U.S. Department of Agriculture

Office of the Chief Information Officer (OCIO)

INFORMATION TECHNOLOGY STRATEGIC PLAN

Version 1.0

Executive Summary

The Office of the Chief Information Officer (OCIO) is independent of any other office or agency of the Department. The Chief Information Officer (CIO) reports directly to the Secretary of Agriculture (Secretary). Under the Information Technology Management Reform Act (ITMRA) of 1996, also known as the Clinger-Cohen Act (CCA), the CIO has primary responsibility for:

- Supervising and coordinating the design, development or acquisition, maintenance, use and disposal of Information Technology (IT) by the United States Department of Agriculture (USDA) agencies.

- Monitoring the performance of USDA's IT programs and activities.

- Ensuring that USDA information management is consistent with the principles of the Paperwork Reduction Act (PRA) and with information security and privacy requirements.

The CIO consults with the Department's Chief Financial Officer (CFO) to ensure that USDA's IT programs and activities are carried out in a cost-effective manner, and that financial and related program information is reliable, consistent, and timely.

OCIO collaborated with the agencies in the development of the USDA IT Strategic Plan. The USDA IT Strategic Plan lays out the mission and vision for IT at USDA and describes four key goals in support of that mission and vision.

USDA IT MISSION			
We provide the information technology leadership and governance that enables the programs and operations of the Department to deliver their respective missions in an efficient, effective, and secure manner through the use of information technology solutions and services			
USDA IT VISION			
To be a catalyst for change and world class leader in delivering technology solutions and services that directly contribute to mission accomplishment; and an essential partner in business transformation, resulting in excellent customer service, strong partnership, secure infrastructures, and cost efficient performance.			
USDA IT STRATEGIC GOALS			
IT STRATEGY & BUSINESS ALIGNMENT	IT ORGANIZATION & SKILLS	IT MANAGEMENT & GOVERNANCE	TECHNOLOGY & ARCHITECTURE

This OCIO Strategic Plan provides a roadmap for the future of OCIO within the context of the broader USDA IT strategy. This OCIO plan:

- Identifies the linkage between USDA IT goals and OCIO's scope of responsibility.

- Defines ten OCIO responses to the USDA IT Strategic Plan.

- Identifies potential performance measures for each response.

- Identifies some of the important trends and challenges affecting OCIO that will affect the IT environment over the next five years.

The following table shows how the ten OCIO initiatives identified in this plan support the USDA IT goals.

Table 1

Section	OCIO Initiative	Goal 1—IT Strategy and Business Alignment	Goal 2—IT Organization and Skills	Goal 3—IT Management and Governance	Goal 4—Technology and Architecture
	USDA IT Strategic Goal				
4.1	Security and Privacy	✔	✔	✔	✔
4.2	Integrated IT Governance	✔		✔	✔
4.3	Enterprise-Wide IT Support	✔		✔	✔
4.4	IT Infrastructure Management			✔	✔
4.5	Innovative Service Delivery to USDA Customers	✔	✔	✔	✔
4.6	USDA IT Workforce Development	✔	✔		✔
4.7	OCIO Communications	✔		✔	✔
4.8	Demonstrated Value of USDA's IT Investments	✔		✔	
4.9	Continuous Improvement of USDA IT Processes	✔		✔	
4.10	OCIO Organizational Review	✔	✔		

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Table of Acronyms

C&A	Certification and Accreditation
CCA	Clinger-Cohen Act
CFOA	Chief Financial Officer's Act
CIO	Chief Information Officer
COOP	Continuity of Operations Plan
CPIC	Capital Planning and Investment Control
CRM	Customer Relationship Management
CS	Cyber Security
EA	Enterprise Architecture
EAR	Enterprise Architecture Repository
ESS	Enterprise Shared Services
EVM	Earned Value Management
FISMA	Federal Information Security Management Act
GISRA	Government Information Security Reform Act
HSPD	Homeland Security Presidential Directive
IGP	Integrated Governance Process
IPv6	Internet Protocol version 6
IT	Information Technology
ITMRA	Information Technology Management Reform Act
LoB	Line of Business
OCIO	Office of the Chief Information Officer
OMB	Office of Management and Budget
PMA	President's Management Agenda
PRA	Paperwork Reduction Act
ROI	Return on Investment
SANS Institute	SysAdmin, Audit, Network, Security Institute
SLA	Service Level Agreement
USDA	United State Department of Agriculture

1.0 Overview of the Office of the CIO

The OCIO has the primary responsibility for the supervision and coordination of the design, acquisition, maintenance, use, and disposal of IT by USDA agencies. The OCIO is committed to making IT citizen-centered and to using IT to help USDA respond more directly and effectively to its , including farmers and producers, families, school children, and rural communities.

