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Statement of
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Chairman Baca, Ranking Member Fortenberry, and Members of the Subcommittee, thank you for the opportunity to share with you our progress on using information technology (IT) to set a new course for USDA to promote a safe, sustainable, and nutritious food supply and to ensure that America is a leading player in the fight against global hunger, climate change, and revitalization of rural communities by expanding economic opportunities.

USDA programs touch every American and many others around the world. In fiscal year (FY) 2010, USDA estimates that it will provide roughly $180 billion in total program benefits including loans, grants and other services through more than 300 programs worldwide. Over 50 million Americans call Rural America home and just as we seek to increase economic opportunity and improve the quality of life for all rural Americans through key foundational elements such as producing renewable energy, developing local and regional food systems, and making better use of Federal programs through regional planning that offer a new future to the next generation…so must USDA invest in the key foundational elements to ensure that the Department can efficiently and effectively deliver its programs.

Working with the Secretary we have prioritized the necessary investments to enable the most effective delivery of these initiatives and have developed a thoughtful and deliberate approach to implement these improvements. We have identified the key initiatives upon which USDA will modernize its service offerings to ensure open, transparent and collaborative avenues through which USDA employees, farmers, ranchers and all citizens can easily access USDA information from wherever they may be: the field, the forest, the farm, and their homes. Investments in these foundational elements, communications and collaboration tools, and mission systems will ensure the security, protection and privacy of information collected and the most efficient and effective delivery of services to our citizens, producers and industry. While we have charted a clear path for modernizing USDA there are challenges that must be met and be turned into opportunities to excel.

Information Technology Challenges

USDA's information technology challenges are not uncommon to very large, complex organizations with a highly diverse set of missions ranging from financial to inspection services. Caused in part by resource constraints or fragmented operations, challenges tend to center around:

- **Aging Infrastructure.** Managed and operated by the International Technology Service, the Common Computing Environment (CCE), is the core information technology infrastructure providing end user support to USDA's Service Center Agencies (SCA). These agencies include the Farm Service Agency, Rural Development, and the Natural Resources Conservation Service. Many components of CCE have not been refreshed since their initial implementation in 2000. For example, 3,000 field office servers, thousands of network routers and switches, and the voice communication infrastructure

of field offices are over six years old and have reached the end of their warranty support. These components are starting to fail at an increasing rate and are becoming increasingly expensive to maintain.

- **Fragmented services**. Unlike many large organizations where e-mail is managed and operated as an enterprise service, in USDA there are 27 e-mail systems, with each agency or staff office responsible for maintaining its own system and connecting to the departmental hub where routing, e-mail filtering and global address lists were maintained. Only the largest USDA agencies are taking advantage of the economies of scale offered by enterprise services. This fragmented approach has hampered USDA's ability to implement and adopt new collaboration technologies that leverage part or the entire e-mail platform to deliver services such as instant and unified messaging (integrated phone and email inbox).

- **Highly decentralized security operations**. For years, USDA's enterprise security program has focused on policy and oversight-related activities. Much of the security monitoring and response beyond the departmental network backbone is handled by agencies and staff offices with a limited set of tools. These piecemeal compliance-based frameworks do not offer sufficient protection from security threats that have become very sophisticated. A Department-wide enterprise framework that provides defense-in-depth with a common cyber security tool set is needed to enable a proactive methodology to detect, block, and remediate threats and provide the means to better assess and understand threat patterns and trends to inform actions focused on constantly strengthening our security posture.

Modernization Overview

In collaboration with USDA agencies, I have laid out a clear vision and comprehensive approach to successfully modernize the Department. The overall IT modernization approach utilizes a disciplined, multi-faceted strategy with three key areas of focus:

- **Foundational Elements** – Initiatives in this area center on enterprise business services and infrastructure and include Financial Management Modernization Initiative (FMMI), Agriculture Security Operations Center (ASOC), modernization of the Computing Environment, and Enterprise Data Centers (EDC).
- **Communications/Collaboration/Productivity** – Initiatives in this area focus on enterprise communications services to improve collaboration and increase productivity and include Next Generation Network (NGN) and Unified Communications (UC).
- **Mission Systems** – Initiatives in this area center on critical and often related program delivery services and include Modernize and Innovate the Delivery of Agricultural Services (MIDAS), Web-based Supply Chain Management (WBSCM), Public Health Information System (PHIS), and geospatial services.

