

Statement for the Record

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Subcommittee on
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International Security**

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Chairman Carper, Ranking Member Coburn, and distinguished Members of the Subcommittee, I appreciate the opportunity to address you on the Department of Commerce's (Commerce) inclusion on the Office of Management and Budget's (OMB) High Risk and Management Watch Lists.

Commerce has 12 information technology (IT) investments on the Office of Management and Budget's (OMB) High Risk List. Of these, eight represent Commerce's participation in OMB's E-Government Initiatives or Lines of Business with a migration component or where Commerce is a shared service provider. These investments were designated by OMB as high risk and include E-Travel, E-Rulemaking, E-Authentication, and the Financial Management Line of Business. The other four were nominated by Commerce because they meet two of OMB's four high risk criteria: the exceptionally high development, operating, or maintenance costs, either in absolute terms or as a percentage of the agency's total IT portfolio, and delay or failure would introduce for the first time inadequate performance or failure of an essential mission program or function of the agency, a component of the agency, or another organization.

The four investments nominated by Commerce include three components of the 2010 Decennial Census: Field Data Collection Automation (FDCA), Decennial Response Integration System (DRIS), and Master Address File and Topologically Integrated Geographic Encoding and Referencing (MAF/TIGER). The fourth is the Ground System of the National Polar-orbiting Operational Environmental Satellite System (NPOESS). These are discussed in more detail later. Another, Advanced Weather Interactive Processing System (AWIPS) Linux Migration, was formerly on the list. This project has been completed and removed from the list. All meet OMB's evaluation criteria, i.e., have a baseline with clear goals, are within 10 percent of cost and schedule targets, have a qualified project manager, and avoid duplication with OMB's E-Government efforts.

Of Commerce's 65 major IT investments submitted to OMB in the FY 2008 budget, OMB placed 49 on its Management Watch List. All have been remediated and are no longer on the watch list. Of the 49, 29 were taken off the list by December 2006, leaving 20 on the list; all but one were removed by March 2007; the last was removed in June 2007. To ensure that Commerce's senior management understood the importance of the Management Watch List and actively supported corrective actions, in March 2007, the Chief Information Officer (CIO) briefed the Executive Management Team, Commerce's most senior executives, providing a status update. Also, during the CIO's weekly update to the Deputy Secretary, the most critical IT issues, including Management Watch List updates and status were briefed and discussed, and progress tracked.

Corrective actions included completing additional documentation necessary to demonstrate adequate planning and investment control, largely in the areas of security and privacy. Office of the CIO staff worked diligently with the operating unit capital planning points of contact to research and develop additional explanatory material and to ensure that responses were consistent across the business cases. One key area was to provide specifics on how we manage contractor systems in terms of security. What was critical here was to ensure that the response was tailored to each individual investment and not a standard response applied globally to a group of investments. Another was to come to agreement with OMB on the best way to respond to the privacy questions where there was ambiguity. For 13 investments, Commerce completed re-Certification and Accreditation (C&A) of the investments where the C&A had expired. OMB also requested and received confirmation that, where the investment showed funding for development, modernization, or enhancement, the investment would not be put into operation until a new C&A had been completed. For many investments, OMB requested background documentation, such as a risk management plan or assessment, operational analysis, or earned value management report. In all, Commerce provided over 60 separate supporting files.

Office of the CIO staff also held several conference calls with OMB and Commerce's investment sponsors to further elaborate on the management of the investments where the written material did not fully allay OMB's concerns. One of these addressed security for the hand held computers that will be used for the 2010 Decennial Census.

Commerce attributes its success to the strength of its information technology (IT) capital planning and investment control (CPIC) process, which is discussed below, and to its commitment to improve IT security. The CIO frequently briefed the Deputy Secretary as well as the Executive Management Team on the status of the completion of C&A packages. IT security has been a topic at every CIO Council meeting for the past year, with an emphasis again on completing high quality C&A packages and ensuring that our C&A process was repeatable and reliable. Operating unit CIOs, supported by their senior management, were fully apprised of the importance of the C&A packages and ensured that the work was completed as needed in their respective operating units.

We also appreciate the cooperation of OMB when reviewing Commerce's IT business cases. Though exacting, OMB was open to hearing and understanding our explanations.