OCIO supports the Secretary by helping to ensure that information management resources are acquired and managed in support of the departmental mission and goals in compliance with federal statutes and mandates. OCIO develops, maintains, and facilitates the implementation of sound and integrated IT architecture for the Department; and promotes the effective and efficient design and operation of all major USDA information resources management processes. Additionally, OCIO helps support performance improvements in work processes throughout the Department.

In order to determine how well the Department is performing and to identify areas for further process improvement, OCIO monitors and evaluates the performance of all USDA IT programs of the Department, and advises the Secretary periodically regarding whether to continue, modify, or terminate each program or project.

Since an effective, well-trained, and motivated IT workforce is critical to the accomplishment of these responsibilities throughout the Department, OCIO also monitors and updates, as needed, the skill requirements for the IT workforce. OCIO regularly assesses how well USDA IT managers and staff meet those requirements, and develops strategies and specific plans for hiring, training, and professional development, in order to mitigate any deficiencies. As technology has enhanced the ability to share information instantaneously between computers and networks, it has also exposed USDA IT systems vulnerable to a wider family of threats. OCIO is responsible for responding to those threats by continuously improving USDA's cyber security.

In addition to focusing within USDA, OCIO also participates in initiatives designed to increase performance and productivity across the executive agencies. Therefore, an important element of OCIO's responsibility is participation in the cross-departmental IT initiatives implemented under the President's Management Agenda (PMA). OCIO continues to support the goals of the PMA by participating in twenty of the twenty-five Presidential Initiatives (PI) and Lines of Business (LoB). USDA is also an active participant in developing a government-wide infrastructure to support Homeland Security Presidential Directive 12 (HSPD-12).

OCIO reports directly to the Secretary on the progress made in improving information resources management capability throughout USDA.

OCIO meets this range of responsibilities by responding on three levels: policy, planning and monitoring, and implementation. By developing policies, procedures, principles, and processes for management of IT investments throughout USDA, OCIO helps USDA achieve full compliance with federal mandates and statutes regarding effective IT management. OCIO also supports the IT investment planning process throughout USDA and monitors those investments as they progress over time to ensure that the investments actually produce the planned benefits. Part of this support is the development, implementation, and maintenance of a the USDA-wide Enterprise Architecture (EA), through which critical information about the current state and the desired (target) state of USDA IT infrastructure is communicated to all IT USDA decision-makers. Finally, OCIO is responsible for implementing and supporting telecommunication and shared services, and for developing, promoting, and monitoring security and privacy policies throughout USDA.

2.0 The USDA IT Strategic Plan provides the basis for OCIO's Plan

During FY 2006, OCIO worked with the agencies to produce an IT Strategic Plan for the Department in support of the Department's overall Strategic Plan. The USDA IT plan sets the direction for the next five years for the entire Department. Agencies were then asked to develop their own IT plans that linked their own goals and strategies to the USDA IT plan.

This OCIO plan responds to the direction laid out in the USDA IT Strategic Plan. In this plan, we describe the major initiatives through which OCIO will support the accomplishment of USDA's IT goals and objectives.

Section 3.0 lays out the key OCIO responsibilities that relate to each of the USDA IT goals.

Section 4.0 describes the initiatives that OCIO must undertake to respond effectively to the goals and objectives of the USDA plan. These key initiatives were developed based on interviews with OCIO leaders and on prior planning work undertaken within OCIO. Each key initiative is briefly described and a set of potential performance measures is proposed for each.

Each of these OCIO initiatives and how each initiative will be implemented will be further specified in the detailed plans of the various components within OCIO. In these detailed plans, the performance measures for each initiative will be further specified as well, with specific performance targets set for each measure.

The initiatives set forth in this plan are ambitious, but they do not point to a radical change in direction for OCIO. This document will help OCIO navigate toward a shared vision and manage progress toward achieving its role and responsibilities.

