IT Capital Planning (IPC), will ensure that the IT Plan accurately reflects the agency's IT requirements. An initial meeting of the IT Planning Committee will be held at the beginning of the planning year to discuss any new requirements levied upon the S/SOs during the IT planning process. Additional meetings may be held throughout the fiscal year to clarify or answer questions or to discuss issues regarding the planning process. The functions of the IT Planning Committee are discussed in GSA Order, Central Office GSA Committee Handbook (OAD P 5420.1).

8.e. Waivers. S/SOs must submit written requests for waivers to the requirements and processes in this instructional letter to the Office of the CIO. Waivers may be requested for specific projects that merit special consideration because of their particular situation. Such cases may result in the waiver or delay of certain capital planning processes or requirements that place unreasonable burden on a project due to particularly demanding schedule or other constraints. Waiver requests should describe the project and its status, the specific process or requirement for which a waiver is being requested, and the rationale or justification for the request. The CIO will review waiver requests with the ITC. The ITC will make a determination on whether the waiver request should be granted, denied or forwarded to the BTC along with the ITC's recommendation. All waivers that will impact project funding or scope will be forwarded to the BTC for approval.

Attachments. Attachment 1 lists the criteria that should be used to determine if a project is a "major project". Attachment 2 is a table that shows the times of various agency planning and budget events linked to or part of the GSA Capital Planning and IT Investment process. Attachment 3 shows project life cycle phases and required analyses and documentation. Attachment 4 shows the "Raines' Rules".

Filing Instructions. File with IRM 5400.1A.

Attachment 1 - Criteria For Determining If A Project Is A Major Project

A major IT project or investment is a new initiative, ongoing development or acquisition project, an operational system or other type of IT project (including studies and task orders against existing contracts) that meets ***any*** one of the criteria listed in the table below. If any of the criteria in the table can be checked off as applicable then the project is a major project:

CRITERIA DETERMINING A MAJOR PROJECT	APPLICABLE YES / NO
The project is NOT an operational system and its total life cycle costs* are $2.5 million or more	
Annual cost* is $1 million or more	
This project includes an IT capital investment (acquisition of equipment and/or software) totaling $500,000 per year or more.	
High executive visibility	
Supports a mandatory legal requirement levied on GSA	
Cross functional application**	
Critical to the business operations of the agency	

*Cost includes all categories of resources in the OMB Circular A-11 exhibits and IT Plan: equipment, software, contractor services, supplies, federal employee compensation and benefits, and inter/intra agency payments.

**A cross functional application is one that provides critical support to more than one business area or mission.

Attachment 2 - Capital Planning, Strategic Planning, IT Planning and Budget Milestones and Deliverables

TIME PERIOD	PROCESS/EVENT	PRODUCTS/DELIVERABLES
October - December (current fiscal year)	CFO/S/SOs discuss proposed current fiscal year (FY) allocations OMB issues FY +1 Passback Administrator, OMB agree on approved FY +1 budget	CFO issues current FY (funding allocations if appropriations enacted) CFO issues internal call for FY+1 congressional justification and for exhibits CFO inputs data to OMB's system and to OMB for other exhibits CIO issues call for new IT Plan to include: - New initiatives/investment information - IT Performance measures information - exhibit information
January - February	S/SOs prepare IT Plan submissions, including IT investment selection documentation for the Office of the CIO, ITC and BTC review	S/SOs prepare and submit to IPC draft IT Plan submissions including: - IT investment documentation - IT performance measures - IT information for OMB Circular A-11 exhibits - IT strategic and operational plan documentation S/SOs prepare detailed FY +1 justifications GSA submits FY +1 President's Budget to Congress and annual report on actual performance goal achievement.
March - May	ITC, COC, and BTC review IT investments Congressional hearings on FY +1 budget take place	CIO and S/SOs finalize IT investment documentation and submit to ITC and BTC for review ITC and BTC select IT investments to be funded for FY +2 budget S/SOs finalize - performance goals and measures for selected investments - remaining IT plan documentation