Capital Planning and Investment Control

Commerce's CPIC process is built on a foundation of strategic and operational IT planning that is integrated with processes for the selection, control, and evaluation of IT investments. The OMB's Circular A-11, Exhibits 300 (Capital Asset Plan and Business Case Summary) and 53 (Agency IT Investment Portfolio) form the building blocks for IT planning, budgeting, and acquisition documentation.

The process begins with a request from the Department's Chief Information Officer (CIO) for operating units to develop strategic IT plans within the context of maturing their capital planning and investment control process. Operating units are asked to develop strategies to address performance gaps. Capital planning and investment control processes based on strategic IT plans are linked with and support operating unit program plans developed under requirements of the Government Performance and Results Act (GPRA).

Strategic IT plans provide a framework for discussion and an opportunity for operating units to focus on the strategic use of IT resources to improve program delivery. Strategic IT plans also lay the groundwork for development of operational IT plans and documentation to support budget year IT initiatives. Strategic IT plans establish overarching, operating unit-wide IT goals, such as the development of architectures, strategic use of electronic commerce, and development of IT security and privacy strategies.

Operational IT plans are due in the fall and describe specific operating unit plans for IT activities for the coming fiscal year. The operational IT plans are based on OMB Circular A-11, Exhibit 300. This provides continuity with the budgeting process and a consistent set of documentation, ensuring that issues such as developing systems within the context of an architecture and IT security and privacy are considered on an ongoing basis. At the point of the operational IT plans, the Exhibit 300 documentation should be well defined, identifying specific schedules, acquisition plans, and performance measures. The timing of the operational IT plan is intended to put the focus on the coming fiscal year and to promote better coordination and integration with development of performance measures required by GPRA.

Investment Review Process

Budget Year Initiatives

The CIO issues a call for IT budget initiatives as well as for documentation on major systems in the spring. This IT planning call is directly linked to the Secretary's budget guidance for the upcoming budget year; submissions are due at the same time budget proposals are due, usually mid-May. The budget proposals, as well as documentation of major systems, are provided in OMB Circular A-11, Exhibit 300 format. The proposals are a product of operating unit IT selection processes, reflecting operating unit portfolio analysis and operating unit IT review board decisions.

The Commerce IT Review Board (CITRB) advises the Secretary and Deputy Secretary on critical IT matters, ensuring that proposed investments contribute to the Secretary's strategic vision and mission requirements, employ sound IT investment methodologies that comply with Departmental systems architectures, and provide the highest return on the investment or acceptable project risk. This technical review is then a factor in decisions for approval or disapproval of funding for new or base investments as part of the Department's budget review process. Systems selected for review meet one or more of the following criteria: systems meriting special attention due to their sensitivity, mission criticality, or risk potential; Department-wide systems; systems where resources are shared between operating units and/or the Department; and systems with life cycle costs over \$25 million.

The CITRB is chaired by the CIO, co-chaired by the Chief Financial Officer and Assistant Secretary for Administration (CFO/ASA), and composed of the Director of the Office of Budget, the Senior Procurement Executive, the Director for Human Resources, the Deputy Chief Financial Officer, the Deputy CIO, and CIOs from the National Oceanic and Atmospheric Administration, Census Bureau, National Institute of Standards and Technology, and International Trade Administration, and, on a rotating basis, up to two other operating unit CIOs. Currently these include the Bureau of Economic Analysis and the Bureau of Industry and Security.

Ratings of the CITRB are based on consensus evaluations on a green-yellow-red scale, using decision criteria to determine such factors as alignment to Commerce and operating unit high-level performance goals, net risk-adjusted return on investment, project management strategies, risk mitigation, security implementation, architectural compliance, and overall value of proposed IT projects. Only CITRB members or designated alternates from the Department of Commerce may vote, but staff with relevant expertise participate in the discussions and question the proposal sponsors. Initiatives that do not meet the criteria to be reviewed by the Board are reviewed following the same process by Office of the CIO staff supplemented by staff from the Office of Acquisition Management as well as the Office of Budget. CIO staff also review all Exhibit 300s for existing and proposed investments, and provide comments to investment sponsors to help improve the quality of these business cases.