3.0 USDA IT Goals and OCIO Responsibility

This section presents the four goals from the USDA IT Strategic Plan and describes the scope of OCIO's responsibilities in relation to those goals. The following section (4.0) presents the initiatives that OCIO is undertaking, within the described OCIO scope, in response to the USDA IT goals.

3.1 USDA Goal 1: Strategy and Business Alignment

Goal 1—IT Strategy and Business Alignment Goals

Ensures the IT organization and technology is aligned with the Department's goals and objectives throughout the entire cycle of innovation, planning, and delivery. The Department's ability to meet its mission through the effective use of technology relies upon clear communication between the agencies and staff offices and the OCIO.

Objectives:

- Continue Alignment of IT with USDA's Strategic Plan.
- Position and Utilize the EA as a Management and Governance Tool.

3.2 OCIO's Scope of Responsibility under USDA IT Goal 1

OCIO provides IT leadership for the Department. OCIO is responsible for ensuring that Departmental IT goals and objectives are realistic and to assist the agencies in aligning their own IT efforts with the Department's directions. To this end, OCIO articulates the policies, procedures, and processes required for the Department to continue to mature in its IT practices.

At the heart of effective IT is the alignment of IT with the business goals of the organization. OCIO has a proactive role as a business partner with the agencies to help them achieve this alignment. A key element in OCIO's support for the agencies is the Integrated IT Governance Process (IGP). The focus on this integrated enterprise approach to investment planning and management ensures that USDA's IT efforts provide benefits for USDA agencies and offices and improve mission performance.

The portfolio management dimension of the IGP provides the means for implementing IT as a support to business transformation within all of USDA's LoB. Portfolio management supports the Department's mission and goals by identifying opportunities for IT economies of scale—for instance, implementing data sharing opportunities, providing enterprise integration services, consolidating Department networks and data centers, and migrating to a single messaging system—and by developing modernization blueprints to achieve those economies.

OCIO has a responsibility to ensure that all IT stakeholders within USDA are full participants in the Department's IT efforts. The responsibility requires that OCIO communicate effectively with all its stakeholders. Many OCIO concerns are addressed by existing USDA policies, but are not communicated, monitored, or enforced adequately. Excellent communication is critical to gaining an appropriate level of awareness, acceptance and usage of Departmental processes and systems.

OCIO is committed to creating citizen-centered IT solutions. OCIO must provide services and programs in a way that is convenient, user-friendly, and designed to meet the needs of the American public. OCIO strives to increase customer awareness, to streamline service delivery to reduce time and complexity in receiving services, and to enhance the ability for programs to meet their mission and vision.

OCIO is also responsible for formulating the annual IT budget request for the department, for supporting that request with effective business cases, and for justifying the approved investments by demonstrating the value that is achieved through their successful implementation.

OCIO also supports business alignment through the maintenance and evolution of the EA, which maps USDA mission and business processes to its IT investments.

3.3 USDA IT Goal 2: IT Organization and Skills

Goal 2—IT Organization and Skills

This goal focuses on aligning the IT organization's structure, skills and sourcing strategy with the needs of the business, while promoting employee learning and satisfaction. Because IT has evolved beyond a basic support structure into a value-added provider of infrastructure, technology, information services, as well as transformational, customer-centric solutions, the OCIO will be structured to meet these added demands.

Objectives:

- Manage the IT workforce to ensure consistency in skill levels and service delivery.
- Become a center of excellence and employer of choice.
- Emphasize customer-focused support.
- Implement Department efforts to streamline and cut costs
- Close employee skill gaps.

3.4 OCIO's Scope of Responsibility under USDA IT Goal 2

A well-trained, highly-competent IT workforce is essential to the provision of superior IT services. USDA IT employees need continual access to training and education opportunities to execute their job effectively. OCIO participates in many Federal activities to ensure USDA's IT workforce is well trained and has the requisite experience to contribute significantly to the accomplishment of USDA's mission.

OCIO works with the USDA Office of Human Capital Management and the agencies and staff officers to develop and manage an IT Workforce Plan that anticipates the future workforce needs of the Department. Based on this plan, OCIO develops and implements programs to maintain and improve the effectiveness of current staff, to ensure that we fully leverage human resources and support our employees' continuing career development in both management and technical areas. OCIO efforts include components to support the training of all employees and managers and coordinate that training with an increasing focus on measuring the benefits derived from the training programs. IT workforce planning also includes steps to attract new employees to the Department.

