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Strategic Information Technology Plan  
2004-2008



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## Introduction

The mission of the Department of Commerce (DOC) is to create the conditions for economic growth and opportunity by promoting innovation, entrepreneurship, competitiveness, and stewardship.

To achieve this mission, the Department has established three strategic goals and a management integration goal. Each strategic goal involves activities that touch American lives every day. These strategic goals and the general objectives underlying each of them, are stated as:

***Goal 1: Provide the information and tools to maximize U.S. competitiveness and enable economic growth for American industries, workers, and consumers.***

The objectives of this strategic goal are to enhance economic growth by developing partnerships with private sector and nongovernmental organizations, to advance responsible economic growth and trade while protecting American security, and to enhance the supply of key economic and demographic data to support effective decision making by various DOC stakeholders.

***Goal 2: Foster science and technological leadership by protecting intellectual property, enhancing technical standards, and advancing measurement science.***

Underlying this strategic goal are the general objectives of developing tools and capabilities that improve the productivity, quality, dissemination, and efficiency of research; the protection of intellectual property and improvement of the patent and trademark system; and the advancement of the development of global e-commerce and enhanced telecommunications and information services.

***Goal 3: Observe, protect, and manage the Earth's resources to promote environment stewardship.***

The objectives of this strategic goal are to advance understanding and predict changes in the Earth's environment, and to meet America's economic, social, and environmental needs through enhanced conservation and management of coastal and marine resources.

***Management Integration Goal: Achieve organizational and management excellence.***

This goal, which applies with equal importance to all of our operating units, reflects our commitment to continual improvement in the effectiveness of our organizational management in both public and private settings.

The Department of Commerce is a major Information Technology (IT) organization and successful outcome of its programs is dependent upon effective investment in, and management of, its IT resources. In FY 2003, Commerce spent \$1.19 billion on IT services that include hardware, software, in-house personnel, and support services. In FY 2004 and 2005, the Department plans to spend \$1.35B and \$1.49B respectively on IT services. As a percentage of

total agency expenditures, Commerce ranks among the top agencies in the Federal Government in IT spending. Our ability to serve our customers and our effective stewardship of public resources depend upon the efficient application of our IT resources to furthering these goals.

This Strategic Information Technology Plan (SITP) is one of a suite of documents that guides the Department of Commerce's Information Technology (IT) planning process. It has been prepared consistent with Federal guidance including:

- Government Performance and Results Act of 1993 (Public Law 103-62)
- Clinger-Cohen Act of 1996 (Divisions D and E of Public Law 104-106)
- Government Paperwork Elimination Act of 1998 (Public Law 105-277)
- The e-Government Act of 2002 (Public Law 107-347)
- Section 508 of the Rehabilitation Act (29 U.S.C. 794d), as amended by the Workforce Investment Act of 1998 (P.L. 105-220), August 7, 1998
- Information Quality Act of 2001 (Public Law 106-554)
- Office of Management and Budget Circular A-130; Management of Federal Information Resources
- Office of Management and Budget Circular A-11; Planning, Budgeting, Acquisition, and Management of Capital Assets
- Homeland Security Presidential Directive-7: Critical Infrastructure Identification, Prioritization, and Protection

This SITP serves as the linkage between the [Department of Commerce Strategic Plan](#) and the SITPs developed by the various DOC operating units. It draws upon strategic guidance found in the Department's Strategic Plan and sets the direction for development of the operating units' individual SITPs.

In this document you will find our strategies for implementation of various legislative mandates, the vision of the Department's Chief Information Officer (CIO) for implementation of the Department's overall strategic plan, linkages between the SITPs of the Department's various operating units, and the framework of strategic requirements to be implemented through the Department's use and management of Information Technology. Specific guidance, which shapes our formation of this plan, is found in the Department's [Annual Performance Plan and Accountability Report](#) and our Information Technology [Capital Planning and Investment Control Process](#).

Our Strategic IT Plan is intended to serve three functions:

- It defines the strategies we will follow to ensure that the Department acquires IT resources of the highest quality, manages those resources in the most effective manner possible, and makes efficient use of those resources in achieving our highest-level goals.
- It is a visionary document, giving form to an environment to which Commerce's various and diverse operating units should strive. Accomplishment of our Departmental goals requires a coordinated effort by all of our organizational components.
- It identifies our IT vision and will serve as a measuring stick to determine our success in progressing toward that vision.

Please direct comments or questions to the Office of Information Technology Policy and Planning (OITPP) at (202)-482-0335.

## **IT Management in the Department of Commerce**

### **OBJECTIVES OF THE OFFICE OF THE CHIEF INFORMATION OFFICER**

The Commerce Department's Chief Information Officer (CIO) is responsible for guiding the Department's effective use and management of the Department's IT resources. The CIO places a high priority on the full and appropriate use of information technology throughout the Department, and encourages the CIO of each of the subordinate DOC operating units to communicate the same priority throughout their organization.

The Office of the Chief Information Officer (OCIO) policy actively supports the increased use of leading edge technology throughout the Department. From the annual strategic IT planning process through the development, implementation, and deployment of operational IT systems, OCIO encourages all of the DOC operating units to seek out innovative approaches to achieving the Departmental mission more efficiently, and to deliver DOC products and services of the highest quality while maintaining low cost to the taxpayer.

OCIO oversees an annual investment of approximately \$1.5 billion in IT hardware, software, and services. This investment is executed and managed through a Capital Planning and Investment Control (CPIC) process, as envisioned in the Clinger-Cohen Act of 1996, Office of Management and Budget (OMB) Circular A-130 (Management of Federal Information Resources), and other related guidance and regulations. DOC policies and implementation guidance developed by OCIO directly support OMB guidance and provide a structured process for the review and evaluation of proposed IT initiatives as well as the control of ongoing IT projects. It is the objective of the DOC CIO to further strengthen the Department's processes involved in the acquisition and management of IT resources and to maintain a robust IT Capital Planning and Investment Review process

The DOC CIO continues to place a high priority on increasing the quality, timeliness, and amount of information available to our customers in electronic format. In order to maximize our potential as a transaction-oriented e-Government entity, we focus our efforts on placing ourselves closer to our customers and achieving continual improvement in our efficiency at delivering products and services at our stakeholders' location of choice.

Also of high importance to the CIO is the Department's IT Security and Critical Infrastructure Protection activities. As more and more Departmental information is made available in electronic format, the potential for compromise of that information grows exponentially. To ensure the integrity and availability of the Department's information resources, we have increased our efforts toward maintaining a secure IT environment and have maintained a high vigilance in our implementation of policies and procedures to ensure continuity of Departmental operations.

## **THE COMMERCE INFORMATION TECHNOLOGY REVIEW BOARD**

Central to the management of the CPIC process is the guidance provided by the Department of Commerce Information Technology Review Board (CITRB). The CITRB, in concert with the DOC CIO Council and through the Department's CPIC process, provides oversight, review, and advice to the Secretary and Deputy Secretary on IT investments that meet certain criteria. This advice includes recommendations for approval or disapproval of funding for new IT systems or major modifications to existing systems. The CITRB also makes recommendations for continuing, modifying, or terminating existing systems based on performance, cost, or schedule criteria.

Proposals for new IT initiatives, along with supporting documentation, are presented to OCIO and the CITRB as part of the budget submittal process. Project sponsors also brief the CITRB on the merits of their projects, and the CITRB then rates and ranks proposed IT initiatives according to documented evaluation criteria. Project sponsors are given an opportunity to correct deficiencies and improve their scores, and projects that receive satisfactory ratings are forwarded as approved by the CIO for the budget review process. The CIO provides finalized project ratings and recommendations to the Office of Budget and Departmental executives, for final budget approval.

The CITRB's control reviews address projects that are in progress, at key milestones, or demonstrate a need for management intervention. These reviews ensure that ongoing systems are meeting cost, schedule, and performance goals, and the Board directs corrective actions as necessary. At least annually, OCIO staff reviews IT systems that are not the subject of a formal DOC CITRB review.

As an IT initiative is completed or reaches the operational life-cycle phase, a post-implementation review is conducted to explore lessons learned and to provide suggestions for better managing future projects. Actual results of implemented projects are compared to expectations to assess investment performance. This assessment provides valuable information relative to the project's impact on operating unit and Departmental mission performance, identifies any investment initiative modifications that may be needed, and allows the Departmental CIO to revise the investment management process based on lessons learned.

Meeting for the past several years, the CITRB has made significant progress in promoting improved IT decision-making throughout the Department. The CITRB is considered by Departmental senior management as the central decision-making point in the evaluation of IT initiatives for budget year projects.

## **THE INFORMATION TECHNOLOGY PLANNING PROCESS**

The Commerce IT planning process requires that each operating unit develop strategic and operational IT plans. The purpose of the strategic IT plan is to focus attention on each operating unit's high-level, strategic application of IT to Departmental missions. The operating units' strategic IT plans highlight budget year initiatives and address key planning issues such as the support of operating unit and Departmental missions, the incorporation of business process

reengineering, and investment selection criteria such as return on investment, compliance with architectural goals, comprehensive risk analysis management, and IT security.

The objectives of the Department's IT planning process are:

- To ensure decisions relating to IT investment and management are fully informed and that they are made with the best information available;
- To leverage the power of IT to improve delivery of Commerce products and services;
- To anticipate future trends in technology and to ensure that those trends are exploited in the fulfillment of Commerce's mission;
- To ensure that key stakeholders are properly identified and intimately involved in the planning, acquisition, and management of Commerce's information assets;
- To intelligently evaluate alternatives for fulfilling the Department's IT needs and to ensure that decisions made reflect an optimal approach to satisfying cost, schedule, and performance requirements;
- To ensure that decisions made regarding IT acquisition and management properly incorporate full consideration of the requirements for the security of information assets and that principles of individual privacy are fully integrated into IT solutions;
- To promote a fully integrated approach to program planning, IT security management, and the processes of investment evaluation, selection, and control;
- To ensure that the products and services delivered to our customers reflect full value for the resources expended.

The IT planning process is integrated with the Department's IT capital planning and budget development processes. This integrated approach significantly enhances IT decision making at both the Departmental level and within the various operating units. OCIO staff coordinates IT planning processes with budget calls to the operating units in order to support IT plan development and the budget review process. IT projects must clearly demonstrate alignment with the strategic IT plan to successfully complete the budget review process.

The operating units' Operational IT Plans (OITP) are based on OMB Circular A-11, Exhibit 300 and delineate the detailed actions and resources necessary to achieve the goals established in the Strategic IT Plan. The focus of the OITP is on the operating units' planned IT activities for the coming fiscal year and the achievement of performance measures required by the Government Performance Results Act (GPRA). The OITP is one piece of a coordinated suite of documentation, providing a linkage with the budget process and ensuring that related issues, such as the Enterprise IT Architecture, IT security, and privacy issues are considered on an ongoing basis. The OITP provides operational guidance to the operating units' IT managers, identifying specific schedules, acquisition plans, and performance measures.

## **THE COMMERCE ENTERPRISE IT ARCHITECTURE**

Commerce has established an Enterprise IT Architecture that promotes the effective management and operation of our IT investments. The Enterprise IT Architecture provides a comprehensive, integrated picture of current capabilities and relationships (i.e., the current architecture), an agreed upon blueprint for the future (i.e., the target architecture), and a strategy for transitioning

from the current to the target environment. The Enterprise IT Architecture also describes the information needed to carry out the Department's business processes; identifies the system applications that create or manipulate data to meet business information needs; and documents the underlying technologies (i.e., hardware, software, communications networks, and devices) that enable the generation and flow of information.

The Enterprise IT Architecture is an essential tool for taking a strategic approach to planning and managing the Department's IT resources and making maximum use of our limited IT dollars. It ensures the alignment of IT with the Department's strategic goals so that business needs drive technology rather than the reverse; identifies redundancies, and thus potential cost savings; highlights opportunities for streamlining business processes and information flows; assists in optimizing the interdependencies and interrelationships among the programs and services of the Department's operating units; ensures a logical and integrated approach to adopting new technologies; promotes adherence to Department-wide standards including those for information security; and pinpoints and resolves issues of data availability, access, and quality.

Commerce's Enterprise IT Architecture serves as an essential tool for strategic decision-making. DOC's highly successful Enterprise-wide IT Architecture Program and Process allows the Department to plan cost-effective IT capital investments that are directly linked to the Department's missions and strategic goals. Our Enterprise IT Architecture efforts are highly visible, contributing to both Commerce and Government-wide efforts to achieve efficiencies through sound use of information technology. Both the Office of Management and Budget and the General Accounting Office are committed to the effective use of Enterprise IT Architecture, are actively promoting its value, and providing oversight to ensure the establishment of dedicated Enterprise IT Architecture programs. The Department's Enterprise IT Architecture Program and its integration with the IT Capital Planning and Investment Control Program were highlighted as one of three case studies in a Government-wide report entitled "Enterprise IT Architecture, Capital Planning and Investment Control" prepared by the Chief Information Officer's Architecture and Infrastructure Subcommittee, under the direction of the Office of Management and Budget.

The Department has developed a cohesive set of Web-based IT Architecture guidance documents, including standards, reference models, and best practices. These plain-English documents help ensure that each of the operating unit Architecture Programs produces useful results and is in full compliance with the Clinger-Cohen Act and the Office of Management and Budget Circular A-130, which require an IT architecture process for each Federal Department. Commerce also employs an Enterprise IT Architecture Capability Maturity Model. The model provides comprehensive guidance so that each operating unit can improve its IT architecture process each year and can link its architecture efforts with the IT Strategic Planning and IT Capital Planning processes. The Maturity Model results are steadily improving and have been reported to Congress in the Department's Annual Performance Plan as a barometer of Commerce's architecture program progress and its institutionalization. Commerce's Enterprise IT Architecture Advisory Group prepared a consolidated business case, presenting a cohesive and long-term enterprise-wide strategy for developing and sustaining IT architecture within Commerce. The Office of Management and Budget awarded this business case a score of 4 on a scale of 1-5, joining the top 20% of Commerce's business cases. The Department is currently

targeting significant efforts to the use of a software tool to help model and visualize the Architectures and ensure that the architecture process is active and dynamic.

Commerce's operating units have now established their own Architecture Programs, created and maintained their Architectures complementary to the Department-level Architecture, and moved their programs forward toward their target Architectures. These outstanding Architecture Programs are helping to achieve interoperability and portability of systems, integration of work processes and information flows, information exchange and resource sharing, and overall efficiencies to achieve the strategic goals within Commerce.