TIME PERIOD	PROCESS/EVENT	PRODUCTS/DELIVERABLES
May - June	IT Investment control and evaluation processes begin for new projects and newly operational systems FY +2 Budget Season begins	S/SOs, CIO, ITC, and BTC conduct IT investment control/evaluation reviews as scheduled CFO issues call for - FY +2 budget formulation - performance plans - GSA Strategic Plan updates
July	S/SO budget preparation is underway Services notify customers of budget year rates for Rent, General Supply Fund, and Information Technology Fund Administrator makes decisions on FY +2 budget	CIO finalizes new IT Plan to include IT Performance goals and measures S/SOs submit budget summaries/issue papers
August - September	S/SOs and GSA finalize their FY +2 budget justifications and their performance plans FY +1 allocation/allowance process begins	CFO submits GSA FY+2 Budget request to OMB (including A-11 Part 3 Exhibits) in early September GSA Strategic Plan is due to OMB S/SO Performance Plans are due to CFO) CIO issues updated IT strategic plan CFO issues FY +2 budget execution (allowance) call

Attachment 3 - Life Cycle Phases and Required Analyses Documentation and Plans

Project Life Cycle Phase	Required Analyses Documentation and Plans	References and Requirements
Planning This phase includes: - forming an IPT - analyzing requirements - analyzing alternatives to include costs and benefits - acquisition planning	1. Baseline Assessment and Statement of Need (Existing resource baseline, IPT formation, Performance Gap Discussed).	OMB-CPG, pp 5-6, OMB A-11-300B, II.B GSA Information Architecture, IT Plan systems catalog, GSA- CPG (IPT charter)
	2. Functional Requirements/ Analysis (to be achieved to bridge performance gap)	OMB-CPG, pp. 6-7, GSA-CPG Ch. 2, 3.
	3. Alternatives Analysis (3 pesky questions answered)	OMB-CPG, pp. 7-12, GSA-CPG Ch. 2, 3
	4. Feasibility Analysis and Market Research	OMB-CPG, pp. 10, 11, GSA-CPG, Ch 2, 3
	5. Benefits -Cost Analysis (including Risk and Sensitivity Analysis)	OMB-CPG, pp7-8, GAO Guide, pp 23-51 OMB A-11-300B, II.A GSA-CPG Ch. 2, 3, Appx. 6
	6. Project Plan (Specifies Cost/budget and Schedule Baseline, deliverables, critical path decision points, to include testing).	OMB A-11-300B, III.C GAO Guide, p. 21 GSA-CPG, Ch. 6, Appx.9
	7. Preliminary Acquisition Plan (Part 1)/Acquisition Strategy (included in PSW)	OMB-CPG, pp. 13-15, GSA-CPG, Ch 3, PSW FAR Part 7
	8. QA Plan (Performance Goals/Measures Baseline)	OMB A-11-300.B.III.C GSA-CPG, Ch. 6, Appx.9
	9. Description of Performance Based Management System for monitoring and measuring performance.	OMB-CPG, pp.15, 53, OMB A-11-300.B.III.A
	10 Risk Management Plan	OMB-CPG, pp. 13, 15, 22, GSA-CPG Ch. 3, Appx. 6
	PSW (includes business case justification, performance goals/measures, IT portfolio scoring and other information required by laws, GAO Guide, OMB Guides and A-11)	Clinger-Cohen Act, OMB-CPG pp. 16-17 OMB A-11 GAO Guide, p. 23-25, 39-51 GSA-CPG, Appx. 1
	Other	Other Federal or GSA regulations