In addition to leading the Department-wide IT workforce planning activity, OCIO also provides specific training programs for the Department, including security and privacy training, training in the components of the IGP, and Project Management Training to improve the management of IT investments and to ensure efficient and cost-effective investments at USDA.

Finally, OCIO must ensure that it is organized effectively to provide the key services required for USDA IT to perform at a high level. Therefore, OCIO is committed to a periodic review of its own organizational structure, realigning itself as necessary to be as efficient and responsive as possible to its stakeholders.

3.5 USDA IT Goal 3: IT Management and Governance

Goal 3—IT Management and Governance

Increased emphasis must be placed on the decision-making process to ensure that budgeted dollars are being spent in those areas that support the strategic direction of the Department. Business-aligned IT management and governance will not only ensure business-focused IT investments, but it will also contribute to operational improvements resulting in a lower fixed cost structure.

Objectives:

- Support the tracking, measurement and management of performance, and tie performance with budget and investment decisions.
- Better manage IT-related contracts to maximize value and performance.
- Continue to improve IT portfolio management.
- Develop effective and efficient IT reporting processes.

3.6 OCIO's Scope of Responsibility under USDA IT Goal 3

Comprehensive oversight and integration of USDA's IT efforts requires a shared IT management structure. OCIO is working diligently to implement such a structure. The IGP initiative is a major component of this management structure.

Good management also applies to the management of services that OCIO provides to the agencies and staff offices. To this end, OCIO is developing an Operations Governance Model and Service Delivery Model that will formally document the processes that OCIO will use with its customers to govern and manage the operating environments supported by OCIO. The OCIO Operations Governance Model will include documentation to formalize the decision making process and governance of this new Service Delivery Model.

Three developments in the external environment are increasing the opportunities for better, more transformative IT investments. First, the IT industry has been recognizing over the past decade that many business processes are common to multiple organizations. If IT investments can implement these common processes, economies of scale can be realized that can significantly bolster an individual agency's IT resources. This motivation underlies the USDA's continuing involvement in the cross-department PIs and LoBs. Additionally, USDA is continuously looking across its own agencies and within its own practices to find opportunities for consolidation and cost-savings. The USDA target architecture makes clear this multi-level view of investment decisions.

A second important change is in the contracting area. New arrangements and innovative performance-based relationships are emerging that offer attractive new alternatives for acquiring required services. However, utilizing these new approaches effectively requires contract managers with a full understanding of both the contracting regulations and the goals and objectives of the IT services that are being acquired.

A third change is in the emphasis throughout the IT industry on the role of excellent project management in the success of IT investments. OCIO is leading USDA's response to this development by implementing and sustaining an IT project management training and certification program.

OCIO is also aware that effective change control is required to guarantee the security of the computing environment as changes are incorporated into that environment. OCIO is aggressively engaged in establishing a formal Configuration Management program and reengineering its Incident/Change/Problem Management processes to provide this control.

3.7 USDA IT Goal 4: Technology and Architecture

Goal 4—Technology and Architecture

Technology and architecture cover a broad spectrum of services, products, and telecommunications technologies provided throughout the Department.

Objectives:

- Expand Enterprise Architecture.
- Align Infrastructure to Directly Support Strategic Business Goals.
- Sustain a Robust Information Security Management Program.
- Participate on Government-wide IT Solutions and Initiatives which Support USDA Strategic Goals.

3.8 OCIO's Scope of Responsibility under USDA IT Goal 4

The protection of the privacy of USDA stakeholders and the security of the information gathered and used by USDA are paramount concerns for the USDA IT community. The protection of the infrastructure is a central concern that influences all USDA's IT decisions. OCIO defines the principles, policies, processes, and training that will ensure a safe and secure computing environment for USDA.

USDA is committed to the principle of IT planning that suggests that efforts supporting common business processes and requirements should be combined into broader solutions when possible. This commitment has led OCIO to formulate a three-tiered target EA. At the broadest tier, OCIO is committed to those government-wide IT solutions and initiatives that also support USDA goals. As a result, USDA is a leading participant in a broad range of PIs and LoBs and is currently playing a leadership role in the HSPD-12 personnel authentication credentialing effort.