In an effort that highlights the integration of the Enterprise IT Architecture and Capital Planning and Investment Control processes, Commerce developed a target architecture for grants systems, reducing the number of separate and redundant grants systems from 12 to two. As another example, the Commerce Administrative Management System (CAMS) is a key component of Commerce's Enterprise-wide Administrative Systems Architecture. At the Chief Architect's urging, the CAMS development team articulated an IT architecture for financial systems, with a Core Financial System at the center and multiple feeder systems that support separate financial functions, such as personal property and acquisition. This Financial Systems Architecture is a key component of the Department-level IT Architecture; the Office of the Chief Information Officer and the Commerce IT Review Board use this target Architecture when analyzing proposals for new systems with financial implications, ensuring that redundant systems are eliminated and that all financial systems integrate with CAMS.

Development of a solid Enterprise IT Architecture Program is a forward-looking, strategic planning effort that requires initiative and sustained work over a long period. As with any strategic planning function, benefits are generally realized in the long term. The proof of concept for the Enterprise IT Architecture is in the selection and rational migration toward well-constructed target architectures. To this end, the Commerce's continued developmental efforts are beginning to pay off in concrete ways. As one example, the National Marine Fisheries Administration used its IT architecture, making effective use of the software modeling tool, to analyze its telecommunications structure and to prepare and defend its choice of telecommunications architecture alternatives through a structured analysis presented to the Commerce IT Review Board. Fisheries, NOAA, and Commerce now have confidence that the selected telecommunications target architecture is the best approach and that capital investments in telecommunications at Fisheries are well justified. Also, two components of Commerce's Enterprise IT Architecture, the National Observing Systems at NOAA and the Census Bureau, were nominated for the Federal Computer Week Excellence in Enterprise IT Architecture Award. Although these systems were not among the final five winners, they were both among the final 15 candidates of the 80 nominations submitted.

The General Accounting Office's Enterprise IT Architecture Management Maturity Framework evaluates whether the Department has a committee or group representing the enterprise that is responsible for directing, overseeing, and/or approving the Enterprise IT Architecture. The Enterprise IT Architecture Advisory Group admirably fills this role for Commerce. Information on the structure, roles, and responsibilities of the Advisory Group can be found at [page 33](#) of this Plan.

## **THE CAPITAL PLANNING AND INVESTMENT CONTROL PROCESS**

The success of Commerce's IT investments directly influences the ability of the Department and its operating units to execute business plans and fulfill missions. Recognizing both the importance of IT investments to the organization and its role in supporting the success of these investments, OCIO has established a CPIC process. This guidance directs that investment control processes must include three essential phases: Select, Control, and Evaluate. Each phase is conducted as part of a continual interdependent management effort aimed at moving from a fixation on project-by-project focus to a wider, portfolio perspective of investment trends, directions, and outcomes.

Commerce's CPIC process links all IT investments to the strategic goals of the Department. The business case for each IT investment must identify its linkage to the Department's and operating unit's mission, goals and objectives, and address how it will enable and facilitate the achievement of the strategic goals and objectives

### **IT Portfolio Management and the Analysis of IT Investments**

Commerce's IT portfolio management process is a component of the Capital Planning and Investment Control (CPIC) process and the Enterprise IT Architecture. Over the last few years we have significantly increased our ability to ensure that proposed and current IT investments align with the Department's strategic vision and actively contribute to our performance against Departmental goals. Working with the operating unit CIOs, the DOC OCIO has insisted that operating unit-level portfolio management processes link the strategic and operational goals to specific program initiatives and that strategic IT plans articulate how the CIOs' organization, mission, vision, and strategic approach will equip the operating unit with the tools needed to achieve their strategic and organizational goals.

Specific accomplishments that demonstrate enhanced capabilities in analysis of IT investments and IT assets within the various DOC operating units include the following:

#### ***Bureaus of Economic Analysis (BEA)***

BEA has formalized its IT Portfolio Management Process (IT-PMP) and has refined the IT-PMP each year as part of BEA's strategic IT planning process. The IT-PMP links BEA's strategic and operational goals to specific program initiatives in their Strategic Plan and articulates how the Office of the Chief Information Officer's organization, mission, vision, and strategic approach will equip BEA stakeholders with the IT tools needed to achieve their strategic and organizational goals. The IT-PMP serves as the guide to the Bureau's ongoing effort to improve the timeliness, relevance, and accuracy of its economic accounts, and to improve BEA's communications and information sharing with its customers. The IT-PMP also serves as a blueprint for the ongoing process of aligning information and emerging technologies with the business goals of the Bureau. This blueprint accomplishes the following:

- Guides the process of planning, acquiring, and deploying of IT resources.

- Ensures interoperability between BEA system components.
- Reduces information technology maintenance and support costs through BEA's centralized IT management process.
- Facilitates compliance with government-wide President's Management Agenda initiatives.
- Provides a road map for implementing new state-of-the-art technologies.
- Ensures that new technologies are implemented in accordance with BEA's target Enterprise Architecture.
- Assists in the development of IT performance measures utilized to rate projects relative to their contribution to BEA performance goals.
- Facilitates compliance with the eGovernment Act, FISMA, and other regulatory requirements.

### ***Census Bureau***

Over the past year, the Census Bureau has dramatically improved the management oversight of its IT investments through the enhancement of the Select and Control phases of its Capital Investment Control Process (CIPIC). The result of these enhancements is an improved linkage of IT projects with program area requirements and better management of IT purchases, both of which have resulted in improved efficiencies and cost savings.

To enhance the Select phase of the CIPIC process, the responsibilities of both the Census Bureau Program Areas/Operating Committee and CIO/IT Governing Board (ITGB) were better defined, resulting in the Program Areas/Operating Committee being given more responsibility for assisting in the initial selection and final approval of projects and the CIO/ITGB being given more responsibility for the selection of the IT component of the approved project. Under the old process, the Program Areas/Operating Committee were responsible for approving both the project and for selecting and approving the IT component of a project and the CIO/ITGB was responsible for only controlling the development and implementation of the IT component.

During the first step of the Select phase, Program Areas prepare and submit Fact Sheets to the Budget Division. Fact Sheets provide a brief description of the initiative and define the need and concept of the proposed investment, emphasizing:

- Performance measures,
- Stakeholders,
- Operational impact
- Linkage with other initiatives/projects,
- Procurement issues, and
- Cost estimates.

During the second step of the Select phase, the Budget Division reviews the Fact Sheets and submits them to the Operating Committee along with a Budget Summary of Analysis that includes the committee's recommendations for approval/disapproval/modification. The Fact Sheets and Budget Summary of Analysis serve as a concept description upon which the Operating Committee bases a decision for either approval or rejection of the initiative. If an

initiative is approved by the Operating Committee, the Program Area prepares an OMB Circular A-11 Exhibit 300 – the third step of the Select phase.

In the third phase of the Select phase, Program Areas are required to conduct more detailed analyses of proposed projects; completing all portions of the Circular A-11 Exhibit 300 requirements, including:

- Summary of Spending Plan
- Detailed justification of the initiative
- Performance goals
- Identification of a project manager and the project team
- Alternatives analysis
- Risk assessments
- Acquisition strategy
- Project funding plan
- Definition of the project's alignment with the Census Bureau's Enterprise IT Architecture, CPIC process, and the Federal Enterprise Architecture
- Compliance with security, privacy, and Government Paperwork Elimination Act legislation.

In the fourth step of the Select phase, the Program Areas submit their Exhibit 300s to the ITGB for a review of the projects IT components and consideration of technological alternatives. Additionally, the ITGB compares the investment requirements to the existing IT asset inventory to check for asset duplication and reconciliation of overlapping resources. The Program Area incorporates any necessary modifications based on the ITGB review and recommendations and submits the Exhibit 300 to the Budget Division for incorporation into the Secretarial submission.

Using this four-stage selection process, the Census Bureau has been able to ensure that all approved IT projects will fulfill the business needs of the Program Areas as well as comply with the IT standards and requirements of the IT Directorate.

As part of the Census Bureau's efforts to enhance the management oversight of IT projects in the Control phase, the CIO, at the direction of the Census Bureau Deputy Director, developed and implemented an IT Purchase Planning oversight committee responsible for reviewing, evaluating, and recommending approval/disapproval for major IT investments prior to their purchase. This committee, which comprises senior IT managers in the IT Directorate, is responsible for reviewing proposed purchases to determine if they are properly described and documented in an approved IT Business Plan or Exhibit 300/Capital Asset Plan. If the proposed purchases are adequately documented in an approved plan, the committee evaluates the proposed purchase to determine if 1) the user's requirement cannot be fulfilled by an already existing Census Bureau IT asset, 2) the assets will comply with Census Bureau standards, and 3) the assets will be able to technologically fulfill the requirements of the user. If the committee determines that the proposed purchase should be made, they send an official recommendation of approval to the CIO. The CIO then discusses the proposed purchase with the Census Bureau's Deputy Director who makes the final determination as to whether or not the purchase is approved. Following this new procedure, the Census Bureau has been able to consolidate similar

IT purchases, resulting in better discounts for the government and has been able to fulfill user requirements using previously purchased IT assets thus avoiding the cost of purchasing redundant assets.

### ***Economic and Statistics Administration (ESA)***

ESA's IT portfolio is designed with input from all the offices and the IT Steering Committee, which includes senior-level management. Projects are either received as input from the offices or directly from the Office of the Chief Information Officer and evaluated and approved by senior management. Only projects that support the mission of the organization are considered for inclusion in ESA's IT portfolio, and only those projects that are approved by the IT Steering Committee are pursued. ESA's Strategic IT Plan and Operational IT Plan guide all IT processes and provide the Office of the Chief Information Office with the necessary documentation and tools to accomplish short and long-term goals.

Since Fiscal Year 2003, when ESA's Office of the Chief Information Officer was established, ESA has seen a dramatic improvement in the management of its IT resources and internal decision-making process. Once the Agency's Strategic and Operational IT plans were developed, ESA produced its IT Portfolio Breakout Table that provides detailed information on each project pursued by the organization. Increased participation and input from all the offices has helped ESA better align its goals with the organization's mission and to more efficiently allocate its IT assets. Each project is tracked and monitored against the Breakout Table at every stage of the process. Although ESA does not manage a large IT budget, adherence to Departmental guidance has streamlined its IT portfolio management process and ensured a more transparent management of IT resources.

### ***Economic Development Agency (EDA)***

EDA has had an active IT planning process in place for several years, and has established a formal investment review process. EDA develops and manages its IT budget centrally, with direct oversight by the CIO. The CIO prepares the agency IT budget and submits it for review and concurrence by the members of the EDA Information Technology Review Board (EITRB). The Board monitors project status and performance, and recommends corrective action on projects when necessary. Through this oversight and management, EDA has improved the quality of its business cases and demonstrated effective management of its IT program, keeping costs within an established budget baseline that has seen no increases since FY 2002. The agency's participation in the recent project management training courses sponsored by the Department has had a direct and positive impact on the efficiency and performance of EDA's IT project managers.

### ***International Trade Administration (ITA)***

ITA has significantly increased its ability to manage its IT portfolio in a way that ensures proposed and current IT investments actively contribute to the Department's strategic vision and performance. The ITA eGovernance Council, which includes the ITA CIO and two senior representatives from each program units, meets monthly to review IT investments and takes

action on current and proposed IT initiatives. As an example of recent improvements in our IT management processes, further consolidation of Export.gov Websites under the auspices of the International Trade Process Streamlining (ITPS) investment and active program management have led to addressing specific OMB Program Assessment Rating Tool (PART) recommendations and have led to improved program performance, as well as more efficient use of IT resources through a significant reduction in the numbers of servers and Websites operated by ITA. In the more unified environment, almost 20% of visitors to the Export.gov portal are now return visitors, indicative of a very sticky Website. Additionally, the number of hits on ITA Websites has doubled in the last year, to over one million hits per week, indicating customer interest and a positive outcome of ITA's IT investments.

### ***National Oceanic and Atmospheric Administration (NOAA)***

NOAA has implemented a Planning, Programming, Budgeting, and Execution System (PPBES) as a component of its IT portfolio management process. NOAA's PPBES and Capital Planning and Investment Control (CPIC) process are integral to the entire portfolio planning process and serve as primary tools in the analysis of all NOAA IT investments.

NOAA's Portfolio of IT investments is structured such that a clear linkage exists between each IT investment and one or more of NOAA's strategic goals. The analysis of every NOAA IT investment is conducted with a view toward the strategic goal supported by the investment. This serves to ensure that investments in IT resources provide a direct and focused contribution to NOAA's ability to accomplish its missions. To maintain this mission-oriented focus, each of NOAA's mission goal teams includes a NOAA line office CIO as an active voting member.

After a mission goal team has fully developed a concept for a proposed new IT investment initiative, the agency-wide NOAA IT Review Board (NITRB) reviews the investment proposal for approval and possible further recommendation to the Department of Commerce IT Review Board. NITRB reviews focus on the business case for the proposed investment, including the performance measures to be instituted and the strategic fit of the investment within NOAA's overall IT investment portfolio. The NITRB also evaluates proposed investments for compliance with the performance-based management, IT security, risk assessment, and enterprise architecture requirements of OMB's Circular A-11 Exhibit 300, Capital Asset Plan and Business Case for major investments. To gain NITRB approval, a proposed IT investment must also demonstrate full life cycle cost planning and, where possible, represent an approach to an enterprise solution rather than a "stove pipe" process.

NOAA is currently focusing on strengthening the IT investment analysis process in all of its line offices. In concert with a Department-wide effort to improve the management of its IT investments, NOAA is committed to managing its IT investments within aggressive cost and schedule goals. NOAA's analysis of existing IT investments focuses on maintaining these performance goals, and where variances are detected, corrective action plans are developed and pursued.

### ***National Institute of Standards and Technology (NIST)***

NIST has recently completed an effort to more formally define the boundaries of its IT portfolio. This has led to a more enterprise-oriented view of all NIST IT assets in that it has eliminated confusion among NIST staff as to what constitutes a particular IT investment and how that investment will be managed. This has further improved the IT Capital Planning and Investment Control process by providing a consistent mechanism for organizing approval submissions and managing those submissions as they move through the approval and review process. NIST now uses an automated process to submit procurement requests for IT development services for CIO review and approval. This has enabled the NIST CIO to better manage the development or enhancement of systems in the NIST IT portfolio, both within the administrative and research organizations of NIST. Additionally, NIST has reduced the number of systems in its IT portfolio by combining similar systems and by simply eliminating a number of obsolete legacy systems. This effort has led to a reduction in the number of IT systems in NIST's inventory from 120 to 112.

**Use of the Program Assessment and Rating Tool in the Alignment of the DOC IT Portfolio**

Last year, the Program Assessment Rating Tool (PART) was applied to nineteen Commerce programs. From these nineteen assessments, Commerce achieved the following assessment results:

<b><u>Rating</u></b>	<b><u>Number</u></b>
Effective	4
Moderately Effective	7
Adequate	4
Results Not Demonstrated	4

The PART, as it is applied throughout DOC, provides a consistent approach to rating operational programs across the entire Department. The PART is a diagnostic tool that relies on the user's professional judgment to assess and evaluate programs across a wide range of issues related to performance.