To help focus the CITRB sessions, project managers and sponsors for investments selected for CITRB review are required to provide supporting project planning documentation, including the Exhibit 300, two weeks prior to the CITRB meeting. Staff subject matter experts in IT security, enterprise architecture, project management, earned value management, benefit-cost analysis, budgeting, and acquisition review the project management material and provide comments to the project manager and sponsor providing them an opportunity to explain or resolve gaps in the information provided. Remaining technical issues are highlighted for the CIO's attention prior to the CITRB meeting.

Following the meeting, the CIO provides the operating units the investments' ratings along with comments and suggestions for improvements, and an opportunity to improve

their proposal justifications, where needed. The CIO, in consultation with the CITRB members and Office of the CIO staff, reviews the revised proposals and assigns a final rating on a green-yellow-red scale, which is then provided to the Office of Budget. Also, the CIO or Deputy CIO provides input and commentary as necessary on initiatives with an IT component during the Department's budgetary deliberations.

Control and Evaluation Reviews

As part of its charter, the CITRB makes recommendations for continuation or termination of projects under development at key milestones or when they fail to meet performance, cost, or schedule criteria. The Office of the CIO staff review all major systems and make recommendations to the CIO regarding those IT investments that should be reviewed by the Board. The staff also conduct pre-Board reviews themselves or recommend pre-Board reviews from external experts, when they perceive a benefit from an independent, in-depth evaluation.

The CITRB meets monthly to assess IT investments and to review the performance of ongoing investments in control and post-implementation reviews. The CITRB review process follows on the operating unit processes for the control and evaluation of major IT investments, which generate documentation for CITRB consideration. For acquisition projects of \$10 million or greater, once the CITRB approves investment decisions, the Acquisition Plan outlining the business approach is reviewed by the Senior Procurement Executive.

The CIO provides formal evaluation memoranda to the project sponsors and requires follow-up information and actions with due dates, as needed. The Office of the CIO staff track responses to the actions. Further, the operating units provide quarterly earned value management and operational analysis reports, which are reviewed by Office of the CIO staff. These processes taken together highlight any investments that may need special management attention. The CIO briefs the Deputy Secretary on investments that deviate from cost, schedule, or performance goals by more than 10 percent or that are in other ways troublesome.

In FY 2007, the CITRB reviewed 12 IT investments, and three operating IT investment portfolios requesting 46 follow-up actions. The NPOESS Ground System, one of the investments on OMB's High Risk List, is scheduled for review in October 2007. Due primarily to technical difficulties in developing one of the satellite's major sensors, the overall NPOESS project cost, schedule, and requirements were reviewed and revised in June 2006. While the NPOESS Ground System had been meeting cost and schedule goals, the delay in the satellite launch dates caused the Ground System schedule to be revised and rebaselined.

Additionally, the Commerce IT Review Board identified the Decennial Census IT project as needing special oversight due to its size, importance, and high risk. The Census Bureau is re-engineering 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. The Census Bureau will continue to exploit the use of advanced technology to support process improvements in the 2010 Census. Specific attention is being focused on the use of hand held computers through FDCA, one of the investments on OMB's High Risk List, offering a major opportunity to develop more efficient data collection/capture processes for the 2010 Census. The first major tests of the hand held computers (HHCs) were conducted in 2004 and 2006 using a prototype version of the device to assess whether or not the HHCs could be successfully used in the field for 2010 Census operations. The overall benefits to Census operations were verified and provided a proof of concept of the hand held computers, while pointing to technical adjustments needed.

The modernization of the Census Bureau's geographic data base and address file (MAF/TIGER, also on the High Risk List) is on schedule to be completed prior to the start of 2010 Decennial Census operations. This effort realigns boundary and feature data in the Census data base with geographic coordinates that can in turn be utilized by geographic information systems. Further, the CITRB reviewed the Decennial Response Integration System, the third Decennial system on the High Risk List. Based on this review, DRIS received CITRB approval to proceed with Phase II of its three-phase development. The scope includes all design, development, testing, security, deployment and operations support activities to complete the 2010 Census data capture and assistance activities.