In some instances, Office of the Chief Information Officer (OCIO) is leading an initiative, while in others, OCIO is collaborating with the lead Agency or Staff Office to ensure appropriate leadership, governance, enterprise architecture, capital planning, and investment control.

Foundational Elements

Progress continues to be realized towards implementing a modern, secure, robust, scalable and highly available delivery platform across the entire USDA enterprise. Sustaining

our efforts toward consolidating and streamlining core foundational services is critical to achieve our modernization objectives.

The OCIO is aggressively working to improve Information Technology systems security to counter ongoing formalized nation-state and criminal cyber attacks and threats. Cyber Security is a long-term critical area of importance to USDA, the Federal Government and our Industry Partners. The OCIO is proactively working with all USDA agencies and has partnered with the United States Computer Emergency Response Team, the Federal Bureau of Investigations and others to defend against this Federal-wide threat.

The FY 2010 Appropriation for OCIO included funding to commence our 36-month plan to improve information technology security. The increase in funding supports three initiatives: (1) conduct network security assessments; (2) procure and deploy security tools; and (3) establish an Agriculture Security Operations Center (ASOC) to monitor and protect USDA's systems.

The organizational design of the ASOC is completed and staffing of its critical positions with talented Federal employees is underway. A number of contractor services are helping to support our daily operations while we complete our staffing. The ASOC oversees the execution of all the security initiatives and projects, to ensure the public that the results of these initiatives and projects are focusing on and successfully addressing the greatest risks to the security of Federal information assets entrusted to the care of the Department of Agriculture.

A key component of our network security operations is to assess the present vulnerabilities in Departmental networks and reduce or eliminate their effect. To date, we have completed assessments within three agencies and staff offices, including the Foreign Agricultural Service (FAS). We have begun assessments in other agencies and staff offices, including the

Food Safety and Inspection Service (FSIS), and expect to fully complete eleven assessments by the end of the fiscal year.

In addition to these assessments, we are acquiring and deploying various tools to monitor, secure and improve the "state of health" of the USDA IT infrastructure. Many agencies and offices have completed the installation of several key tools and obtain full benefit from them. For example, our end point security tool installs software on each end user desktop, laptop and server within USDA. It allows USDA to examine, report centrally, and, ultimately, manage end user computers connected to our networks. To date we have installed the software on over 70,000 devices. Before the fiscal year ends, we expect all agencies and staff offices to obtain this same benefit as they complete their roll-outs. In addition to protecting end user computers, we are migrating business applications into Enterprise Data Centers.

OCIO, in collaboration with the SCA, has developed a comprehensive plan designed to modernize the CCE infrastructure to prevent major IT failures and associated agency productivity losses and resultant customer service impacts. This effort replaces outdated components of the CCE, many of which have exceeded their expected life cycles. Component refreshment will reduce system vulnerabilities and improve the performance and effectiveness of the shared infrastructure. These improvements will allow the SCA to better serve program participants with a more flexible and reliable IT infrastructure. The President's FY 2011 budget request includes additional funding to allow for the first system-wide refresh of the CCE since the infrastructure was implemented in 2000. The CCE revitalization effort will improve system security, reduce the long term cost of infrastructure services, and improve service reliability.

Implementation of a modern, secure and stable work environment that empowers a mobile workforce of more than 35,000 personnel in counties across the Nation is of critical

importance. Such an environment needs to be in place to more efficiently and effectively deliver approximately $58 billion in USDA goods and services to about 1.7 million farms and more than 50 million Americans in rural areas.