Project Life Cycle Phase	Required Analyses Documentation and Plans	References and Requirements
Acquisition/ Development This phase includes: - Awarding a contract - Designing a system - Coding software - Testing	Detailed Acquisition Plan (Part 2)	OMB-CPG, pp.13-15 OMB A-11, 300B.II.C and IIIA, C GSA-CPG, Ch. 3 FAR Part 7
	Performance Based Statement of Work	OMB A-11, 300B.II.C and IIIA OMB Memorandum M-94-21, Performance Based Service Contracting OMB Policy Letter 91-2, Service Contracting
	Security Plan	Computer Security Act
	Plans for Assets/IT investment in Use (Operational Analysis, Operational Plan and Disposal Plan)	OMB-CPG, p.15, 51-55
	Systems design documentation	GAO Guide, p. 21
	Test plans and results	OMB A-11, 300A, A.6.
	Other	Other Federal or GSA regulations
Deployment This phase includes: - Installation - Training - User Acceptance Testing	Contingency Plan	Computer Security Act
	Other	Other Federal or GSA regulations
Operation and Maintenance - This phase includes: - Operation - Maintenance - Disposal	Post-Implementation Review	OMB-CPG p. 53 GAO Guide p. 70 GSA-CPG, Ch. 6, App. 9
	Other	Other Federal or GSA regulations

Legend:

OMB-CPG: OMB Capital Programming Guide, July 1997
OMB A-11 300: OMB Circular A-11, Part 3, Planning, Budgeting and Acquisition of Capital Assets.
GAO Guide: Assessing Risks and Returns, a Guide for Evaluating Federal Agencies' IT Investment Decision Making, February 1997
GSA-CPG: GSA Capital Planning and IT Investment Guide
PSW: Project Summary Worksheet (Appendix 1)

Attachment 4 - Raines' Rules

Franklin Raines, Director, OMB, in a memorandum dated October 25, 1996, issued policy guidelines for capital planning and funding approval of IT investments. These guidelines, referred to as the "Raines' Rules" are listed below.

Raines' Rules

Policy: Investments in major information systems proposed for funding in the President's budget should:

Support Mission: Support core/priority mission functions that need to be performed by the Federal government;

No Alternative Source: Be undertaken by the requesting agency because no alternative private sector or governmental source can efficiently support the function;

Work Process Reengineering: Support work processes that have been simplified or otherwise redesigned to reduce costs, improve effectiveness, and make maximum use of commercial, off-the-shelf technology;

Business Case Analysis: Demonstrate a projected return on the investment that is clearly equal to or better than alternative uses of available public resources. Return may include: improved mission performance in accordance with GPRA measures; reduced cost; increased quality, speed, or flexibility; and increased customer and employee satisfaction. Return should be adjusted for such risk factors as the project's technical complexity, the agency's management capacity, the likelihood of cost overruns, and the consequences of under- or non-performance;

Consistent with IT Architectures: Be consistent with Federal, agency, and bureau information architectures which: integrate agency work processes and information flows with technology to achieve the agency's strategic goals; reflect the agency's technology vision and year 2000 compliance plan; and specify standards that enable information exchange and resource sharing, while retaining flexibility in the choice of suppliers and in the design of local work processes;

Reduce Risk: Reduce risk by: avoiding or isolating custom-designed components to minimize the potential adverse consequences on the overall project; using fully tested pilots, simulations, or prototype implementations before going to production; establishing clear measures and accountability for project progress; and securing substantial involvement and buy-in throughout the project from the program officials who will use the system;

Modular Contracting: Be implemented in phased, successive chunks as narrow in scope and brief in duration as practicable, each of which solves a specific part of an overall mission problem and delivers a measurable net benefit independent of future chunks; and,

Risk Sharing: Employ an acquisition strategy that appropriately allocates risk between government and contractor; effectively uses competition, ties contract payments to accomplishments, and takes maximum advantage of commercial technology.

GSA I-TIPS User Guide

GSA's Capital Planning and IT Investment Process uses the Information Technology Investment Portfolio System (I-TIPS) to facilitate Capital Planning and IT Investment. The Capital Planning and IT Investment Guide is written as a companion document to an I-TIPS User Guide that is tailored to GSA's published Capital Planning Process. If you have received the Capital Planning Guide without Appendix 11 (I-TIPS User Guide) and would like a copy, you may find one on our Office of the CIO Home Page at:

http://www.gsa.gov/gsacio