Because each of the programs evaluated with the PART directly contributes to one or more DOC strategic goals, the alignment of our IT investments with our PART-evaluated programs is a natural outflow of the CPIC process. Commerce's IT portfolio is managed with input from all the Department's operating units and the CITRB, which includes executive management from throughout DOC. Only IT projects that directly contribute to the mission goals of both the operating unit and the Department are considered for submission to the CITRB, and of these proposed investments, only those achieving approval by the CITRB are incorporated into the Department's IT portfolio. PART assessments help identify program strengths and weaknesses and help inform management actions, funding recommendations, and legislative proposals aimed at improving performance and achieving better results. The role of the PART in DOC's management of its IT portfolio is to focus attention on programs that could benefit from additional resources being devoted to one or more IT investments or the realignment of resources already deployed. Specific activities describing the alignment and integration of our IT portfolio within various DOC operating units are described below:

***Bureau of the Census***

The formalization of performance evaluation through the PART process is intended to develop defensible and consistent ratings of Census programs for the FY 2004 Budget and beyond. Using this guidance, Census selected four programs to be evaluated. These programs, along with their PART ratings, are:

<b><u>Program</u></b>	<b><u>Rating</u></b>
Survey Sample Redesign	Effective
Current Demographic Statistics	Moderately Effective
Intercensal Demographic Estimates	Moderately Effective
Decennial 2010	Moderately Effective

After the PART review, it was determined that Decennial 2010 had weaknesses in Section 4, Program Results. Decennial is aware of this weakness and continues to improve the performance measures for this program and the expected outcomes relative to what is actually being achieved. Survey Sample Redesign, Current Demographic Statistics, Intercensal Demographics Estimates, and Decennial 2010 continue to have better control over resources used and accountability for results by program managers. The constant monitoring of the four sections within the PART review allows the programs to continually improve and align to the agency's progress.

***Bureaus of Economic Analysis (BEA)***

Annually, BEA aligns IT strategic and operational goals directly with the Bureaus' program objectives. The alignment provides BEA with a clear line-of-sight business impact of its IT investments. In addition, BEA's Operational Analysis System incorporates performance measures that are aligned with internal program performance goals, as well as those included in the Office of Management and Budget's (OMB) Performance Assessment Rating Tool (PART). This alignment allows BEA, through the Information Technology Executive Steering Committee (ITESC), to assess the cost and performance of IT initiatives against the baseline goals established in the annual strategic planning process as included in the PART.

For two years (FY 2002 and FY 2003) BEA was among the top five percent of federal agencies to receive an "Effective" rating, OMB's highest rating. BEA scored 92 out of a possible 100, and received the highest score in the Department of Commerce.

The findings of the PART review of BEA's programs was complimentary of BEA's assembly of data into consistent and comprehensive sets of statistics, the direct involvement of BEA's Advisory Committee and data users in BEA's strategic planning, and BEA's leadership role in meeting the International Monetary Fund's Standard Data Dissemination Standards. We believe that these PART review findings reflect an IT investment portfolio that is already well aligned with BEA's core business functions.

***Small Business Innovation Research (SBIR) Program***

The overall purpose of the SBIR program is to strengthen the role of innovative small businesses in Federally funded research by stimulating and fostering scientific and technological innovation, increasing the commercialization of Federal research and development, and encouraging participation by minority and disadvantaged persons. The SBIR program within Commerce is administered jointly by NOAA and NIST. The SBIR program was the subject of a BY 2005 PART review, and received an overall rating of “Results Not Demonstrated.” The findings of the SBIR PART review indicated a number of issues with the focus and demonstrated performance of the Commerce SBIR program, but none of these issues lend themselves to an IT-related solution or point to a need for realignment of an IT investment portfolio.

### ***Economic Development Administration (EDA)***

EDA was the subject of a BY 2005 PART review, with an overall rating was “Moderately Effective.” The findings of EDA’s PART review related to the uniqueness of EDA’s programmatic contribution, the specific attribution of successes to EDA’s efforts, and the feasibility of independent evaluation of EDA’s performance measures. The PART review findings did not address any issues directly or indirectly relating to EDA’s use of IT resources. EDA’s primary long-term outcome goals, the promotion of private enterprise and job creation, do not involve significant IT investments, and thus do not impact the alignment of EDA’s IT investment portfolio. Should future PART recommendations impact on areas where EDA could benefit from the realignment of IT resources, the approach to such a realignment will be focused on improvements in EDA’s core business functions and the alignment of the IT investment portfolio to those business functions.

### ***International Trade Administration***

ITA’s International Trade Process Streamlining (ITPS) program serves the US and Foreign Commercial Service’s mission of promotion of exports by small- and medium-sized U.S. businesses. A PART recommendation (PART ID 100001024) relating to ITPS called for consolidation of a number of Websites, a reduction in the number of servers deployed online, and incorporation of a significant amount of Web content into the Export.gov program. This PART recommendation was incorporated into the ITPS project plan, and resulted in the consolidation of the USATrade Website into the Export.gov Website. Further consolidations of both Websites and servers are planned as a result of the PART reviews and demonstrate the active alignment of PART recommendations with ITA IT portfolio management.

### ***Minority Business Development Agency (MBDA)***

While MBDA was the subject of a BY 2005 PART review, the findings of the review reflected needed improvements in the coordination among other minority business development programs, closer oversight of grantees, and improvement of performance measurement techniques.

The business development efforts administered by MBDA do not involve significant IT investments, and thus do not impact the alignment of MBDA’s IT investment portfolio.

***National Institute of Standards and Technology (NIST)***

Three NIST programs; Advanced Technology Program, Manufacturing Extension Partnership, and NIST Laboratories Program, were subjected to FY 2005 PART reviews. The overall rating scores for these programs were as follows:

<b><u>Program</u></b>	<b><u>Rating</u></b>
Advanced Technology Program (ATP)	Adequate
Manufacturing Extension Partnership	Moderately Effective
NIST Laboratories	Effective

IT is both a driver and an enabler for ATP, and each of these three programs is an integral part of NIST’s Institute-wide long-term strategic planning process.

While none of the PART review findings for these three programs point to IT-related deficiencies, all three of these programs are regularly subjected to management reviews by their individual Advisory Boards, and the Boards’ findings become input to the annual NIST Strategic Plan and Strategic IT Plan. Through the se strategic planning processes, NIST has been able to make subtle but meaningful adjustments to its IT investment portfolio to more effectively align and integrate with the NIST Laboratories program of scientific research projects.

***National Oceanic and Atmospheric Administration***

NOAA has five programs for which PART reviews have been done. These programs, and their respective PART ratings are:

<b><u>Program</u></b>	<b><u>Rating</u></b>
National Weather Service	Effective
Navigation Services	Moderately Effective
National Marine Fisheries Service	Adequate
Pacific Coastal Salmon Recovery Fund	Results Not Demonstrated
Coastal Zone Management Act Programs	Results Not Demonstrated

The results of PART reviews conducted against NOAA programs are utilized as part of the IT investment review and analysis process, and serve as a tool used in the alignment of our IT investment portfolio with our core business functions. NOAA’s large programs are supported by a wide range of IT investments, each of which is managed as a component of our overall IT portfolio. Within the portfolio management process, recommendations resulting from PART reviews drive specific actions such as the review and update of business cases, (re)evaluation of relationships between portfolio components, and adjustments of outcome-oriented performance measures. Performance measures for specific IT investments are aligned with overall programmatic performance measures to ensure that IT investments directly relate to the expected outcomes of an agency program.

The National Weather Service (NWS) program achieved a PART rating of “Effective,” and the Program Summary portion of the PART report cited NWS as well managed and results oriented. In 2002, NWS met nine out of thirteen annual performance goals, and where performance improvement was slower, the allocation of IT resources has been reviewed and the IT budget has

been increased in order to provide improved tornado-warning lead times and hurricane track accuracy. NOAA has recently adopted an enterprise view of its high-performance computing capability, and the realignment of associated portions of our IT investment portfolio directly addresses the recommendations contained in the NWS PART recommendations.

NOAA Navigation Services was also the subject of a PART review, and achieved a rating of “Moderately Effective.” The Program Summary portion of the PART review recognized the fact that NOAA is utilizing state of the art technology to increase the accessibility and usefulness of navigation products, particularly through the development of Electronic Navigation Charts (ENC). Given that IT investments do not play a major role in the actual survey operations of the Navigation Services program, NOAA aligned this portion of its IT investment portfolio to focus on significant increases in the numbers and quality of ENCs generated each year.

The PART review findings relative to the Coastal Zone Management Act (CZMA) Program noted that NOAA’s own Program Review Team had identified deficiencies in NOAA’s ability to process grants in a timely manner. The development and deployment of NOAA’s Grants Online IT initiative in FY 2003 consolidated 12 separate grant processing systems provided a significant improvement in the processing of grants, and contributed directly to both the improvement of the CZMA program and a better alignment of NOAA’s IT investment portfolio.

While PART reviews were also conducted of the National Marine Fisheries Service and Pacific Coastal Salmon Recovery Fund, these programs do not require significant IT investments, and thus do not currently play a role in the alignment of NOAA’s IT investment portfolio. Should future PART recommendations impact on areas where these programs could benefit from the realignment of IT resources, the approach to such a realignment will be structured on a holistic view of NOAA’s mission-aligned IT investment portfolio.

***United States Patent and Trademark Office (USPTO)***

Two USPTO programs were the subject of PART reviews in BY 2005. These programs and their respective overall ratings were:

<b><u>Program</u></b>	<b><u>Rating</u></b>
USPTO – Trademarks	Moderately Effective
USPTO –Patents	Adequate

The performance baselines for both of these programs involve goals which relate directly to USPTO’s IT investment portfolio. In addition to performance goals relating to the quality and timeliness of services provided to customers, these PART-specific performance measures include an increase in the numbers of trademark and patent applications that are to be processed electronically. USPTO has made significant adjustments to its IT investment portfolio to align with these business goals. USPTO’s approach to this alignment is part of the Patent e-Government effort, described more fully on [page 53](#) of this Strategic IT Plan.

## **Communicating IT Objectives**

### **COMMERCE CHIEF INFORMATION OFFICERS' COUNCIL**

The Departmental CIO views the CIO Council, composed of operating unit CIOs, as a management team working together to achieve common objectives. Through the CIO Council, operating units have a venue in which to share experiences, ideas, best practices, and innovative approaches related to information resources management.

The CIO Council's vision is to be a resource to help the Department's operating units perform more efficiently at lower cost by promoting the efficient and effective use of Departmental information resources. The CIO Council supports business process reengineering, continuous process improvement, and measurable increases in performance in the work related to the achievement of Departmental missions, goals, and objectives.

The CIO Council provides oversight to all DOC operating unit CIOs in the following areas:

- Implementation of an effective process for managing IT resources and providing regular briefings to the DOC CIO on IT program activities.
- Implementation of a process for the selection, control, and evaluation of IT investments.
- Annual self-assessment of the maturity of the operating units' CPIC process.
- Keeping abreast of DOC guidelines for developing and maintaining operating unit planning and investment review processes.

The Department's CIO Council meets monthly to share information, promote Departmental IT goals, and keep abreast of public and private sector leading IT management practices.

### **DEPARTMENT OF COMMERCE ADVISORY GROUPS**

As Commerce has continued its work toward fulfilling its various strategic goals, we have maintained a focus on innovation; attempting to develop a complete understanding of the needs of our customers, business partners, and stakeholders. This focus on innovation allows us to identify both efficiencies and gaps in services, and to identify solutions that are as comprehensive as possible. Additionally, we strive to find ways to incorporate our users' understanding and acceptance into the concept and development phases of our business processes. One concept that we have incorporated in accomplishing this goal is the use of advisory and other groups. These groups, made up of technical and program representatives from the DOC operating units, are tasked with addressing specific IT-related challenges facing the Department.

The fundamental idea behind forming advisory and other groups is that those involved in providing particular services are in the best position to make decisions about how to coordinate, implement, and improve them. The group is able to synthesize greater knowledge as to what has worked well, what hasn't, and what problems can occur. By drawing on members from all areas

of Commerce, the group is better able to understand the needs of our customers, business partners, and stakeholders and to devise effective and efficient ways of meeting those needs.

Commerce has utilized advisory and other groups to develop, recommend, or facilitate technical solutions in a number of areas. These groups are formed as a need arises and are typically disbanded when a technical solution is in place, fully operational, and no longer in need of continual maintenance attention. Groups that have completed their work include the Contingency Planning Advisory Group, which published a comprehensive guide to business continuity planning, and the Electronic Forms Advisory Group, which published a Web site of Commerce and Government-wide electronic forms. Groups that have largely completed their work, but continue in an advisory capacity, include the Accessibility Coordinators Group, which published Commerce's policy addressing accessibility under Section 508 of the Rehabilitation Act and continues to monitor accessibility activities within Commerce and elsewhere, and the Information Quality Task Force, which published Commerce's Information Quality Guidelines, provides advice to operating units that receive requests for corrective action, and submits annual and ad hoc reports to the Office of Management and Budget on information quality activities.

Advisory groups currently operating within Commerce include the following:

#### **Commerce Enterprise IT Architecture Advisory Group**

An Enterprise IT Architecture is recognized by Commerce's CIO as an integrated framework for evolving and maintaining existing IT, and for acquiring new IT. The Enterprise IT Architecture is a means to achieve Federal strategic and IT goals by integrating work processes and information flows through the use of technology. The architecture specifies standards that enable information exchange and resource sharing. To ensure that this information exchange and resource sharing are maximized throughout the Department and that our operating units are able to make maximum use of a "blueprint" that explains and guides our organization's IT and information management elements, the Department has chartered an IT Architecture Advisory Group.

The Department's IT Architecture Advisory Group serves as a Department-wide forum for addressing issues related to the implementation and use of Enterprise IT Architectures. The Advisory Group reports to the CIO Council and serve as technical counsel to the DOC Chief Information Officer (CIO) and the CIO Council on the subject of Enterprise IT Architecture. It is viewed by the CIO Council as a resource to assist the various operating units in the development of consistent IT Enterprise Architecture(s) throughout the Department.

The DOC IT Architecture Advisory Group is specifically tasked to make recommendations and provide advice with respect to policy, procedures, standards, and payoff as they relate to the development, maintenance, and evolution of the Department's Federated IT Enterprise Architecture(s). This tasking has, to date, included activities to:

- Make recommendations and provide advice to the DOC CIO and the CIO Council with respect to policy, procedures, and standards related to the maintenance and update of the Enterprise IT Architecture.