While IT for the Decennial Census is the primary focus of the Office of the Chief Information Officer in this special oversight of the Decennial Census, associated general management issues are of interest to the CFO/ASA. Therefore, the CFO/ASA and the CIO have been conducting quarterly oversight reviews of this project jointly, addressing both general management and IT issues. As a result of these reviews, the overall management of the 2010 Census is being monitored along with the management of the IT support required. Where needed, the Census Bureau is asked to provide clarifying information, often for the next quarterly review.

Capital Planning Training

Over the past several years we have sponsored training, supplemented by one-on-one consultations, to address the areas of the Exhibit 300 that cause preparers the most difficulty, including performance measurements, alternatives analysis to include return on investment, and earned value management. Additionally, we regularly update a set of customized, Commerce-specific instructions on how to prepare a high quality business case and post them to our Web site. The Department's Office of the CIO also offers training sessions for beginning and advanced students on use of the eCPIC (electronic Capital Planning and Investment Control) software to enter, track, and analyze their operating unit's portfolio of IT and non-IT investments.

Linkages to Other Processes

Commerce's capital planning and investment control process is linked to other processes within Commerce. The linkage to the budget process has been described above. Linkages to other IT processes and to the acquisition process, which directly support the quality of the IT investments and their management, are described below.

Acquisition

In a cooperative effort with the Office of the CIO and the Office of Budget, Commerce's Office of Acquisition (OAM) uses OMB Circular A-11, Exhibit 300 as the foundation for documentation required in the acquisition process. An Acquisition Plan supplements the Exhibit 300 with additional acquisition information and must be made available to the CITRB. The Senior Procurement Executive is a member of the CITRB. These procedures fully integrate the acquisition process with the information technology and budgeting processes.

Enterprise Architecture

The Commerce Enterprise Architecture (EA) has a broad scope. The EA is the union of the operating unit architectures and the overarching Department architecture. The Department architecture addresses lines of business and services common to all operating units. It establishes basic goals and directions, characterizes common systems and services, and defines fundamental standards universal to all operating units. This approach provides the operating units flexibility in executing their mission specific lines of business, while providing greater efficiency and reduced cost for the common lines of business. The diverse nature and mission of each operating unit mandates a flexible structure, allowing each operating unit to define its mission specific architecture that best fits its business requirements. In this way, each operating unit can fulfill its mission tasks, and provide the best service to all stakeholders and customers while supporting the overall goals of Commerce.

The Commerce Enterprise Architecture documents results realized from the combined capital planning and architecture efforts in reducing redundant systems, reusing existing components, and taking advantage of newer technologies to achieve efficiencies. The high-level overview describes Commerce's goals and business needs, and "as is" and "to be" architectures along with migration plans, from business, information, application, and infrastructure views. This is supplemented by detailed technical and architecture information from the operating units in support of the strategic architectural vision.

Another part of the overall architecture effort is the identification and development of segment architectures. Segment architectures are discrete slices of the enterprise that provide a product or service. The segment architecture provides detailed results-oriented architecture and a transition strategy for a section of the enterprise.

The Department's Enterprise Architecture Advisory Group, composed of representatives from across the Department, developed guidance for the Enterprise Architecture Program. This guidance is consistent with the OMB Federal Enterprise Architecture Framework and is designed to enhance the integration of the operating unit portions of the Enterprise Architecture and provide a consistent picture across all of Commerce. With the development of the OMB Federal Enterprise Architecture Assessment Framework, as well as the General Accountability Office Architecture Maturity Assessment, the Commerce Enterprise Architecture Capability Maturity Model has been retired.

The Enterprise Architecture Review Board is a focused group derived from the Enterprise Architecture Advisory Group, which reviews architecture updates and change requests, and examines investments that are being reviewed by the CITRB for compliance with the Enterprise Architecture. Recommendations are forwarded to the CITRB for consideration.

IT Security and Privacy

The Department of Commerce places a very high priority on IT security, recognizing that an effective IT Security Program is necessary to protect its IT investments and its data. The Department has strengthened its focus in two management areas: IT security program management and administration, and critical infrastructure protection.