The second tier of the architecture involves USDA-wide projects. Projects in this tier include the cross-department learning system, records management policies and software, configuration management tools, and the IGP. In addition to policies and processes, OCIO also provides technical capabilities for many of the Department-wide investments. One major area of OCIO support is in the provision of enterprise shared services to USDA stakeholders and the satisfaction of these stakeholders is critical to overall OCIO success. To this end, OCIO provides Enterprise Shared Services (ESS), a suite of tools, standards, and business applications, to facilitate USDA's department-wide effort to deliver citizen-centric, online information and services. USDA developed these shared services with the goal of maximizing efficiency, reducing cost, and improving customer service. ESS was developed specifically to save costs by eliminating stovepipe systems being developed by individual agencies.

The third tier of the USDA architecture addresses those processes that are unique to an agency or a small group of agencies. These processes are often mission-specific and are driven by particular mandates and statutes that establish the agency mission.

IT investments on all tiers are critical for the effective achievement of USDA goals. Additionally, all USDA IT projects are subject to the management expectations required by OMB and Congress and outlined in the IGP, including Capital Planning and Investment Control (CPIC), EA, and other management processes. The IGP and EA programs are supported by OCIO as key elements in the IT investment decision-making effort. OCIO is committed to broadening the application and use of the EA to ensure that the best information possible is used to support USDA IT investment decisions.

The effect of the pace of change on IT infrastructures over time is enormous. An IT infrastructure cannot stand still—it either moves forward, incorporating new technology as it becomes available, or it will lose

its coherency and begin to fall apart. In order to keep IT investments viable and fully aligned with USDA business objectives, OCIO must have the capability of keeping abreast of emerging technologies. While USDA's vendors will provide much of this important information, OCIO must maintain the ability to interpret this information clearly and objectively. Therefore, sustaining an internal capability to anticipate, investigate, and incorporate new IT developments where they make good financial sense is an important OCIO role.

4.0 OCIO's Response to USDA's IT Goals and Objectives

This section describes OCIO's response to USDA IT goals and objectives. The ten initiatives described in this section are further detailed in the strategic and operational plans developed by the various components of the OCIO organization. Additionally, the potential performance measure identified for each initiative in this section are further specified in those more detailed plans, with precise targets and time frames being added for each of the selected measures.

USDA IT Strategic Goal OCIO Initiative	Goal 1—IT Strategy and Business Alignment	Goal 2—IT Organization and Skills	Goal 3— IT Management and Governance	Goal 4—Technology and Architecture
4.1 Security and Privacy	✔	✔	✔	✔
4.2 Integrated IT Governance	✔		✔	✔
4.3 Enterprise-Wide IT Support	✔		✔	✔
4.4 IT Infrastructure Management			✔	✔
4.5 Innovative Service Delivery to USDA Customers	✔	✔	✔	✔
4.6 USDA IT Workforce Development	✔	✔		✔
4.7 OCIO Communications	✔		✔	✔
4.8 Demonstrated Value of USDA's IT Investments	✔		✔	
4.9 Continuous Improvement of USDA IT Processes	✔		✔	
4.10 OCIO Organizational Review	✔	✔		

Table 2 – This table shows how the OCI O initiatives detailed in this plan support the USDA IT Strategic Goals.

4.1 Security and Privacy

OCIO Initiative 1–Protect the privacy and security of all USDA stakeholders and USDA information through an integrated and highly visible security program.	
Description	The privacy of USDA stakeholders and the security of USDA information are paramount concerns for the USDA IT community. OCIO is committed to strengthening the security of USDA information assets, promoting the awareness and understanding of USDA Cyber Security Program by enhancing communications within all levels of USDA, and implementing mechanisms to enhance secure information sharing and interoperability among all agencies and staff offices within USDA and with external stakeholders. OCIO will centrally manage and monitor all USDA network and security systems across the diverse USDA IT environment and intelligently and proactively mitigate security breaches and vulnerabilities.

Potential Performance Measures *(Note: Precise targets and time frames will be set for these measures in the detailed plans developed by OCIO.)*	▪ Decrease in the number of successful intrusions. ▪ Effectiveness of the USDA in detecting, responding, and recovering to simulated attacks on USDA networks. ▪ Increase in the number of systems/applications that address security from the beginning of the lifecycle. ▪ Percent of Certifications and Accreditations (C&As) passing compliance reviews. ▪ Percent of systems re-certified before expiration of accreditation. ▪ Degree to which identified information systems security best practices (e.g., SANS Institute Top 20) are uniformly practiced within the USDA. ▪ Percent of USDA personnel completing required information systems security and privacy training annually.