- Review all operating unit IT architectures and provide recommendations through the CIO to the operating unit CIOs.
- Manage development and acquisition of a unified EITA management system tool for DOC and promote its use throughout the DOC, as specified in the DOC Technical Reference Model (TRM).
- Coordinate the interface between the Department's EITA management system tool and OMB's Federal Enterprise IT Architecture and the related five Reference Models (Business, Service Component, Technical, Performance, and Data).
- Recommend IT technologies that may serve as "foundations" for Department-wide systems.
- Carry out tasks specifically assigned by the CIO or the CIO Council.
- Identify improved IT architectural practices and promote their adoption throughout the Department.
- Share experiences, ideas, and promising practices among Advisory Group members and the CIO community at large.

### **Project Management Advisory Group**

The DOC Project Management Advisory Group (PMAG) is a newly created advisory group, formed with the dual intentions of standardizing project management practices within the Department and developing/maintaining a cadre of project managers with demonstrated professional qualifications and credentials. The PMAG is in the process of formulating a policy statement relating to IT project management practices within the Department, developing a set of metrics from which a project manager may establish a standardized set of project management methodologies, and compiling a set of project management best practices.

The PMAG has also begun the formulation of a set of project manager qualification and certification guidelines and is working closely with the DOC Office of Human Resources Management to develop a recommended project management education and training curriculum.

### **Webmasters Advisory Group**

The Webmasters Advisory Group (WAG) provides advice to the CIO and CIO Council on matters that address use of the World Wide Web. Because use of the Web is central to Commerce's e-government activities, careful use and management of Commerce's Web sites is critical to the success of our e-government strategy. The WAG has published a series of policies addressing such Web issues as privacy, accessibility, domain names, identification of Web site owners, endorsement disclaimers, and content management. Additional policies are under development.

### **Information Technology Security Coordinating Committee**

The maintenance of an effective IT Security program continues to be an ever-important factor in the proper management of Commerce's IT resources, and the Department remains dedicated to meeting the challenge of protecting all its vital information assets.

Part of the IT Security challenge is in ensuring full and open communication among all our operating units. To meet this challenge, the Department formed the Information Technology Security Coordinating Committee (ITSCC).

The ITSCC is chartered by the Departmental CIO and serves as a Department-wide forum for addressing issues and making recommendations related to IT Security responsibilities and activities. The ITSCC provides a forum for discussion of issues, has formed working groups to address specific IT security issues, and provides recommendations concerning IT security throughout the Department. The ITSCC has also proven to be a fruitful training field for new IT Security Officers and a source of continuing education for current IT Security Officers.

The ITSCC meets on a monthly basis and often serves as the impetus for new IT security-related initiatives.

### **DEPARTMENT OF COMMERCE HONOR AWARDS PROGRAM**

Within the Department of Commerce, we're dedicated to maintaining a corporate culture of excellence and a commitment to exceptional performance in our everyday work. As a result, we have set ourselves the challenge of delivering only the highest quality services. Our belief is that one of the best ways of achieving excellence is to acknowledging the exceptional performance of individuals and organizations throughout the Department. In support of this commitment, DOC's Honor Awards Program was created to recognize those who set the highest standards of performance, thereby raising the bar for us all.

The Honor Awards, in the form of Gold and Silver Medals, constitute the highest and second highest levels of recognition granted for distinguished and exceptional performance within the Department of Commerce. Although no monetary reward is associated with this recognition, it is clear that Commerce employees regard these awards as the ultimate recognition for their contributions. A Bronze Medal is the highest honorary award granted by an operating unit, a Secretarial Officer or equivalent, and is defined as superior performance characterized by outstanding or significant contributions, which have increased the efficiency and effectiveness of the operating unit. To warrant a Bronze Medal, a contribution must focus on qualitative and quantitative performance measures reflected in the Department's Strategic Plan.

Over the past several years, honor awards in all categories - Gold, Silver, and Bronze - have been granted to individuals and groups throughout the Department who have made significant contributions to the innovative planning and management of Commerce's IT resources. In December 2000, the IT Architecture Affinity Group was honored with a Departmental Bronze Medal, in September 2002 the chair of the Architecture Advisory Committee received a Departmental Silver Medal for the creation and implementation of the Department's highly successful IT Architecture Program, and in September 2003 the Office of the Chief Information Officer was honored with a Departmental Gold Medal for leading the improvement and management of information technology throughout the Department. In May 2004, in the first annual OCIO Honor Awards Program, both the Information Quality Task Force and the Enterprise IT Architecture Advisory Group were honored with OCIO Bronze Medal Awards for outstanding or significant contributions that have increased the efficiency and effectiveness of the management of information technology within the Department.

We feel that these honors recognize the collaborative commitment to excellence exhibited by the IT professionals from throughout the Department, and serve as firm evidence of the high quality with which DOC IT initiatives are managed. Without the contributions of these cross-Departmental groups and a sincere dedication to quality at the individual level, many of our leading-edge initiatives would never have come to fruition.

## OCIO Goals, Strategies, and Performance Measures

***Goal 1*** *To further the Department's move to an e-Government environment, enabling business functions to be conducted electronically and achieving paperwork elimination goals, both in transactions with Commerce's customers and for internal operations.*

Commerce's long-standing e-Government effort encompasses all of the processes, activities, and interactions that occur within the Department of Commerce and between the Department and its external customers and stakeholders, including the private sector, the Congress, the general public, etc. It is our goal to continue our progress toward a full electronic Government capability and provide as many of our services as practicable over the Internet.

The strategic initiatives outlined below were developed to support an electronic Government. They are based on an assessment of our agency's baseline situation and its challenges and risks, the performance metrics we are using to measure success, and the investments in people, processes, and technological infrastructure required to achieve our goal of an expanded electronic Government capability.

Through the Department's CIO Council and its advisory groups, the operating units are working together to identify common technical solutions for the implementation of Internet-based services. Each of the operating units and Departmental offices are reviewing the ways in which they conduct their internal business and are cooperating to achieve interoperability and provide new and more efficient solutions, rather than simply automating existing processes. We intend to transform the Department of Commerce into a truly electronic Government entity, demonstrating significant performance gains, and providing leadership at the national level.

Strategy 1.1: Require, through the IT planning process and the CPIC process that information collection and dissemination activities are conducted using innovative IT electronic applications. Where Commerce's IT solutions are Web-based, ensure that all Internet Websites operated by Commerce operating units are in full compliance with all appropriate legislation, regulations, and Departmental policies.

Initiative: The OCIO, through the DOC CIO Council and the CITRB, ensures that operating units address the innovative use of IT to reduce reporting burden. The CITRB process for approval of new IT initiatives requires the establishment of a demonstrable e-Government goal and the submission of a business case that provides justification and rationale for the technologies selected. DOC's commitment to innovative use of electronic applications was demonstrated in FY 2004 when Commerce implemented a Web-based time and attendance reporting system. Further advances in DOC's approach to e-Government will include such innovations as the Census Bureau's use of hand-held computing devices in the accomplishment of the decennial census process.

Strategy 1.2: By increasing the number of Commerce products and services available on-line, provide our customers with easier and more efficient access to our e-Government capabilities.

Initiative: Each operating unit has addressed, in their Strategic IT Plan, a methodology for furthering the Department's e-Government goals. Compliance with Departmental e-Government goals is a requirement for budget approval of any new Commerce IT initiative. Additionally, each operating unit has prepared a strategy for implementing e-Government requirements, and is measured against these strategies in the CITRB review process.

Performance Measures:

1.1 Commerce has demonstrated the effective use of technology and data sharing by meeting or exceeding our established e-Government goals and significantly reducing the amount of paperwork generation required in both Commerce's dealings with the public and internal Departmental operations. At the beginning of FY 2004, Commerce had made significant progress by converting 80 percent of its transactions with the public to an electronic format. Most of these transactions are accomplished through the use of electronically fillable PDF forms. Future goals include incorporating these electronic-filled forms into end-to-end electronic processes that will remove one more layer of manual intervention from our business processes. Commerce has also established a goal of ensuring that all our remaining public transactions are made electronic by FY 2007.

In addition to eliminating the need for paper-based transactions, DOC has made significant achievements in the area of Web-based public informational services. Our progress in offering our services and products online is demonstrated by the amount of traffic experienced by the Department's Internet Websites. For the past three years, Commerce has ranked among the top three Government agencies (including Federal, State, and local entities) serving a unique audience on the Internet. Measured on a monthly basis, and including both private-citizen and business-related usage, Commerce serves an audience that consistently numbers above 7.5 million citizens each month.

NOAA's National Weather Service Website is particularly popular during the June to October hurricane season.

Additional statistics which point to Commerce's success at providing services online are:

- NOAA's Website experiences more visits per user than any other Government site.

- Commerce is a particularly “sticky” Website in that it ranks among the top 20 to 30 Websites nationally, for the amount of time a user spends on the Website.
- Measuring our unique audience on a monthly basis, and including both private-citizen and business-related usage, Commerce, as a brand, has been ranked as high as the 50th most popular Web site on the entire Internet.

Commerce’s policy regarding its websites is structured to ensure that all of our Websites are in compliance with appropriate legislation and regulations. Departmental policy requires that operating unit CIOs certify to the Departmental CIO that all Web sites maintained by their organization comply with the Department’s Web policies. These policies address issues including content management, Website traceability and accountability, Website accessibility, visitor privacy, appropriate use, and annual Website certification. In FY 2003, compliance with individual Web policies was demonstrated to range from 79% to 92%. For FY 2004, compliance had increased to a range of 90% to 96%. Compliance with those policies requiring significant infrastructure investment lag behind the more easily achieved policy requirements.

1.2 Commerce feels that, as a provider of information to a user community of citizens, it is important to periodically evaluate whether the service is meeting the needs of its users. Often times, direct communication can provide useful feedback for changes as well as new ideas for future products.

An example of our performance measurement via direct customer feedback is the customer satisfaction survey conducted by NOAA in the spring of 2003. This customer satisfaction survey, consisting of 20 rank ordering and multiple-choice questions, was constructed from a pool of questions approved by the Office of Budget and Management. The survey asked users to rate their satisfaction on issues such as the quality of products and services provided, accessibility of data, and timeliness of response. The customer survey was available to customers in either of two forms: a password-protected Website where users could enter their survey responses, and a paper-based survey provided with a postage-paid return envelope. A follow-up letter was also sent out to encourage responses.

The first section of the survey asked the users to rank their satisfaction of various service and product related issues on a scale of 1 (not at all satisfied) to 5 (extremely satisfied). Overall, 92% of users were satisfied or extremely satisfied with the service they received. Thirty-five percent of users reported that they request data on a regular basis (i.e., more than twice a year). While 69% of Internet users reported that they found the needed information easily or very easily on the agency’s Website, 25.7% of users reported having difficulties. Difficulties with Website navigation was the most common area mentioned as needing improvement. Users also mentioned difficulties with data interpretation as well as the inability to preview data before placing an order.

NOAA is currently using the customer survey feedback to make improvements to their customer-facing Websites, focusing primarily on navigability and clear depictions of product previews.

1.3 DOC operating units' IT planning processes also examine new applications of IT to support electronic Government objectives, and assess the impact of the selected technologies on program efficiency and effectiveness.

An example of DOC's attention to the examination and assessment of new technology is provided by the Census Bureau's experience in the 2002 Economic Census. In accomplishing the 2002 Economic Census, the Census Bureau offered electronic reporting to all 3.5 million participating businesses. In an innovative use of XML and a meta data repository, businesses were able to download forms from the Internet, and file them on the Census Bureau's Web site. More than 50,000 online requests for extensions, re-mails, and additional form requests have been made using the Census Web site.

***Goal 2 To strengthen the Department's planning, acquisition, and management of IT resources, ensuring that decisions regarding the investment in and management of IT resources are aligned with top-level agency goals.***

Strategy 2.1 Further improve the IT Capital Planning and Investment Review process and ensure that Commerce's Departmental vision for IT management is fulfilled at the operating unit level.

Initiative: Increase the CITRB's CPIC oversight capabilities by:

- Instituting pre-reviews in IT security, enterprise architecture, and project management planning.
- Establishing a cyclical review process through which all IT projects/systems are reviewed and the Department's IT portfolio is systematically analyzed and adjusted.
- Improvement of the Department's top-level performance measures and expansion of the Department-level compliance review process relative to policies and architecture.

Performance Measures:

2.1 Commerce's Departmental CIO relies on the CPIC Maturity Model to assist our operating units in focusing on key elements of the CPIC process and developing a well managed IT operation. DOC's targets for CPIC maturity were to have 60% of the operating units at level 3 (on a scale of 1 to 5) and 10% at level 4 by the end of FY 2004. Actual performance in FY 2004 was 68% of operating units at level 3 and 18% at level 4.

Strategy 2.2: Further improve the IT project management capabilities within all operating units.

Initiative: Significantly improve the capabilities of DOC project managers by instituting a curriculum of project management training, and completing certification training for those project managers who need it. Ensure that DOC project managers place greater emphasis on efficient project management techniques, including Earned Value Analysis, Earned Value Management Systems, and project risk analysis.

Performance Measures:

2.2 Commerce has developed a set of project manager qualification guidelines that specify experience and training requirements for DOC project managers assigned to major IT investments. The Departmental OCIO has reviewed the resumes of all IT project managers within the Department and has validated that every DOC project manager assigned to a major IT investment meets both DOC and OMB certification and/or experience requirements.

Commerce has instituted a program of continuous improvement of the project management talent within the Department by encouraging professional certification of our project managers and providing formal training for those pursuing certification. As of the beginning of FY 2005, a total of 60 project managers have received training preparatory to professional certification, six have achieved Project Management Professional (PMP) certification from the Project Management Institute, and another twenty have submitted applications for certification.

OCIO has also collaborated with the Department's Office of Human Resources to establish an on-going project management-training program offering a Master's Certificate in Project Management through the George Washington University (GWU). Currently eight individuals are pursuing the GWU Masters Certificate.

***Goal 3 To provide verifiable assurance that Commerce's IT program is in full compliance with the Federal Information Security Management Act (FISMA); that systems and information resources are provided adequate protection; that data and software integrity is maintained; and that systems' availability is sufficiently high to support Commerce's mission.***

Strategy 3.1 Maintain a structured IT Security Program in accordance with the FISMA, the Office of Management and Budget's Circular A-130, and other governing regulations. Ensure that all operating units comply with all regulatory requirements and meet all FISMA reporting deadlines. Ensure that certification and accreditation of all operational Commerce IT systems is maintained in a current state. Maintain an IT security program maturity of level 3 (on a scale of 1 to 5) or higher. Demonstrate the effectiveness of DOC's IT security program through the regular testing of contingency plans, and the regular conduct of system control self-assessments, including vulnerability testing, and execution of corrective Plans of Action and Milestones (POA&Ms).

Strategy 3.2 Maintain a structured critical infrastructure protection program (CIP) to ensure the continued viability of national critical and mission essential IT systems.

Demonstrate the effectiveness of DOC's CIP program through the regular testing of reconstitution and response plans, and the regular conduct of vulnerability assessments and execution of POA&Ms.