Under the Enterprise Data Center (EDC) initiative, OCIO is working with USDA agencies to migrate business systems from being housed in multiple at-risk agency and staff office computer rooms into a limited number of scalable, highly available, Departmental Data Centers with disaster recovery capabilities that utilize the latest "green" infrastructure technologies. EDCs are certified, Department of Justice, Level IV Secure facilities that are able to deliver increased efficiency and performance by leveraging economies of scale. As systems are migrated, this effort provides improved system availability, enhanced systems management, and better overall cyber security as well as the most economic delivery of these services. A number of agencies are already migrated, to include the SCA, while others -- to include Food Safety and Inspection Service (FSIS) and Foreign Agricultural Service (FAS) -- are on schedule to complete their EDC migrations by end of calendar year 2010. Additionally, several agencies have migrated over fifty percent of their critical applications. These agencies include the Animal and Plant Health Inspection Service (APHIS), Forest Service (FS), and National Agricultural Statistics Service (NASS), with full migration completion dates currently scheduled for calendar year 2011.

The FMMI initiative, led by Office of the Chief Financial Officer, will improve financial management performance by efficiently providing USDA with a modern, core financial management system that provides maximum support to the mission and provides for open, transparent stewardship of public funds. It will serve as the finance and accounting software

base for the Farm Service Agency's MIDAS initiative. The initial release of FMMI was implemented by Departmental Management staff offices at the beginning of FY 2010.

These will improve performance, security, and availability of USDA's mission critical information and assets in day-to-day operations as well as in the event of a disaster.

Communications/Collaboration/Productivity Modernization

USDA employees operate in more than 7,000 locations across the country and in approximately 100 countries. It is imperative that staff have a robust set of tools to be able to seamlessly communicate and collaborate from those locations, from the field, or from telework locations.

OCIO's Unified Communications initiative provides video teleconferencing, web collaboration, instant messaging, email and other services all of which directly enable employee productivity, collaboration, and customer support wherever they operate. Through this program, OCIO is replacing 27 disparate email systems with one enterprise system that will enable any employee to directly communicate with the more than 100,000 other USDA employees. The Enterprise Messaging System is operational with approximately 50,000 active email boxes. Migration of remaining agencies is in progress. This suite of productivity-enhancing tools supports better interaction among workgroups, reduces travel and its associated expenses, and provides for better management of a global workforce allowing us to better serve Americans and interact in a more open and collaborative manner. This system also will reduce costly litigation exposure risk by establishing an effective way for preserving, searching, and retrieving emails sought in civil discovery.

Under the NGN initiative, OCIO is transitioning its Unified Telecommunications Network (UTN) and individual agency networks from the FTS2001 contract to the Networx contract. Deployed in 2005, UTN is the USDA enterprise-wide backbone providing employees connectivity to the Internet and data centers for all USDA agencies. It also provides the contract mechanism for USDA agencies to procure network services such as access circuits, virtual private networks, network monitoring, etc. UTN has enabled USDA's migration from stove-piped network solutions toward an enterprise approach that maximizes the collective buying power to realize best value in telecommunications services. Since deployment, this investment has achieved great success, consistently exceeding initial performance expectations in terms of availability, reliability, network security, bandwidth, and in documented customer satisfaction.

The NGN initiative will further consolidate the network infrastructure and begin to provide more flexible capacity utilization options to OCIO's internal USDA customers and provide end to end visibility of our operations (improving performance of business applications and overall security). It is consistent with the Department's enterprise architecture goal of replacing multiple, redundant systems and technology components using a coordinated, enterprise-wide approach and is described in detail within USDA's Enterprise Architecture Transition Strategy document. As the enterprise-wide telecommunications infrastructure for the Department, the UTN is a cornerstone technology enabler of Department-wide efforts such as the USDA eGovernment initiatives and the USDA Continuity of Operations (COOP) network. The UTN enables such critical public-facing USDA systems as the Farm Loan Program, Public Education Materials (e.g., Food Pyramid, Food Safety), School Lunch Program, Supplemental Nutrition Assistance Program (SNAP), and Forest Service Incident Response Dispatch Service (ROSS), etc. USDA envisions increased use of, and reliance upon, UTN well into the future. UTN is positioned to support the Presidential priorities for a transparent, participatory and collaborative government.

Mission Systems Modernization

Built upon the foundational elements and leveraging our communications and collaboration capabilities, USDA must also provide modern business applications to staff and the public we serve.