4.2 Integrated IT Governance

OCIO Initiative 2–Continue to build alignment of USDA IT investments with agency mission and business strategies by improving USDA's integrated IT governance processes (IGP), including: ▪ **Investment planning.** ▪ **Performance evaluation.** ▪ **Portfolio management.** ▪ **Project management.** ▪ **Enterprise Architecture.** ▪ **System development life cycle.**	
Description	USDA's IT investments must support the agencies' missions while contributing to the advancement of the Department-wide IT infrastructure. OCIO is building on traditional CPIC processes by defining and implementing policies and procedures needed to capture and integrate IT investment information. When completely implemented, the IGP will lay out the principles, policies, and processes for accomplishing the alignment of IT investments and agency mission. The IGP will increase USDA's ability to adapt to changes in business and industry standards and to promote technology and services that align with agency business strategies and investments. The portfolio management dimension of the IGP will provide the means to analyze the whole scope of USDA IT investments and to ensure that the most cost-effective solutions are being adopted for the Department. The Earned Value Management (EVM) dimension of the IGP will ensure that IT initiatives are monitored and tracked and that the OCIO can provide the Secretary with up-to-date information on the progress of these initiatives. An authoritative knowledge base to support investment planning and decision-making at all levels of USDA will be the nucleus of the IGP. Currently, this knowledge base exists virtually in a number of related systems—the investment planning tool and the EA tool play major roles. Other systems—procurement, asset tracking, and so on—will be integrated as needed.

Potential Performance Measures *(Note: Precise targets and time frames will be set for these measures in the detailed plans developed by OCIO.)*	▪ Percent of USDA IT projects that are within 10% of cost/schedule/performance objectives. ▪ Percent of projects documenting use of a standard development life cycle. ▪ Periodic, structured reports on system development activities documenting that USDA agencies use the processes established by OCIO, including IGP. ▪ Documented history of IT Investment decisions informed by EA-based portfolio analysis and a segment architecture approach. ▪ Line of sight for USDA managers and stakeholders on USDA IT investments from planning through execution.

4.3 Enterprise-Wide IT Support

OCIO Initiative 3–Increase the efficiency and performance of USDA IT investments through implementation of department-wide and government-wide approaches, when appropriate. This includes OCIO support for: ▪ **Participation in PIs and LoBs.** ▪ **Data center consolidation.** ▪ **Desk top support.** ▪ **Telecommunications and networking.** ▪ **Enterprise shared services.** ▪ **Enterprise messaging.** ▪ **Identity access management.** ▪ **AgLearn.**	
Description	Wherever appropriate, OCIO will promote the use of enterprise-wide and government-wide solutions to common business challenges. At the government-wide level, OCIO will continue to support the PIs and LoBs approach. OCIO is also committed to providing common services across USDA. Currently, OCIO has responsibility for the delivery of infrastructure support services to internal and external customers, including telecommunications and networking support, desktop support, enterprise shared services, enterprise messaging, identity access management (e-Authentication and HSPD-12), and learning management are some of the major areas of services provided by OCIO. OCIO will use EA-based portfolio analysis, working with agencies and staff offices, to identify additional opportunities for enterprise-level initiatives that can take advantage of economies of scale and provide more robust solutions for USDA stakeholders.

Potential Performance Measures *(Note: Precise targets and time frames will be set for these measures in the detailed plans developed by OCIO.)*	▪ Increase Return On Investment (ROI) for E-Government and LoB common solutions, including grants and geospatial LoBs. ▪ Reduction in cost from data center consolidation. ▪ Percent of USDA employees using the HSPD-12 credentials system. ▪ Reductions in cost for commercial software licensing, when compared with the FY2007 base year. ▪ Number of new investments directly resulting from opportunities identified through EA-based portfolio analysis. ▪ 100% of USDA agencies and staff office transitioned to the Universal Telecommunications Network, the USDA Enterprise Backbone Network by target date. ▪ Percent increase in number and use departmental acquisition vehicles for telecommunications and networking including wireless.