Strategy 3.3 Maintain a comprehensive IT security training program that addresses training of new personnel, annual refresher training for existing personnel, and specialized role-based training for personnel with significant IT security roles and responsibilities.

Initiative: Commerce has continued its commitment to a vigorous IT Security Program. We intend to maintain our vigilance by institutionalizing the IT security policies, standards, and practices put in place over the last two years. We have completed certification and accreditation of over 95 percent of the operational systems in the Department's IT systems inventory, and we perform routine compliance reviews to ensure the accuracy of management information maintained relative to our IT systems. This compliance review program includes reviews of the security status of all IT programs operated within the Department, verification that all required security documentation is in place, and validation that procedures are implemented, rather than merely maintained on paper.

#### Performance Measures:

3.1 Maintain comprehensive IT security program policies and implementation standards that are reviewed annually and kept up-to-date and aligned with FISMA and National Institute of Standards and Technology standards, and monitor Department-wide compliance with these standards. In FY 2004, the Department updated its IT security Program Policy to expand standards for IT inventory management and development and maintenance of POA&Ms. Updates to the standard for C&A, incident handling and reporting, and patch management were also undertaken. We also hired an independent contractor to assess the extent to which policy and guidance are implemented and to assess the adequacy of operating unit IT security programs. The FY 2004 reviews focused on the following five areas:

- We completed in-depth program reviews of three operating units. These FY 2004 compliance reviews included follow-up of FY 2002 DOC Inspector General IT security audit findings and recommendations at two operating units. The reviews by the Department, which included testing of system controls in accordance with the Government Accountability Office Federal Information System Controls Audit Manual (FISCAM), confirmed that audit recommendations had been implemented at all operating units involved, and no new significant weaknesses were identified.
- We inspected the quality of system C&A packages for 50 of the Department's systems – all of the Department's national-critical systems and 33 of the Department's mission critical systems. This inspection concluded that all C&A packages inspected were complete but required improvement in the area of quality documentation, which will continue to be a priority in FY 2005.

- We inspected 100 IT contracts for inclusion of new IT security contract clauses to ensure IT security requirements are mandatory for Commerce contractors. This inspection found that Commerce Acquisition Manual IT security clauses, issued in November 2003, had been included in most of the contracts reviewed.
- We evaluated the adequacy of computer incident response policies and procedures practiced by Commerce operating units. This evaluation resulted in improving the Department's policy as well as ensuring consistency among Commerce operating units.
- We evaluated the adequacy of patch management policies and procedures practiced by Commerce operating units. This evaluation resulted in an expansion of the Department's minimum standards and increased vigilance by operating units.

The Department will continue to meet all FISMA reporting requirements by submitting its annual FISMA report, monitoring the status of operating unit POA&Ms, and providing quarterly status updates to the Office of Management and Budget (OMB).

We will continue to meet IT security performance goals set by OMB. In FY 2004, the Department achieved full certification and accreditation of 97 percent of operational IT systems, and tested contingency plans for 82 percent of operational systems.

We will continue to maintain a high level of maturity for IT security programs within the Department. From FY 2003 to 2004, the number of the Department's IT security programs at a maturity level of 3 or higher improved from 79% to 100%, and the number of systems at a maturity level of 4 or higher improved from 7% to 71%.

3.2 We will continue to demonstrate that Commerce has fully identified all of its IT systems and that they have been properly categorized as either national critical, mission critical, or business essential. In FY 2004, the Department updated its Critical Infrastructure Protection Plan, which required an examination of the national-critical IT resources within the Department. The Department also maintained its inventory database for tracking all IT security information relative to those systems, and enhanced the inventory to track the system impact levels as mandated by Federal Information Processing Standard 199.

3.3 We will continue to provide annual IT security refresher training to all personnel and maintain a program to train those with significant IT security roles and responsibilities. In FY 2004, the Department maintained its IT security training program, leveraging cost-effective capabilities available through the Office of Personnel Management's Government Online Learning Center. This provides for annual IT security refresher training for existing personnel and role-

based training for those personnel with significant IT security roles and responsibilities.

**Goal 4** *To take full advantage of the Department's Enterprise IT Architecture to ensure that the Department's products and services are of high quality and produced at the lowest cost.*

Strategy 4.1 Ensure that Commerce IT management maintains a focus on improvement of their mission performance and that identifying opportunities to take advantage of leading edge technology is part of that focus.

Strategy 4.2 Inculcate in the CITRB a focus on the use of new technology and ensure that management of the continuing introduction of new technology is a part of the CITRB review of new IT Initiatives.

Strategy 4.3 Encourage the reengineering of business processes so that the Department's day-to-day operations will be able to exploit the latest developments in IT to improve mission performance.

Strategy 4.4 Reduce redundancy in the Department's portfolio of IT resources. Combine capabilities, utilize already-existing resources, and ensure that available IT resources are documented and visible for all potential users.

Initiative: Commerce uses the full suite of Federal Enterprise Architecture (FEA) Models to describe the business operations of the entire Department and to identify areas for collaboration both throughout the Department and across other Federal agencies. Currency and relevancy of our architecture models can only be maintained if our IT planning process challenges the assumptions inherent in those models. While compliance with the FEA models is an established criterion for CITRB approval of Commerce IT investment initiatives, the CITRB pre-review process requires that managers examine innovative approaches to meeting the Department's information needs and ensuring that our enterprise architecture remains current with emerging technology.

Performance Measures:

Commerce's achievement in meeting this goal is demonstrated both by steady improvement in our operating units' performance against the Enterprise IT Architecture Maturity Model and by specific achievements in pursuing the strategies behind the goal. Commerce uses a maturity model to measure progress in the use of its Enterprise IT Architecture. Our maturity model goal for FY 2004 was to achieve a solid 3 (measured on a maturity model scale of 1 to 5) across the Department (60% of operating units at a level 3 or higher) with selected operating units achieving level 4 (10% or higher). Our operating units scored beyond this goals, with just over 77% at level 3 or higher and 36% at level 4 or higher.

4.1 USPTO is now imaging all pertinent documents to facilitate workflow and allow for vastly expanded telecommuting. This improvement of USPTO's mission performance is the result of the Patent eGov effort and is described more fully at ([page 53](#)) of this Plan.

4.2 Census has adopted the innovative approach of using hand-held computing devices to reduce the cost of non-response follow-up in the 2010 decennial census. ([refer to page 55](#))

4.3 NOAA has begun a major initiative to manage their supercomputers as a corporate resource, eliminating one of four supercomputer centers. Detailed information on NOAA's enterprise approach to its HPC architecture can be found at [page 51](#) of this Plan.

4.4 NOAA has embarked on an effort to combine the dual processing environments of the Central Environmental Satellite Computer System (CEMCSC) and the Satellite Environmental Processing System (SATEPS) and to operate them as one Environmental Satellite Processing Center (ESPC). This combination of capabilities will improve NOAA's centralized IT planning, architecture, security, and continuity of operations capabilities. Tangible benefits of this consolidation will be a reduction in the numbers of computer operators and system administrators, and the elimination of the need for a second mainframe computer.

Fourteen grants-processing systems are being consolidated to two, and eventually to one. NIST is managing this reengineering effort for DOC. Refer to ([page 59](#)) of this Plan for more information on the Grants Online project.

## **Major IT Initiatives in the Department of Commerce**

### **DEPARTMENTAL CROSS-CUTTING INITIATIVES**

Major cross-cutting IT project initiatives underway in Commerce include the following:

#### **Commerce Administrative Management System (CAMS)**

The Commerce Administrative Management System (CAMS) was initiated in late 1993. The purpose of this system is to comply with key financial management legislation such as the Joint Financial Management Improvement Program (JFMIP) and the Government Performance and Results Act (GPRA), and to ensure that Departmental and operating unit financial management is fundamentally sound to protect funds and assets against waste, fraud, and abuse and to provide more effective cost management. Pre-CAMS financial systems neither complied with the relevant financial management legislation nor effectively managed Departmental assets.

In FY 1999 the Bureau of the Census became the first Departmental operating unit to adopt CAMS as its system of records. The Office of the Secretary (OS), the Office of the Inspector General (OIG), and the Office of Computer Services (OCS) within OS followed in FY 2001, and in FY 2002 CAMS saw further adoption with the Bureau of Economic Analysis (BEA), the Economic Development Administration (EDA), the Economics and Statistics Administration (ESA), and the Minority Business Development Administration (MBDA). The National Oceanic and Atmospheric Administration (NOAA) and Bureau of Business and Security (BIS) adopted CAMS as their system of records in FY 2003, and in FY 2004 were followed by the National Institute of Standards and Technology (NIST), the Technology Administration (TA), and the National Telecommunications and Information Administration (NTIA). Through the use of CAMS, the Department of Commerce has, over the past five fiscal years, been able to exhibit greater efficiency in the production of our financial reports and receive an unqualified financial opinion.

The CAMS project provides returns on investment in several areas including cost, quality, and overall financial management. CAMS has improved the overall quality of financial data within Commerce and has increased the speed of preparation and use of financial data. The various data controls within CAMS help ensure that only accurate and valid financial data can enter the system. CAMS allows for data to be captured at the point of entry and the electronic routing of this data for review and approval.

The Congressional Financial Management Improvement Act requires all departments and agencies to use a financial management system that implements the US Standard General ledger (SGL) accounts at the detail transaction level and to be in compliance with the financial standards set by the JFMIP. The implementation of CAMS has allowed Commerce to fully comply with this Act and has significantly improved financial management within the Department. Program managers are now able to execute queries/reports to get real-time financial management data about their projects to determine how they are doing and to view the specific

expenditures and receivables associated with their project. CAMS is able to automatically enforce funds control and Prompt Pay procedures and has allowed Commerce to effectively address and correct several material weaknesses identified by auditors at various operating units. Commerce plans to use commercial products or existing Federal systems for the remaining functional CAMS modules. The CAMS project has a well-defined management structure and the CAMS implementation strategy seeks to ensure maximum user involvement at each stage. The CAMS Support Center has prepared a risk reduction and mitigation plan that exists in the form of an internal review report. Because of its considerable impact throughout the Department, the ongoing operation of CAMS continues to be closely monitored by the CITRB.

The CAMS project supports Commerce's Strategic Goal #1 and the Management Integration Goal.

### **Commerce Standard Acquisition and Reporting System (CSTARS)**

Initially approved in 1999, CSTARS is the enterprise-wide, IT-enabled tool that the Department's acquisition professionals use to provide the highest level of customer service for acquiring products and services. Powered by a commercial-off-the-shelf software package, this system provides the full range of functionality needed by the contract office staff and management to fulfill those requirements in a most efficient manner. CSTARS is in production within the Department's acquisition offices in the Office of the Secretary (OS), the National Institute of Standards and Technology (NIST), the National Oceanic and Atmospheric Administration (NOAA) and the Bureau of the Census. The OS implementation serves a number of secondary offices, including: Office of Acquisition Management; Office of Administrative Services; and the Office of Security. CSTARS at NOAA serves all of the Administrative Service Centers, and the Bureau of the Census implementation includes Headquarters in Suitland, MD and the Processing Office in Jeffersonville, IN. The Office of Computer Services (OCS) (under the Chief Information Office) is the official servicing site for hosting all the CSTARS databases. The CSTARS Program supports eCommerce and eGovernment activities promoted by the President's Management Council-Integrated Acquisition Environment, the Department's Chief Information Officer (CIO), and Chief Financial Officer (CFO).

The CSTARS project supports Commerce's Strategic Goal #1 and the Management Integration Goal.

### **Office of Human Resources Management (OHRM) Automated Hiring Assessment Tool**

Since April 2000 DOC has used the Commerce Opportunities On-Line (COOL) application as a tool to speed up the recruitment of applicants for vacant positions across the Department. COOL is currently used as a Department-wide hiring tool, but presents a number of limitations in terms of its ability to meet future DOC strategic needs.

OHRM has the continuing mandate to provide the highest quality candidates to all hiring managers within DOC, and the Department must be able to readily and efficiently attract and hire the best applicants to meet our challenging missions. Proper job analysis, marketing, assessment, and effective communication are all key steps in the successful hiring process. As

part of its effort to exploit the opportunities available through the current e-Government initiatives outlined in the President's Management Agenda, DOC is examining alternatives for linking to the Office of Personnel Management's Recruitment One-Stop initiative (ROS). This linkage will require full integration of job applicants' resumes, job announcement postings, and quality assessment questionnaires.

The Department's exploration of the feasibility of integrating COOL with the ROS e-Government initiative determined that such an integration might not be cost effective, and that other, more efficient means of meeting the Department's hiring needs may be available. COOL has demonstrated shortcomings in several areas. Specifically, the system presents difficulties in reaching diverse applicant groups; handling standing applicant registers, multi-grade and Senior Executive announcements, and adequately addressing applicant quality and suitability for the completion of DOC missions.

OHRM research found that there are a number of Commercial-Off-The-Shelf (COTS) candidate assessment tools in existence and that these tools are in widespread use in a number of Government agencies. In its market research, and through conversations with other Government agencies, OHRM found that there are software alternatives that provide a more robust functionality for assessing applicants, and that include training and consultative services to support improvement in the quality of candidates referred to management.

OHRM reached out to the human resources community throughout Commerce, and a project team was assembled to pursue a solution that would meet the current and long-term needs of the Department. This Department-wide team explored various COTS solutions and selected an automated hiring assessment tool that has been deployed in the Office of the Secretary. The piloting of this tool in OS has been successful and it is our expectation that it will prove itself usable in all our operating units and integrate seamlessly with the ROS e-Government initiative.

The OHRM Automated Hiring Assessment Tool project supports Commerce's Management Integration Goal.

### **WebTA**

In FY 2004, OHRM deployed, as a pilot project within the Office of the Secretary, WebTA, a Commercial Off-the-Shelf Time and Attendance processing system. WebTA is a Web-based time and attendance system that provides an interface with the National Finance Center and allows employees to input their own time and leave data and provides them with the ability to submit electronic leave requests and validate timecards online.

One of the drivers in the selection of a Web-based time and attendance system was the need to use a system that supported the roles and responsibilities of the main parties involved in timekeeping: the employee, timekeeper, and supervisor. WebTA has proven to successfully support each of these roles; employees can track their time by project and donate leave electronically through the Leave Transfer Program, timekeepers can accumulate payroll data by project and payroll category, and supervisors can approve leave requests and certify timecards online.

The WebTA project supports Commerce's Management Integration Goal.

### **Herbert C. Hoover Building Infrastructure Network (HCHBNet)**

In 1995, DOC commissioned a study of the telecommunications network environment in the Herbert C. Hoover Building (HCHB). This study found that there were approximately 100 individual networks serving the 4,000 users within the building. These heterogeneous, and in some instances, incompatible networks were the result of development and installation efforts conducted by autonomous operating units, working independently. As a result of the finding of this study, DOC began development of a telecommunications improvement plan, which, in FY 1998, resulted in a design recommendation for a consolidated network infrastructure for the HCHB. This design recommendation, which came to be named the HCHBNet, was vetted by all the operating units within the building, refined to meet a comprehensive set of telecommunications needs, and approved by DOC executive management in FY 1999.