As the Committee is aware, the applications and aging technology infrastructure upon which the Farm Service Agency's programs are delivered caused an almost complete shutdown of program and service delivery in January 2007. The funding Congress provided to "stabilize" and improve this infrastructure and applications has been well spent. Portions of these efforts will be useful for a modernized platform upon which the Farm Service Agency will implement the new application MIDAS (Modernize and Innovate the Delivery of Agricultural Services).

Under the MIDAS initiative, FSA will transform delivery of Farm Program benefits into a 21st century business model. FSA has created the MIDAS program to meet the needs of its customers and its employees. The objective of MIDAS is to streamline FSA business processes and to develop an effective long-term IT system and enterprise architecture for farm program delivery. MIDAS will:

- Reengineer business processes to be common and centralize data assets to support all farm programs, eliminate program specific duplication of functionality and non-integrated, distributed data that exists between farm program software applications;
- Provide capability to meet the increasing demand for customer self-service;
- Remove all of the legislatively mandated farm program delivery software applications from the outdated AS400/S36 computing platform by putting them on a web-enabled, common, commercial off-the-shelf business platform; and

- Increase compliance with modern internal control structures and effectively implement improved IT security.

The MIDAS Program Office has actively engaged farm programs to analyze business processes and identified areas where immediate changes could significantly reduce processing time. The Program Office recently awarded the major contract for development and implementation of the MIDAS system. The MIDAS system level design and proof of concept scheduled to be completed in FY 2011, with the initial operating capability of MIDAS to be deployed in FY 2012.

Under the Web-based Supply Chain Management (WBSCM) initiative, the Agricultural Marketing Service (AMS) is the lead in the multi-agency effort to develop a modern, integrated, web-based commodity acquisition, distribution, and tracking system for food aid both domestically and internationally. Replacing a more than 26 year old, failure prone, COBOL system, the WBSCM system will transform, standardize, and streamline the way USDA food aid and domestic food purchases are managed end to end – from planning and procurement to ordering, contract management and delivery. The WBSCM Program Office is scheduled to start user acceptance testing this month.

The Public Health Information System (PHIS) is an integrated, comprehensive system of web-based applications that will provide near real-time collection, reporting, and analysis of food safety data and inspection findings for FSIS. PHIS' modern design will provide the agency the ability to adapt as requirements change and evolve. It will replace many of FSIS' legacy systems and will capture data on the findings of FSIS inspection program personnel as they perform their daily tasks (including import and export tasks) and utilize the data to analyze trends, produce automated model predictions, and ensure the data's quality to be comprehensive, timely, and

reliable for decision-making. In addition, PHIS will collect inspection findings, such as humane handling information, entered by FSIS inspection program personnel, as well as data streams from the Agency's domestic and international partners. This coordinated effort, made possible through PHIS technology, will improve the agency's ability to collect, analyze, and communicate data, better predict likely outcomes, and improve protection of public health. PHIS will be hosted in USDA Enterprise Data Centers for maximum availability and disaster recovery. Currently, PHIS is in the design and development phase and technical testing and integration began this month. Targeted implementation is expected to begin in the fourth quarter of FY 2010.

USDA is one of the largest producers and consumers of geospatial imagery within the Federal Government. One example of this is the National Agricultural Imagery Program (NAIP), which provides digital aerial imagery used by USDA and other public and private users. Geospatial Information System (GIS) technologies used in conjunction with program data provides the capability to improving program decision-making for a variety of important USDA programs.

For example, GIS technologies are used by tens of thousands of USDA staff, cooperators and approved insurance providers doing day-to-day operations in crop compliance, conservation planning, forestry health evaluations, resource assessments and inventory management, assessment and monitoring of crop disease outbreaks, and crop statistical analysis.

Forest Service (FS) leverages GIS technology to allow scientists to model fire conditions and behavior; managers to plan and carry out fuels reduction programs; incident commanders to respond to and suppress fire, produce tactical fire maps, and protect lives and property; and

planners assess post fire conditions and prescribe rehabilitation work. Since wildland fires typically span multiple jurisdictions, Forest Service geospatial technologies must work in an interoperable fashion with those of its partners.