4.4 IT Infrastructure Management

OCIO Initiative 4–Provide a reliable IT infrastructure for USDA through effective infrastructure management, to include rigorous approaches to:
    ▪ **Change control.**
    ▪ **Disaster recovery.**
    ▪ **Continuity of operations planning (COOP).**
    ▪ **Incident response and mitigation.**
    ▪ **Service-based management (service level agreements).**	

Description	Providing reliable infrastructure support requires that OCIO implement a range of infrastructure management functions, including formal change control mechanisms at various levels, disaster recovery and COOP procedures for OCIO-provided infrastructure services, and implementation of incident-detection and response-tracking tools and processes. In addition, as a means for ensuring that OCIO-provided services meet client demand, a service-based approach to working with OCIO customers will be adopted, with Service Level Agreements (SLAs) established to add discipline to the infrastructure customer relationship.
Potential Performance Measures *(Note: Precise targets and time frames will be set for these measures in the detailed plans developed by OCIO.)*	▪ Reduction in number of unapproved changes that have a negative impact on the USDA enterprise. ▪ Regularly produced service metrics compared against published service level agreements. ▪ 100% of major changes in implementation of IT service or application published to users in advance of the change. ▪ Percent of targets for process or service improvements identified through analysis of incident management data. ▪ Percent of required backup and recovery procedures for core applications, USDA data stores, and critical network functions, are in place and tested.

4.5 Innovative Service Delivery to USDA Customers

OCIO Initiative 5–Continue to use IT in innovative ways to deliver high quality services in response USDA's customers' rising expectations.	
Description	OCIO is committed to continuing to reduce its costs even as it improves services. To do this requires continuous innovation, discipline, and shared decision-making throughout the USDA IT community. Customer expectations are rising throughout the IT community. People expect services to be available when they need them from virtually any place in the world. These expectations affect both internal and external USDA customers— USDA employees expect virtual, anytime access to their private data—payroll, benefits, travel, and so on, as well as to services such as training and career development planning. External customers expect easy access to USDA services, regulations, and other information critical to their decision-making. OCIO is committed to finding new ways to deliver services effectively to the citizens. In addition, OCIO will enhance service delivery by improving citizens' knowledge and access to USDA services, collaborating with public and private partners, and achieving internal efficiency through enterprise-wide solutions. Providing high quality, secure and reliable telecommunications services to USDA agencies and customers will enable them to obtain accurate, useable information anytime and anyplace. As part of this challenge, OCIO is committed to building a capability to keep abreast of new IT developments and to incorporate the best of those developments into the USDA IT environment as appropriate. This keeping abreast function will be integrated with the EA function to ensure that the target architecture for USDA is kept in line with the best new IT developments.
Potential Performance Measures *(Note: Precise targets and time frames will be set for these measures in the detailed plans developed by OCIO.)*	▪ Percent increase in satisfaction, as measured by a periodic customer satisfaction survey. ▪ Percent increase of customers affirming that OCIO is helping them articulate needed improvements to customer business processes. ▪ Level of user satisfaction with ability to access authorized IT systems and services from their work location. ▪ Update of USDA target architecture on a bi-annual basis, with input from technology scanning process. ▪ Percent of USDA networks using the new IPv6 protocol standard in accord with OMB time frames.

4.6 USDA IT Workforce Development

OCIO Initiative 6–Sustain a professional, high-quality IT workforce for USDA to meet the demands of the next five years through excellent human capital planning in partnership with USDA Office of Human Capital Management and delivery of specific, OCIO-related training programs.	
Description	OCIO is responsible, in conjunction with USDA's Office of Human Capital Management, for leading IT workforce planning within the Department. This aspect of OCIO responsibility has taken on increased meaning over the past few years with the focus on strategic human capital management and with the growing awareness of significant changes occurring in the IT workforce. As the lead for this critical function, OCIO participates in many Federal activities to ensure USDA's IT workforce is well planned and well trained. In addition to leading USDA-wide IT workforce planning, OCIO also provides training in the specific, OCIO-related components of the computing environment, such as security and privacy, project management, and elements of the IGP to promote efficient and effective IT investments for USDA.
Potential Performance Measures *(Note: Precise targets and time frames will be set for these measures in the detailed plans developed by OCIO.)*	▪ Annual update of the IT workforce gap analysis report (see USDA Gap Analysis Report, 2007). ▪ Increase in the number of IT staff trained and certified for key roles, including network administration, project management, contract management, security, and telecommunications. ▪ Identification and education of the next generation of OCIO leaders. ▪ Percent of IT staff with individual development plans that target specific skills required to close identified skill gaps.