The IT Security Program Team, supplemented by IT Security Officers in each of the operating units, focuses on improving Department-wide IT security program management and overseeing Department-wide compliance with IT security requirements. Recent efforts to improve the program include focusing on standardizing the processes that lead to sound IT system's certification and accreditation; updating the comprehensive IT security program policy and minimum implementation standards to reflect current IT investment trends and regulatory requirements, particularly in the area of personally identifiable information; ensuring linkage between the IT system inventory and IT investments; as well as improving general security awareness training and providing role-based training for those with significant IT security roles and responsibilities. In addition, the Department continues an IT compliance review program that includes testing the management, operational, and technical controls of the Department's IT systems.

The IT Security program is the information assurance foundation ensuring the consideration of IT security over the system's life cycle, from inclusion in IT capital asset budgeting to system disposal. Details of these efforts are provided in the Department's annual report to OMB as required by the Federal Information Security Management Act.

The Critical Infrastructure Protection program concentrates on securing the Department's infrastructure resources that support national essential functions. In addition, the team reviews and coordinates the IT aspects of Department-wide continuity of operations planning to ensure availability of IT investments that support nationally critical as well as

Commerce's mission functions. Partnerships established with the Department of Homeland Security and integration with Commerce physical security programs have enhanced the quality of the critical infrastructure program. Furthermore, current and planned investments in new technology for incident detection and infrastructure monitoring will strengthen the Department's IT security posture and enforce the information assurance efforts under way by the IT Security Program Team, as described above, to protect the Department's IT investment.

The Department has established a Chief Privacy Officer, who assists in the review of Privacy Impact Assessments (PIA) as part of the IT capital planning process and helped establish Commerce's IT Privacy Policy. The Chief Privacy Officer works closely with Commerce's Privacy Act Officer, established under the Privacy Act. Both ensure that Commerce's CIO, who serves as Commerce's Senior Official for Privacy, is actively involved in and informed of privacy issues affecting Commerce. In a testament to Commerce's commitment to privacy, Commerce's IT Privacy Policy extends privacy protections beyond personally identifiable information to business identifiable information.

Recent events have made the protection of personally identifiable information a priority. Commerce has moved quickly to establish policies and make available practical protections for employees to use in safeguarding personally identifiable information as well as other sensitive information. All Commerce Privacy Impact Assessments and Privacy Policy Statements are available on Commerce's Web site.

Electronic Government

The Commerce Department continues to expand its already extensive use of electronic government to perform its mission better, to enhance support to citizens, businesses, and other customers, and to reduce costs. Commerce has long recognized the advantages afforded by electronic government to support its responsibilities in delivering scientific, technical, and statistical information to the public. Commerce uses the Internet as a primary means of disseminating large amounts of data and information as well as supporting online transactions. The Department has over 100 different transactions available on the Internet. Members of the public can apply for fishing permits, file patent and trademark applications, order nautical charts and environmental data, file economic census data, register a search and rescue radio beacon, analyze economic and demographic data, and read publicly available patent and trademark files --- all electronically.

The Office of the CIO ensures that E-Government considerations are given high visibility in Commerce's information technology capital investment and control process. Through selection and control reviews by the CITRB, senior Commerce management examines initiatives for E-Government possibilities and suggests E-Government alternatives, where sensible.

Project Management

Commerce recognizes the importance of effective project management to the success of IT investments. To ensure that Commerce has skilled, qualified project managers to direct its major IT investments, we have launched several initiatives. The first is that IT investment sponsors must submit resumes, in a prescribed format, for project managers and contracting officers for any new or existing investment that is reviewed by the CITRB. This allows Board members and Office of the CIO staff to review the qualifications and experience of the project managers and contracting officers and weigh these factors in their evaluations of the IT investments. For large investments, the project manager must be assigned full time to the investment in question. In concert with CIO Council guidance and tailored to Commerce's IT investments, Commerce formulated project manager qualification and certification guidelines and validated all project managers of major investments as meeting the CIO Council's September 2004 *Federal IT Project Manager Guidance Matrix* certification and experience requirements. In FY 2007, Office of CIO staff, in concert with staff of the Office of Acquisition Management and the Office of Human Resources Management, are developing an implementation plan to address the requirements of OMB's new Federal Acquisition Certification for Program and Project Managers.