HCHBNet was envisioned as a way to provide the Department with opportunities to achieve efficiencies and savings such as consolidation of help desks, security offices, and other IT support services. The new network infrastructure was designed to significantly lower the costs of technology refreshment previously experienced in an environment of independent networks within the HCHB. The new network infrastructure also provided the opportunity for greater efficiencies in adopting new technologies, including emerging products that would permit voice, data, and video to share a common, structured wiring infrastructure.

In FY 2000 DOC received approval and funding for the construction of HCHBNet, and construction commenced in May 2001. The basic backbone connectivity of HCHBNet was completed in December 2002 and migration to the new network, beginning with the Office of the Secretary, commenced immediately. Over the last year and a half, migration of various operating units within the building has continued and additional organization-specific networks within the HCHB have been incorporated onto the HCHBNet.

During the time of the installation of the basic backbone of the HCHBNet, DOC management recognized the immense benefits of early-on integration of data, voice, and video onto the new HCHBNet infrastructure. Even before the migration of operating units to the HCHBNet, DOC began the incorporation of a new, state-of-the-art IP-based telephone system into the HCHBNet. Other innovations incorporated into the HCHBNet include an emergency broadcast system to alert HCHB occupants to developing emergency situations. The HCHBNet emergency broadcast system is the centerpiece of the HCHB emergency operations plan, providing notice of fire, hazardous material, and terrorist threat situations. The HCHBNet has also incorporated a public address capability and a closed circuit security camera system. The incorporation of Voice-Over-IP telephony, emergency broadcast capability, and closed circuit camera security system has already saved the American taxpayers many thousands of dollars because these functions were incorporated using the existing cable infrastructure provided by HCHBNet, eliminating the need for expensive and duplicative separate wiring systems.

HCHBNet has an enormous bandwidth capability and is readily scalable to fit the Department's expanding needs for increased communications capacity. Of critical importance to retention of

benefits realized to date, HCHBNet was designed to survive both the planned near-term major renovation of the Herbert C. Hoover Building, as well as building renovations, reconfigurations, and upgrades unforeseen at this time.

The HCHBNet project supports Commerce's Strategic Goal #2 and the Management Integration Goal.

## **MAJOR MODERNIZATION EFFORTS**

### **Bureau of the Census**

#### ***21<sup>st</sup> Century Master Address File/Topologically Integrated Geographic Encoding and Referencing (MAF/TIGER) Enhancements***

The 21<sup>st</sup> Century MAF/TIGER Enhancement program will be a major improvement to the quality and accuracy of the Census Bureau's digital geographic data, which is used by census takers throughout the U.S. as well as other state, local, and tribal Government entities and numerous academic institutions throughout the U.S. The MAF/TIGER Enhancement program is an example of the Department's strategic thrust to redesign its business processes through the application of leading-edge digital technologies. Planning for the 21<sup>st</sup> Century MAF/TIGER adheres to Commerce's architecture and security guidelines, including those relating to accessibility (Section 508) and the Government Paperwork Elimination Act. The plan is supported by a comprehensive cost-benefit analysis and well-documented project management cost, schedule, and performance measurement baselines

The current Master Address File (MAF) is a complete and current list of all addresses and locations where people live or work, covering an estimated 115 million residences, as well as 60 million businesses and other structures in the U.S. The Topologically Integrated Geographic Encoding and Referencing (TIGER) portion of the project is a digital database that identifies the type, location, and name of streets, rivers, railroads, and other geographic features, and geospatially defines their relationships to each other, to the MAF addresses, and to numerous other entities. The Census Bureau's Geography Division maintains the two databases internally in the Department. The proposed improvements to MAF/TIGER will allow the Census Bureau's data collection operations to adopt an integrated collection and update methodology for address lists and geographic data required for the 2010 Census, the American Community Survey (ACS), and household surveys. Additionally, the MAF/TIGER Enhancement program will allow for two-way sharing of high-quality address and geographic data with state, local, and tribal Governments as well as academic institutions throughout the U.S., and will allow the Census Bureau to provide the highest possible quality in the geographic products and services provided to its many statistical-data customers.

A modern processing environment will allow the Census Bureau to use commercial-off-the-shelf (COTS) products and Geographic Information Systems (GIS) tools to make significant performance improvements in existing processing systems.

In FY 2003 Census began to implement geographic partnership programs by developing Web-based and interactive geographic updating systems, completed the MAF/TIGER map feature, and updated housing unit locations in 250 counties. MAF/TIGER efforts in FY 2004 included the development of change detection methodology for identifying new growth areas

MAF/TIGER performance goals for future years include:

FY 2005 – Develop a Web-based update process that allows geographic partners to review and apply MAF/TIGER across the Web.

FY 2006 – Transfer all MAF/TIGER data into a new database and discontinue use of the current “homegrown” database; update the applications software.

The MAF/TIGER Enhancement program supports Commerce’s Strategic Goal # 1.

### **National Oceanic and Atmospheric Administration**

#### ***NOAA High Performance Computing (HPC) Planned Improvements***

NOAA currently operates and manages HPC resources associated with three separate organizations: the Geophysical Fluid Dynamics Laboratory (GFDL) located in Princeton, N.J., the Forecast Systems Laboratory (FSL) located in Boulder, CO., and the National Centers for Environmental Predictions (NCEP) located in Camp Springs, MD. GFDL produces timely and reliable knowledge and assessments on natural climate variability and anthropogenic changes in the development of various earth system models. FSL conducts applied meteorological research and development to improve observing technology and create short-term weather forecast and warning systems. NCEP develops models and delivers national and global analyses, guidance, forecasts, and warnings of weather, water, and climate phenomena to its partners and external user communities. Historically, the three organizations have independently procured, operated, and managed their HPC resources in a stove-piped manner.

Starting in the fall of 2003 several catalysts for changing the HPC program arose and were addressed by the NOAA HPC community. These included a change in the overall NOAA culture, leading all offices and programs to take a “corporate view,” encouragement from the Department to approach HPC differently, growing requirements and tight budgets, recognition of lost opportunities to collectively use HPC resources to realize NOAA’s objectives, and a need to accelerate the transition of programs from research to operations.

In order to implement the needed changes to the HPC program the following four strategic objectives were adopted.

1. Develop a NOAA-wide approach for managing HPC requirements. - NOAA’s agency-wide planning, programming, budgeting, and execution (PPBES) will be used to develop, prioritize, and fund mission requirements. Mission requirements will drive technical requirements. Technical requirements are assessed and solutions developed by the new HPC integrated management approach.

2. Migrate from an organizational based HPC architecture to a function-based architecture. – NOAA has three core functional requirements: operations (which includes backup), operational development (includes operational test bed for pre-operational software engineering), and applied research & development (R&D) (includes development test bed to test code against standards, e.g., interoperability). These three requirements drive two architectures, one for operations, operational development and backup, and the other for applied R&D.

3. Base acquisitions on functional needs rather than organizational needs. – The acquisitions will be based on the architectures: one Request For Proposal (RFP) for NOAA applied R&D and another RFP for operations. The R&D acquisition will include both the National Weather Service and Office of Oceanic and Atmospheric Research, will provide for a potential phased delivery, and include an option to support operations. The operations acquisition will include the full suite of operational requirements, including backup, and an operational test bed. It will also include an option to support applied R&D. The relationships and timeframes for these acquisitions are depicted in Figure 1.

4. Implement an integrated approach for managing the HPC program. – Management of the HPC program will be integrated into the NOAA Office of the Chief Information Officer and supported by a NOAA-wide HPC board. Integrated management includes planning, establishing, and overseeing implementation of HPC principles and policies, architecture, acquisitions, and performance measures. This approach is consistent with NOAA business and program models and federal government high end computing best practices.

The HPC program receives its funding from the Environmental Modeling Program (EMP). The EMP delivers trusted, timely, accurate environmental assessments, and predictions through next-generation models that are:

- *Integrated* – based on a “whole-earth” system and a broad range of applications
- *Interoperable* – linked through architecture, and across multiple, geographically distributed HPC Centers
- *Mission Driven* – support all NOAA service areas
- *Accessible* – supported and available to the entire community and providing an ability to link the nation’s science advances to NOAA’s mission

The HPC program supports the following NOAA mission outcomes:

- **Weather and Water Outcome:** Enhance weather and water prediction through interdisciplinary modeling, and an ability to expand the scope of predictions (e.g., air quality, harmful algal bloom, and on-demand hazards runs).
- **Climate Outcome:** Improved seasonal to interannual diagnosis and prediction; additional Intergovernmental Panel on Climate Change (IPCC) scenario runs.
- **Ecosystem Outcomes:** New R&D architecture will make extensibility to Coastal and Ocean ecosystem modeling feasible.
- **Commerce and Transportation:** Extremely high-resolution weather models are key to improved aviation and marine weather.

Some of the benefits that NOAA will realize as a direct result of these changes in the HPC program include:

- more effective and efficient use of HPC resources
- streamlined acquisitions
- strategic decision making
- faster transition of research to operations.

This approach seeks to address three primary categories of risk: acquisition, culture change, and technical. Issuing two RFPs will mitigate acquisition risk by reducing the probability of schedule slippage resulting from delays in the acquisition process. Culture change risk will be managed by using the PPBES process, the HPC Board, frequent and open communications, employing an iterative change approach, and assessing the benefits of developing a consolidated HPC OMB Exhibit 300 business case by FY 2007. Technical risk will be mitigated through the use of a spiral advance methodology that calls for making iterative improvements over time.

The improvements in NOAA’s HPC environment support Commerce’s Management Integration Goal as well as its strategic goal # 3.

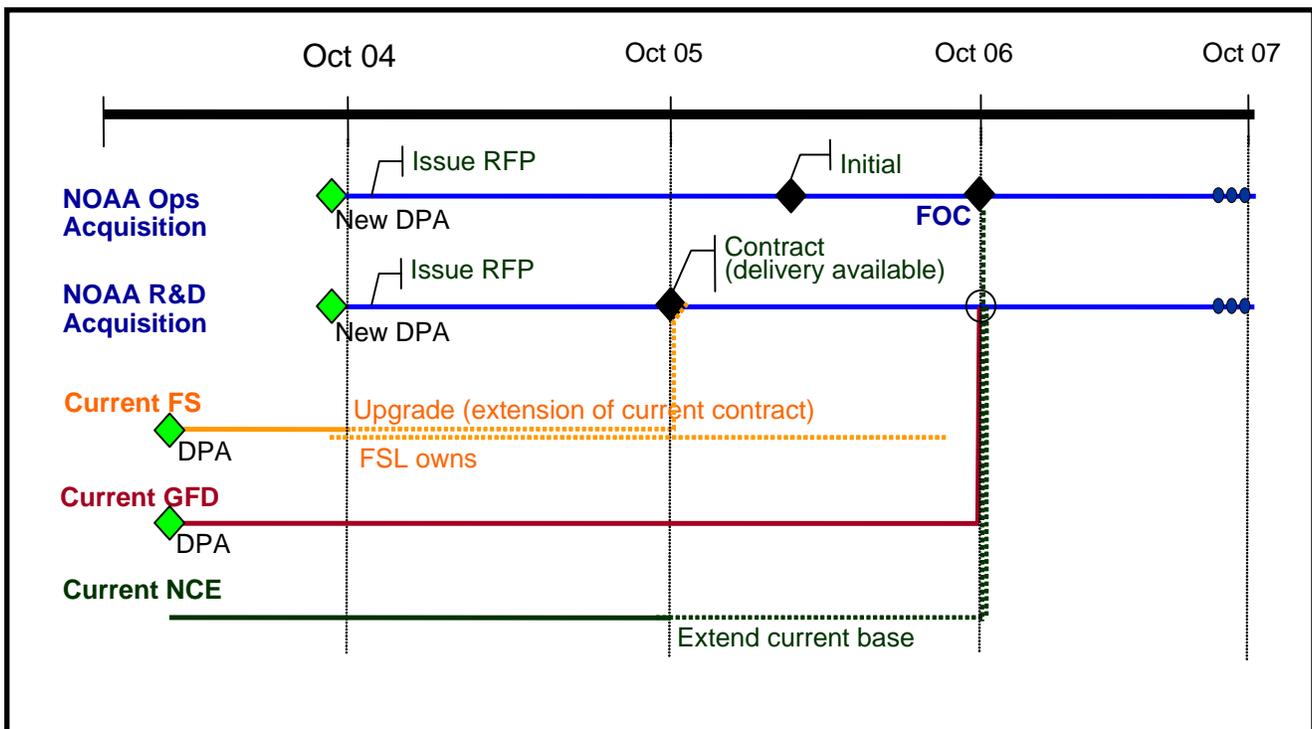


Figure 1. NOAA HPC Acquisition

**United States Patent and Trademark Office**

*Patent e-Gov*

The United States Patent and Trademark Office (USPTO) initiated the Patent e-Gov to enable the USPTO to migrate to a more efficient operating environment that supports the business goal of providing quality services and products in a timely manner to customers and stakeholders. Implementing the Patent e-Gov project allows USPTO to achieve and go well beyond its 21st Century Strategic Plan objective.

The increased use of automation contributes directly to Commerce's Strategic Goal number 2: "Foster science and technological leadership by protecting intellectual property, enhancing technical standards, and advancing measurement science. Patent e-Gov supports the expansion of electronic government by promoting the sharing of information more quickly and conveniently with the public, businesses, and other intellectual property offices. In addition, Patent e-Gov supports the strategic goal of a citizen-centric electronic Government by creating a fully electronic patent process that will not only reduce costs, but also help the USPTO to meet the high public demand for patent information and allow more efficient communication with the public and other USPTO customers worldwide.

The USPTO Office of the Chief Information Officer (OCIO) has begun to implement an end-to-end electronic pipeline for the processing of patent applications that will eliminate inefficient paper-based processes and is consistent with their e-processing strategy and 21st Century Strategic Plan. The Patent business unit, in coordination with the OCIO, has developed a phased implementation plan that will provide a base document management and work routing system to electronically manage patent application documents by September 2010. This plan will ensure an operational pipeline to capture and process patent applications electronically to improve the integration and workflow of patent processing applications. The integration efforts of systems will enhance key features, including formulation of reports, information transferring, scanning of documents and images, and technical support for the systems. Equally important are the workflow tools that will leverage the electronic file wrapper, facilitate daily workflow tracking of patent applications, and provide patent application status reporting.