The Farm Service Agency uses GIS technology to help ensure compliance and land record management requirements are met. GIS serves as a critical communication tool for reporting of crops by farmers and ranchers, who can access the NAIP images via their USDA Service Center. The imaging ultimately assists FSA staff in determining eligibility and planning for conservation and other farm programs. The Common Land Unit (CLU) program relies on the NAIP product for maintenance of farm and tract records. The CLU and NAIP together provide a foundation for delivering programs consistently within the agency and across the department with NRCS, Forest Service and Risk Management Agency (RMA). Conservation programs are increasingly using geospatial data to determine applicant eligibility and contract rates and NAIP is vital to this activity.

The Natural Resources Conservation Service use of GIS technology enables it to tailor soils data to meet the needs of many customers dynamically, not just one single product. Over 3,000 counties have digital soil survey information that provide a user with information like the type of soil in a location, water holding capacity, depth to bedrock, depth to water table and chemical properties which can be accessed all from a home computer.

Rural Development utilizes GIS in the mapping of proposed business and housing eligibility areas in rural America. This mapping service allows lenders, applicants, and potential applicants to quickly determine whether the area in which they are considering purchasing property qualifies for funding from Rural Development. Eligibility maps can be created based on a specific address or on a broader regional area, e.g. county, state. RD is exercising the

opportunity to improve this service by deploying a Google base map which is more widely in use on the internet today. This will lead to faster response time and the addition of customer features such as accessing satellite and map-satellite hybrid images. RD also uses geospatial data to provide Broadband applicants the ability to map proposed service areas in the submission of their Broadband loan and/or grant application.

One of many programs where GIS technology can enhance mission delivery is the Food and Nutrition Service's Supplemental Nutrition Assistance Program (SNAP). Methods of detecting (and ultimately preventing) SNAP fraud by electronic benefit transaction (EBT) enabled retailers are essential to the successful management of the benefit redemption process, which involves over 16 billion transactions annually. Traditional methods of fraud were reduced through the use of EBT in the Supplemental Nutrition Assistance Program (SNAP) under the coupon distribution/redemption system. However, the nature of electronic transactions also introduced previously unknown approaches to committing fraud. Detecting and significantly reducing fraud by EBT enabled retailers is essential to the successful management of the benefit redemption process. To this end, the Food and Nutrition Service developed the Anti-Fraud Locator for EBT Transactions (ALERT) system in 1997.

The ALERT system has proven to be a critical tool in the FNS' fight against SNAP benefit trafficking, which is the exchange of SNAP benefits for cash. While ALERT has been very successful in fighting fraud, FNS is looking for new techniques to improve the system. One approach being evaluated is the use of Geospatial Information System (GIS) tools to interpret complex relationships among billions of SNAP electronic transaction records that might otherwise be difficult to detect. This moves beyond simple location maps showing suspect store locations and other stores within an area, and integrates business intelligence and predictive

analysis features with a geospatial platform to help identify potential retailer fraud patterns, trends, behaviors, etc.

My office is now further expanding the capacity of GIS technology tools to build sustainable strategic and operational platforms. We have established an Enterprise Geospatial Information Office to optimize extensive, but previously uncoordinated, USDA agency best practices to deliver consistent, game changing geo-solutions to benefit all USDA programs, regardless of size.

Conclusion

While we are making steady progress a great deal of work remains to be done. This is why I am advocating for the continued consolidation of these foundational elements, improved communications and collaboration tools, and taking a deliberate and comprehensive approach for mission systems modernization planning within the Department to better secure and deliver, at a lower cost, USDA services and programs. Consolidation and protection of our technology assets will optimize use of resources, thereby decreasing operational costs and enabling increasing efficiency, while improving overall security.

USDA must transform and modernize to ensure we meet the demands of the Nation, to ensure an economically thriving rural America, conserve our national forests and private working lands, promote sustainable agricultural production and biotechnology exports to increase food security, and provide a nutritious diet for all Americans. In sum, these initiatives put us on the right path to provide more efficient and effective services and successfully deliver on our mission.

Chairman Baca, Ranking Member Fortenberry, members of the Subcommittee, this concludes my statement. I will be happy to answer your questions.