Second, Commerce and its constituent operating units offer project management training for all project managers who need it. In FY 2004, the Office of the CIO held two nine-day sessions, each for 25-30 students and in FY 2005, we trained an additional 44 students. Beginning in FY 2006, the Commerce Office of Human Resources Management developed a project management education and training curriculum and trained an initial group of 30 employees. This training program continues, and in FY 2007, another 40 students graduated. This training develops knowledge in all nine Project Management Body of Knowledge areas and prepares students for Project Management Institute certification as a Project Management Professional (PMP®).

Third, we have embarked on regular, systematic Earned Value Management (EVM) analysis of IT investments under development. The intent is to monitor the performance of Commerce projects regularly to provide early warning of projects that may not be meeting cost, schedule, or performance goals, allowing course correction to bring the development effort back on track. The EVM analysis has been supported by focused training sessions on EVM techniques and one-on-one consultations. Further, operating unit CIOs are required to conduct operational analyses to certify that steady-state investments meet cost, schedule, and performance goals and to identify strategic opportunities for improvements. These requirements are founded on a formal policy on EVM and operational analysis. Commerce tracks EVM for 12 investments. On average, the investments are within 3 percent of cost and schedule goals, well under the 10 percent tolerance established by OMB.

In support of all of the above, we have established a central source for project management expertise, advice, and guidance, which focuses on four strategic initiatives:

- Establishment of standards and guidelines for the use of project management best practices throughout the Department;
- Providing project management services and support for select IT projects;
- Providing DOC program and project managers with technical assistance to ensure successful performance in presentations before the Commerce IT Review Board; and
- Mentoring, training, and guiding project teams as they learn and use new project management best practices.

IT Workforce Development

The IT Workforce Committee of the Federal CIO Council, in partnership with the Office of Personnel Management (OPM), conducts a biennial Web-based survey of IT employees in the Federal workforce. The survey collects information regarding IT employee skills, certifications, and competencies. The data from the survey provides a foundation for IT workforce development efforts at Commerce. We are now engaged in target setting and gap analysis, making the assessment process more valuable. The Office of the CIO has partnered with the Office of Human Resources Management to define a cohesive IT workforce development program, using this information as a reference point, and submitted an IT Workforce Development Plan to OMB. In addition to the training and development activities already underway for project management and IT security, the Plan outlines activities to improve skills in enterprise and solutions architecture development. We are tracking our progress quarterly against the plan.

Commerce launched its new Commerce Learning Center (CLC) on June 1, 2007. The CLC replaces the GeoLearning Management System and will provide access to online training. Throughout the remainder of calendar year 2007, Commerce will phase in the system's full functionality including: online training history from the GeoLearning Management System; scheduling and tracking of all types of training to meet Office of Personnel Management requirements; management of individual professional development rosters and reports; distance learning through chat rooms and bulletin boards; and more. This project supports the achievement of the President's Strategic Management of Human Capital initiative as well as Expanded Electronic Government. The CLC will be particularly useful for role-based IT security training.

Commerce is actively engaged in outreach programs to attract, recruit, develop, and maintain a viable and diverse workforce, responsive to the mission needs of the Department and the strategic objectives of our various operating units. The Office of the Secretary operates an Executive Leadership Development Program and an Aspiring Leaders Development Program for high potential employees. Commerce offers a number of intern programs to high school students as well as postsecondary students at both the undergraduate and graduate levels.

Conclusion

In conclusion, since information technology (IT) expenditures constitute such a large portion of the Commerce annual budget (about 20 percent, or \$1.7 billion), it is imperative that special management attention be given to the Department's proposed and continuing IT investments. This is done through the Capital Planning and Investment Control process, which continues to be strengthened to provide broader and deeper analysis of proposed new IT investments, projects under development, and projects that have completed deployment as well as of the overall performance of the portfolio. Where the cost, schedule, or performance goals of IT investments are not yet being fully achieved, the processes in place have detected the problems and directed corrective action. And, for the most significant IT development project that the Department is undertaking at this time, the Decennial Census, special reviews and oversight have been implemented, identifying opportunities for improvements as needed. The Department of Commerce's inclusion on OMB's High Risk and Management Watch Lists has helped focus some of the discussion, identify specific areas for improvement, and capture senior management attention.