The USPTO expects that Patent e-Gov will provide relief from the time, space, accessibility, and quality problems associated with the use and updating of a paper-based patent application examination system. Patent e-Gov will enable Patent Business customers to create, and USPTO internal users to process, electronic patent applications and follow-on papers more easily and accurately; reduce time required for processing and responding to customers; automate routine patent formalities tasks so that patent examiners can focus on the intellectual aspects of examination; and continuously improve quality throughout the processes. By implementing Patent e-Gov, the USPTO will be able to reduce contractor costs, eliminate lost paper files, improve workflow tracking, and automate many support functions to yield a higher quality product. In a fully electronic environment, customers will be able to communicate electronically with USPTO 24 hours a day and be empowered to perform application update functions themselves, resulting in a much more citizen-centric patent process.

While many e-Gov initiatives are multi-agency efforts within the Federal Government, the Patent e-Gov project is a global collaboration involving multiple countries and intellectual property organizations. Building on a long-standing arrangement known as the Trilateral Offices (European Patent Office (EPO), Japanese Patent Office (JPO), and USPTO), the USPTO and EPO have agreed to leverage each others' capabilities. This will eliminate redundancy through

reuse, and will be reinforced by adopting World Intellectual Property Organization (WIPO) standards to ensure global interoperability.

## **OTHER OPERATING UNIT SPECIFIC INITIATIVES**

### **Bureau of the Census**

#### ***2010 Decennial Census***

Though early in the decade, planning and preparatory activities for a reengineered 2010 Census are now in their fourth year and well underway. In the 2000 Census, Commerce leveraged technology to automate many of the processes that were formerly done through labor-intensive means. The Census Bureau will continue to exploit the use of advanced technology to support process improvements in the 2010 Census. Specific attention will be focused on the use of mobile computing devices, offering a major opportunity to develop more efficient data collection/capture processes for the 2010 Census, thus offering cost savings now estimated at over \$1 billion. The first major test of this technology was conducted in FY 2004 and the results of that test have provided further data supporting our estimated cost savings.

Goal 3 in the Census Strategic Plan states that the Bureau will re-engineer the 2010 Decennial Census to be more efficient and cost effective, provide richer data, improve coverage, and reduce risk in meeting constitutional and legislative mandates. This re-engineering project will allow Census to establish a framework for defining processes, systems, and technologies with a logical architecture, seamless interfaces, and flexibility for new technology insertion.

Because the Decennial Census is of such importance in achieving Commerce's Strategic Goal #1, the Department considers it to be a special management concern and monitors the project closely.

#### ***Data Access and Dissemination System (DADS)***

In 1997, the Bureau of the Census began creating the Data Access and Dissemination System (DADS), composed of the internal and external American FactFinder (AFF) systems, the Data Product Production (DPP) systems, and a "data mining" capability against detailed data files (Advanced Query System (AQS)). These systems were jointly designed to create, produce, and disseminate Census 2000 and other Census Bureau data and products. AQS is a generalized information system that makes Census statistical data more accessible to the public and easier to use by both Census Bureau data specialists and external users. Reporting is simplified, reducing wait times and easing data customer burdens to answer questions concerning their data. AQS allows the free form querying of Census 2000 detailed data sets, with complex queries, table formats, and contents determined by the user, constrained by disclosure filters.

The DADS Program exists simultaneously under a development and implementation paradigm. DADS will continue to be heavily employed in the near future for the creation and dissemination of Census data products and well beyond calendar year 2010, as additional Census data products

are made available and to support the 2010 Decennial Census, the Decennial Dress Rehearsal, the American Community Survey, and the 2007 Economic Census.

Census is also exploring the feasibility of integrating the data dissemination function across the entire Census Bureau. This approach to data dissemination would increase the value of Census Bureau data by enhancing data availability, increasing end-user satisfaction, and reducing redundancy by integrating existing data sources. Census expects to submit a full business case for an Integrated Dissemination System (IDS) in FY 2005.

The DADS application supports Commerce Mission Goal #1. The integration of data dissemination through the envisioned IDS project would continue to support this goal, as well as Commerce's Management Integration Goal.

### **National Oceanic and Atmospheric Administration**

#### ***Advanced Weather Interactive Processing System (AWIPS)***

AWIPS is a technologically advanced information processing, display, and telecommunications system that is the cornerstone of the National Weather Service modernization effort. AWIPS is an interactive computer system that integrates all meteorological and hydrological data, and all satellite and radar data, and enables the forecaster to prepare and issue more accurate and timely forecasts and warnings.

AWIPS consists of an integrated suite of automated data-processing equipment deployed to field offices and National Centers to support complex analysis, interactive processing, display of hydro-meteorological data, and the rapid dissemination of warnings and forecasts in a highly reliable manner. A Wide-Area-Network connects sites for multi point-to-point and point-to-point communications. NOAAPORT provides the communications capability, via a satellite broadcast network (SBN), to afford internal and external users open access to much of NOAA's centrally collected real-time environmental data

NOAA has recently begun an upgrade of the AWIPS network control facility, focusing on replacing outdated HP-UX D-class servers with PC-based Linux servers providing network router enhancements and Local Area Network improvements. The benefits of this server replacement effort include better throughput and performance of the SBN, increased server availability, and lower cost migration to future generations of hardware.

AWIPS was at one time a special management concern, but is now functioning smoothly in a steady state.

The AWIPS application supports Commerce's Strategic Goal #3.

#### ***Geostationary Operational Environmental Satellites (GOES)***

NOAA GOES provides hemispheric and local coverage for measuring meteorological data used in predicting, monitoring, and observing weather trends. GOES satellites provide real-time

weather data used to develop short-term weather forecasts. Data from the GOES satellites, combined with data from Doppler Radars and Automated Surface Observing Systems, greatly aid weather forecasters in providing better warnings for hurricanes, tornadoes, thunderstorms, winter storms, flash floods, and other severe weather. These warnings help to save lives, preserve property, and benefit commercial interests.

Launches are scheduled to replace aging satellites in order to maintain two operational GOES satellites in orbit at all times – one each at an eastern and western continental U.S. longitude. Depending on launch facility availability and economic factors, additional satellites may be launched into orbit at certain times and placed in either standby or storage mode, ready to replace an impaired or failed operational satellite. The first GOES N series satellite was launched in 2003 and planning in support of further GOES satellite series continues.

NOAA also maintains the Polar-orbiting Operational Environmental Satellites (POES). These satellites provide about 90% of the data used in the National Weather Service's numerical weather forecasting model and are becoming an important source of climate data. Since 1994, NOAA has been working with the Department of Defense (DoD) on the National Polar-orbiting Operational Environmental Satellite System (NPOESS), a next-generation series of polar satellites that merges the Nation's civil and military polar-orbiting meteorological satellite systems into a single program. NOAA and DoD each provide 50% of the funding for NPOESS while NASA contributes risk reduction activities.

Both the GOES and polar satellite systems depend on ground-based information technology systems to command and control the operations of the satellites and acquire their remotely sensed data. The ground systems also support the launch, activation, and evaluation of new satellites and continual in-depth monitoring of satellite functions.

The GOES and POES applications support Commerce's Strategic Goal #3.

### ***Comprehensive Large Array Data Stewardship System (CLASS)***

NOAA is responsible for archival storage and management of environmental data and information. NOAA has hundreds of millions of environmental observations stored on a variety of media dating back as far as the mid-1800s. These data support the Nation's ability to ensure human safety and welfare, sustain economic stability and growth, and maintain environmental integrity. Much of these data and information are recorded on paper, film, and digital media.

Access to the environmental records is limited, and as the storage media deteriorates with age, the records are in danger of being lost. These data are of great value to researchers, both from Government and academia, to private industry, and to the general public. The Comprehensive Large Array Data Stewardship System (CLASS) provides a means to preserve valuable meteorological, climatological, geophysical, and oceanographic records and to make this data accessible to and usable by a wide variety of researchers in both the public and private sectors.

The CLASS conducts many environmental data rescue activities to preserve historical data before they are lost or become unrecoverable, thereby preserving these data to assist in finding

solutions to today's problems. Many archived data sets that were in danger of being lost due to aging storage media were rescued through migration to modern digital media.

The CLASS application supports Commerce's Strategic Goal #3.

### ***Next Generation Weather Radar Planned Product Improvement (NEXRAD PPI)***

NOAA's National Weather Service (NWS) provides the Nation with meteorological and hydrological services that are as complete, accurate, and timely as possible within existing scientific, technological, operational, and economic constraints. These services include data collection, data analysis, forecasting, and information dissemination. One of the most important elements of this overall mission is the NWS responsibility for public warnings and forecasts. The goal of this service is to provide the public with timely and accurate meteorological, hydrological, and oceanographic information for public safety and planning purposes and to ensure economic vitality.

The NEXRAD system is one of NWS prime observation systems for acquiring data and providing weather warning and forecast information about tornadoes, severe thunderstorms, and flash floods. NEXRAD PPI is a tri-agency initiative involving Commerce's NWS, the Department of Defense's (DOD) Air Force Weather Agency and the Department of Transportation's Federal Aviation Administration (FAA). This initiative aims to: (1) improve NWS tornado, large hail and flash flood warnings; (2) provide for cost effective long-term maintenance of WSR-88D weather radar units, and (3) provide cost effective recurring technological improvements postpone indefinitely the need to completely replace the WSR-88Ds. The Open System Architecture project, currently underway replaces the obsolete, 12-year-old computer and signal processing equipment in the WSR-88Ds with COTS hardware and standards-based open system compliant software. The existing WSR-88D equipment is growing increasingly expensive to maintain, and is unable to meet the processing demands of new scientific algorithms that improve the forecaster's ability to use radar data to identify tornadoes and other severe weather. NPI Open System Architecture and Dual Polarization projects will: enable the use of new algorithms and implement new radar engineering technology to increase the update rate of radar data acquisition; to acquire higher resolution data; to mitigate the range/velocity ambiguity problems; to remove non-weather clutter from data; and to acquire data to distinguish among rain, snow, and hail.

The NEXRAD PPI Program was established to plan and implement continued improvement of the NEXRAD system. The program goals are to: 1) improve reliability and maintainability to meet the strategic goal of advancing short-term warnings and forecast services for the general public, 2) meet FAA requirements for additional and higher quality products, and 3) meet DOD requirements for a radar user interface interoperable between NEXRAD and other Doppler weather radar systems.

In addition, NEXRAD PPI meets the NWS Vision 2005 Strategic Plan Goals, 1.1, Expand and Improve the existing weather, water, and climate product and service line: Increase the accuracy and timeliness of NWS warnings; 1.2, Produce a seamless suite of products and services linking

weather, water, and climate with an emphasis on emerging climate products, and 2.2, Reduce the time required to implement proven research and technology into operations.

The NEXRAD PPI initiative includes a phased strategy for replacing three major components of the existing NEXRAD system with open system designs.

- The Radar Product Generation (RPG) component, the engine that creates weather information (forecaster products) from basic radar data, was replaced by deployment of the OpenRPG (ORPG) in FY 2002. This deployment allowed direct LAN-to-LAN connection between the ORPG and AWIPS, thus increasing data resolution from 16 levels of data to 256 levels of data. With the implementation of new software builds in FY 2003, the ORPG will provide improved severe weather algorithms for snowfall and damaging downburst, improved radar scan resolution, and use of data from FAA radars.
- The Radar Data Acquisition (RDA) component of NEXRAD controls radar operations and generates basic radar data estimates of precipitation strength and storm winds. The replacement for the RDA, the OpenRDA (ORDA) component, will be deployed beginning in late FY 2004 and will provide reflectivity data resolution down to ¼ km as opposed to the current 1 km, data sampling at every ½ degree versus the current 1 degree, and will significantly improve velocity product processing.
- Advanced polarization techniques for NEXRAD will follow the ORDA replacement phase. This phase, known as the Dual Polarization implementation, is expected to be fully deployed in FY 2010 and will provide improved precipitation identification and estimates.

Full deployment of the NEXRAD PPI will provide significant improvements to the National Weather Service’s capability for producing tornado and severe weather warnings with greater accuracy, fewer false alarms, and with 50% greater lead times. Specific performance measures for these capabilities are as follows:

Performance Measures

	<u>False Alarm Rate</u>	<u>Lead Time</u>	<u>Detection Probability</u>
FY 2001	73%	11 minutes	.68
FY 2002	71%	11 minutes	.69
FY 2003	70%	11 minutes	.70
FY 2005	55%	15 minutes	.72

The NEXRAD PPI application supports Commerce Mission Goal # 3.

***NOAA Grants Online***

Grants and cooperative agreements play an important role in accomplishing NOAA's mission. Until recently there were 14 separate grant processing systems – ranging from manual to various levels of automation – supporting different portions of the NOAA grant process. Each of these systems could be characterized as paper-based and heavily dependent on frequent re-keying of information.

Through a combined effort of re-engineering and the use of information technology, NOAA developed and deployed NOAA Grants Online in FY 2003. This effort focused on business processes associated with soliciting and receiving grant applications through the government-wide grants.gov initiative. Through its Grants Online project, NOAA has reduced the number of labor hours required to receive and process grants from over 17 hours per grant to approximately 2 ¼, and the total time required to process and award a grant has been reduced by over a month.

In FY 2003 NOAA awarded over 1500 grants with a total value of \$854 million. Based on the number of grants awarded in FY 2003, Grants Online will enable NOAA to redirect over 2,000 FTE labor days to the technical review of grant applications. NOAA was the first Federal agency to receive applications through the grants.gov e-government application front end, and NOAA Grants Online was recently selected as an Excellence.gov Finalist.

Commerce expects to further deploy the NOAA Grants Online solution throughout the Department, integrating the grants processing efforts of the Economic Development Agency, Minority Business Development Agency, National Telecommunications and Information Administration, and the National Institute for Standards and Technology. Commerce's goal is to eventually be able to process all grants within the Department within a single system.

NOAA Grants Online supports Commerce's Management Integration Goal and Strategic Goal # 3.

### **National Institute of Standards and Technology (NIST)**

#### ***Time Scale and Time Dissemination***

The Time Scale and Time Dissemination System provides the Nation's official standards for time and frequency to meet critical industrial needs, including time stamping of electronic financial transactions, telecommunications, electric power transmission, transportation, navigation and positioning (including support of the Global Positioning System), and various defense applications. Time dissemination methods are developed using Internet and radio broadcasting for industrial, consumer, Government, and scientific applications, which serve millions of customers daily.

This application supports Commerce's Strategic Goal #2.

### **International Trade Administration (ITA)**

#### ***International Trade Process Streamlining (ITPS)***

ITPS is a comprehensive multi-agency initiative whose goal is to increase the number of small U.S. business exporters and the dollar value of export transactions. ITPS seeks to accomplish this goal by improving access to Government export programs and reducing the barriers that small and medium-sized enterprises (SMEs) encounter when seeking help to export their products or services. Commerce, as chair of the Trade Promotion Coordinating Committee (TPCC), will coordinate this effort with input from key partners including the US Department of Agriculture, the Export-Import Bank of the United States, the Small Business Administration. Other TPCC agencies, including Trade Development Agency, the State Department, and the Overseas Private Investment Corporation are also potentially important players.

Export counseling, finance, and market entry services offered by the Federal Government are spread across 19 Federal agencies. Intelligence reports on foreign markets are likewise generated across multiple agencies – each with their own unique URLs, terminology, and navigational schemes. To help remedy this situation, Export.gov was launched in September of 2000. The site offers exporters a single, easy-to-remember URL to access all export-related programs, counseling, and market research offered by the Federal Government. The focus of Export.gov is to help simplify and unify export promotion and financing activities across multiple agencies.

The International Trade Process Streamlining Initiative intends to build on the success to date of Export.gov. The initiative is made up of two separate, but closely related projects:

- Simplifying Trade Process Activities (STPA) – a series of trade process-enhancing modules aimed at simplifying the export process and reducing the burden of U.S. SMEs; and
- Expansion of the Export.gov Website and IT infrastructure – aimed at improving the accessibility of Government export services, the online delivery of timely market research and trade opportunities, and the usability of Export.gov as a whole.

Both ITPS projects will improve the exporting community's experience with the Federal Government's export facilitation services. It is expected that STPA, in conjunction with the expansion of Export.gov, will increase the number of small business exporters and the value of US export transactions.

ITPS holds the potential to truly transform the way small businesses export. Currently, only a small percentage of U.S. small businesses export, and of those that do, two-thirds export to only one market (most commonly Mexico or Canada). In addition, the majority of these companies do not export every year. These non-exporting and under-exporting SMEs represent an immense, untapped source of future U.S. employment and prosperity. If through this project the U.S. could realize a modest ½ percent increase in the level of SME exports (\$1.1 billion), this would result in a significant growth in export-related employment – approximately 19,000 jobs. Recent studies have shown that exporting firms have been found to pay 15 percent higher wages than the average firm and go bankrupt at a significantly smaller ratio than non-exporting firms.

Internally, consolidating and streamlining the Web presence via expanding Export.gov, alone, will enable ITA to dramatically improve the delivery of export/trade-related information to the

public and redeploy as much as 30,000 trade specialist man-hours toward export promotion, market compliance, and trade advocacy issues for which they are intended. Other TPCC/Export.gov partners to whom the common CMS system will be deployed can realize similar benefits.

ITPS is already demonstrating progress in improving access to Government export programs. In FY 2004 ITA:

- refined the One-Stop One-Form initiative to include the NAFTA Certificate of Origin form
- completed the integration of content from the United States Department of Agriculture's Foreign agriculture Services into Export.gov, and
- incorporated an online credit application into the One-Stop One-Form initiative.

ITPS and its subsidiary projects, STPA and Export.gov, together support Commerce's strategic goal # 1.

## **National Telecommunications and Information Administration (NTIA)**

### ***Spectrum Management***

This project provides the information technology support required for NTIA to manage the Federal Government's use of the Radio Frequency spectrum. NTIA processes between 6,000 and 10,000 frequency assignment actions monthly. To preclude harmful interference between stations, these actions (applications from Federal agencies for new frequency assignments or revisions of existing assignments) must be coordinated with other Federal agencies, and in many cases with the Federal Communications Commission and the Government of Canada. NTIA processes frequency assignment actions using its Frequency Management and Records System (FMRS) software and networked systems.

The spectrum management system supports increased technology development and commercialization by improving use of the radio spectrum through increased sharing and spectrum efficiency. It provides a more rapid method for Federal agencies to obtain the spectrum necessary to operate their radio communications. It also provides a method for radio-communication system manufacturers to ensure that their systems meet Federal standards and provides Federal agencies with a means to obtain technical information on radio communications for planning future spectrum use.

NTIA's Spectrum Management applications support Commerce's Strategic Goal #2.

## **Bureau of Economic Analysis (BEA)**

### ***Economic Accounts***

The Bureau of Economic Analysis (BEA) promotes a better understanding of the U.S. economy by providing the most timely, relevant, and accurate economic data in an objective and cost-

effective manner. BEA's economic programs require the Information Technology support provided by the Office of the Chief Information Officer. BEA's IT Architecture delineates four key targets that define the areas of critical support: (1) continuing support of staff with more efficient software tools; (2) ongoing upgrades of the IT infrastructure to ensure reliability and security; (3) redesigning of core estimation systems; and (4) harnessing of rapidly developing Web-based technologies to improve data reporting and dissemination. Significant enhancements in each of these areas have been made. BEA recognizes the ongoing need to couple new opportunities presented by technological advancements with the requirement to measure and disseminate data about a rapidly changing economy.

The economic accounts prepared by BEA support Commerce's Strategic Goal # 1.

### **Bureaus of Industry and Security**

#### ***Export Control Automated Support System (ECASS)***

The Bureau of Industry and Security promotes U.S. national and economic security and foreign policy interests by managing and enforcing the Department's security related trade and competitiveness programs. BIS plans to replace its primary system, the Export Control Automated Support System (ECASS), with a significantly improved product, ECASS 2000+, to meet changing work processing requirements. The purpose of the replacement effort is to develop a cross-functional information architecture within BIS. This architecture includes office automation, data base management, advanced document management, telecommunications, digital data encryption, imaging, and networking. The replacement of paper processes with electronic processes is key to accomplishing BIS's goals.

ECASS and ECASS 2000+ support Commerce's strategic goal #1.

<b>IT Initiative</b>	<b>Goal 1:</b> <i>Provide the information and tools to maximize U.S. competitiveness and enable economic growth for American industries, workers, and consumers.</i>	<b>Goal 2:</b> <i>Foster science and technological leadership by protecting intellectual property, enhancing technical standards, and advancing measurement science.</i>	<b>Goal 3:</b> <i>Observe, protect, and manage the Earth's resources to promote environment stewardship.</i>	<b>Management Integration Goal:</b> <i>Achieve organizational and management excellence.</i>
<b>Departmental Cross-cutting Initiatives</b>				
Commerce Administrative Management System	☑			☑
Commerce Standard Acquisition and Reporting System (CSTARS)	☑			☑
Office of Human Resources Management (OHRM) Automated Hiring Tool				☑
WebTA				☑
Herbert C. Hoover Building Infrastructure Network (HCHBNet)		☑		☑
<b>Major Modification Efforts</b>				
Census MAF/TIGER	☑			
NOAA HPC			☑	☑
USPTO Patents e-Gov		☑		
<b>Other Operating Unit Specific Initiatives</b>				
2010 Decennial Census Systems	☑			

**Figure 2 – Applicability of Selected IT Initiatives to DOC Strategic Goals**

<b>IT Initiative</b>	<b>Goal 1:</b> <i>Provide the information and tools to maximize U.S. competitiveness and enable economic growth for American industries, workers, and consumers.</i>	<b>Goal 2:</b> <i>Foster science and technological leadership by protecting intellectual property, enhancing technical standards, and advancing measurement science.</i>	<b>Goal 3:</b> <i>Observe, protect, and manage the Earth's resources to promote environment stewardship.</i>	<b>Management Integration Goal:</b> <i>Achieve organizational and management excellence.</i>
Data Access and Dissemination System (DADS)	<input checked="" type="checkbox"/>			
NOAA Advanced Weather Interactive Processing System (AWIPS)			<input checked="" type="checkbox"/>	
NOAA Geostationary Operational Environmental Satellites Ground System (GOES)			<input checked="" type="checkbox"/>	
NOAA Comprehensive Large Array Data Stewardship System (CLASS)			<input checked="" type="checkbox"/>	
Next Generation Radar Planned Product Improvement NEXRAD PPI			<input checked="" type="checkbox"/>	
NOAA Grants Online			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
NIST Time Scale and Time Dissemination		<input checked="" type="checkbox"/>		
ITA International Trade Process Streamlining (ITPS)	<input checked="" type="checkbox"/>			
NTIA Spectrum Management		<input checked="" type="checkbox"/>		
BEA Economic Accounts	<input checked="" type="checkbox"/>			
BIS Export Control Automated Support System (ECASS)	<input checked="" type="checkbox"/>			

**Figure 2 – Applicability of Selected IT Initiatives to DOC Strategic Goals**

## **PARTICIPATION IN FEDERAL E-GOVERNMENT PROGRAMS**

Commerce continues to serve as the managing partner for the e-Government International Trade Process Streamlining (ITPS) initiative. ITPS is a seamless environment within which small and medium-sized enterprises (SMEs) can research markets, gather trade leads, and conduct a majority of their export transactions on-line. Through ITPS, U.S. businesses are able to achieve real cost savings by reducing the amount of time they spend gathering information, completing forms, and interacting with disparate government agencies. ITPS has consolidated and integrated the export process online under Export.gov, which includes foreign partner matching/verification, export financing and insurance, and consolidated market research. The interagency aspect of ITPS has been further expanded through the refinement of the One-Stop One-Form initiative to include the NAFTA Certificate of Origin form, the integration of content from the United States Department of Agriculture's Foreign Agriculture Services into Export.gov, and an online credit application.

Commerce is also a participant in 23 other e-government and Lines of Business initiatives. The Department's CIO has taken an aggressive stance and is committed to eliminating any duplication with any Government-wide e-gov initiative. Commerce's strategy toward participation in Federal e-Government initiatives dictates that we will provide back-end processing only for the various e-government portals and storefronts.

The Department also participates in numerous crosscutting programs involving multiple bureaus; other federal, state and local agencies; foreign governments; and private enterprise. The Departmental CIO has stressed to the operating unit CIOs the importance of seeking opportunities for further participation in interagency e-Government initiatives. Specific areas where Commerce is hoping to establish further e-Government involvement include:

- Commerce leads and the Secretary chairs the federal government's Trade Promotion Coordinating Committee (TPCC), which consists of at least 20 agencies, and seeks to establish a government-wide strategy for export promotion activities.
- EDA builds partnerships with federal, state, and local entities including: the Federal Emergency Management Agency (FEMA), the Environmental Protection Agency (EPA), The Department of Energy (DOE), the Department of Labor (DOL), the Department of Agriculture (USDA), the Department of Transportation (DOT), the Department of Housing and Urban Development (HUD), the Appalachian Regional Commission (ARC), and the Denali Commission.
- BEA relies on the Census Bureau, Bureau of Labor Statistics (BLS), and the Internal Revenue Service (IRS) as data sources. Census provides BLS with monthly unemployment data. BEA also works closely with other agencies producing statistics including the U.S. Departments of Agriculture, Defense, Education, Energy, Health and Human Services, Transportation, and Treasury.

- Census works with state governments to make data available locally to the public through a variety of channels. Census also works with foreign governments through the International Programs Center to assist in the use of statistics.

## **MANAGEMENT CONCERNS**

The key areas of management concern and attention at the Department of Commerce are the 2010 Decennial Census, the IT Security Program, ECASS 2000+, and the National Weather Service Telecommunications Gateway.

### **2010 Decennial Census**

The Department actively participated in the management of the 2000 Census, and is continuing its vigilant oversight of the 2010 Census. The Bureau of the Census has conscientiously started its planning and initial preparatory activities for the 2010 Census. Of particular concern is the need to maintain a steady funding stream through the decade in support of modular development and implementation of the 2010 Census systems. The Department monitors progress through the Commerce IT Review Board, quarterly program management reviews, and independent program analyses conducted by a contractor firm not associated with Decennial development activities.

### **IT Security Program**

The security of IT systems is an area of priority throughout the Department. Recent audits by the Office of the Inspector General, coupled with revealing internal compliance reviews by the Department Office of the CIO and self-assessments by all Commerce operating units, have highlighted the need for improvements in Commerce's IT security management and implementation. Specific actions achieved to date include certification and accreditation of the Department's IT systems, regular compliance reviews and vulnerability testing, and improved IT security training that includes annual refresher training for all Commerce computer users and role-based training for those with significant IT security responsibilities. Despite significant improvement in the security posture of IT systems in all operating units, this area remains a special management concern and is being closely monitored by the CIO.

### **ECASS 2000+**

The Department continues to closely monitor ECASS 2000+ and the issues that have impeded the progress of this redesign project. Due to escalating costs and schedule slippages discovered at the last ECASS 2000+ review in mid-2003, the Commerce IT Review Board recommended that BIS halt all systems development work, redefine the functional requirements for the system, and revisit the ECASS 2000+ acquisition planning. In December 2003, the Federal IT Review Board, at the request of BIS management, conducted an independent peer review of ECASS 2000+ and identified structural, resource, and process areas where additional attention was needed to guarantee a successful project. As of the end of FY 2004, development work on ECASS 2000+ remains on hold, and most of the ITRB identified areas have yet to be addressed. BIS has recently hired a new CIO who will provide the operating unit-level leadership required to bring this mission-critical project to conclusion. Because of the significant re-planning effort

still facing BIS, the Commerce IT Review Board will continue its close scrutiny of this project through regular control reviews.

### **National Weather Service Telecommunications Gateway Replacement (NWSTG)**

The National Weather Service Telecommunications Gateway (NWSTG) is the primary data communications switching system of the NWS. It is a global distributor of weather messages in support of the NWS commitment to the World Meteorological Organization's (WMO) world-wide data exchange structure; therefore, the Gateway maintains a recognition system for all weather data and products for purposes of exchange to global customers. This Center is a Regional Telecommunications Hub (RTH) of the WMO Global Telecommunication System communication network. The Gateway is the World Area Forecast Center distribution system for the World Area Forecast System (WAFS). WAFS data distribution is made through a satellite broadcast to geographical areas located over two-thirds of the globe.

The NWS Telecommunications Gateway provides national and global near real-time data exchange services using automated communication resources, transmitting a wide variety of environmental data types. The Gateway is operated twenty four hours a day to acquire, process observations, construct messages, and disseminate messages and files of observations, model analysis, and forecast products. The time-perishable products are disseminated cyclically according to fixed schedules. Dependability and maintainability of the Gateway are crucial to maintaining a timely and reliable transmission of products of the highest importance to stakeholders worldwide.

In fiscal year 2002, NOAA initiated an effort to replace the NWSTG; incorporating both a technology refreshment component and the development of redundant operational capabilities. This effort, which continues today, was undertaken by a combined contractor/NWS Integrated Project Team. During an April 2003 project status review, issues relating to schedule completion in certain project sub-elements were discovered, but not deemed to be critical to project success. Following the April 2003 status review, the NWSTG project was the subject of an OCIO project review, commissioned by the Departmental CIO and performed by an independent contractor review team. As a result of the independent review team's analysis, the NWSTG replacement project has been made a subject of ongoing Department-level review, is being closely monitored by the Departmental CIO, and is scheduled to be re-examined by Departmental OCIO staff in FY 2005. The NWSTG investment initiative has been restructured to address all three NWSTG components – interim maintenance of the legacy system, development of the replacement Gateway, and the creation of redundant capabilities – as a single investment with a single capital asset plan and business case, to help ensure that all strategic goals addressed by this project are achieved.