4.7 OCIO Communications

OCIO Initiative 7–Continue to build strategic IT alignment between USDA/OCIO directions and the agencies' IT needs through excellent, customer-focused communications.	
Description	In order to accomplish the initiatives in this plan, OCIO must communicate effectively with its stakeholders at every level. Good communications require time and effort but are essential to the Department-wide adoption of the goals and perspectives that will lead to excellent IT performance. Several specific areas require special effort under this initiative. The protection of privacy and the security of USDA information is a paramount concern in today's computing environment. Success in protecting security and privacy is the result of every IT user within USDA understanding and supporting the security and privacy practices laid out for the Department. In addition, all aspects of IT investment management require constant communications from OCIO to IT stakeholders, both internally and externally. To gain the required support of its stakeholders, OCIO must be in constant

	communication with IT users. The implementation of a new way of doing business, such as in the IGP, requires constant attention to communication as one of the major vehicles of introducing and supporting change. In addition, effective governance requires the participation and perspectives of key USDA IT decision-makers. The IGP will formalize these roles and responsibilities and will undertake a proactive communication program with its stakeholders.
Potential Performance Measures *(Note: Precise targets and time frames will be set for these measures in the detailed plans developed by OCIO.)*	▪ Percent of stakeholders that rate the effectiveness of the communications "good" or "better". ▪ Percent increase in satisfaction, as measured by the semi-annual CS survey. ▪ Percent of customers aware of and able to use the IT systems and services available to them, as shown in the percent increase in skills and knowledge portion of the semi-annual CS survey. ▪ Percent increase of customer satisfaction with training available to end users in the effective use of IT systems and services.

4.8 Demonstrated Value of USDA's IT Investments

OCIO Initiative 8–Demonstrate to USDA budget decision-makers the value realized from USDA's IT investments.	
Description	Effective IT requires a steady funding source. Demonstrating the effective use of those funds and the benefits that are achieved with their use will encourage budget decision-makers to continue funding USDA efforts. OCIO has a lead role in developing the policies and procedures required for USDA to realize the greatest value possible from its IT investments, and to report on those achievements regularly to our budget stakeholders.
Potential Performance Measures *(Note: Precise targets and time frames will be set for these measures in the detailed plans developed by OCIO.)*	▪ Percent increase in funding for Strategic Initiatives. ▪ ROI for E-Government and LoB common solutions. ▪ Percent increase of USDA IT projects that are within 10% of cost/schedule/performance objectives. ▪ Percent growth of the annual IT budget in proportion to the percent increase in workforce and demand for IT services. ▪ Ratio of annual funding provided for IT operations and maintenance to annual funding requested.

4.9 Continuous Improvement of USDA IT Processes

<table>
<tr>
<td colspan="2">OCIO Initiative 9—Evolve USDA IT business processes based on continuous learning, emerging best practices, and effective performance measurement, to include:

Customer relationship management.
Contract management.
Web content management.
Records management.

</td>
</tr>
<tr>
<td>Description</td>
<td>Keeping up with the changing IT environment requires a strong commitment to continuous learning, including the discovery of and incorporation of best practices emerging in the industry. Effective performance measurement provides the solid foundation for this continuous improvement effort. Without good performance data, real improvements in performance are difficult to estimate.

Three critical areas for continuous process improvement—privacy and security, investment planning and management, and provision of reliable IT infrastructure services—have been singled out with their own initiatives.

Within this broad commitment to continuous improvement of all IT business processes are four additional business processes on which OCIO will focus in response to USDA IT goals and objectives.

As a key policy-maker and services provider within the USDA community, OCIO will adopt a proactive customer relationship management approach to its customers at all levels. This approach requires excellence in communications, requirements analysis, and constant support for agency agendas.

As the contracting environment evolves, OCIO must be in the forefront of contract management skills and approaches. This will require an increasingly strong partnership between OCIO and the USDA contracts management staff. Innovative use of contract alternatives will play a major role in USDA's ability to meet rising expectations with decreasing resources.

Lastly, OCIO will undertake the definition of structured Web content management and records management procedures throughout the USDA environment.</td>
</tr>
<tr>
<td>Potential Performance Measures

(Note: Precise targets and time frames will be set for these measures in the detailed plans developed by OCIO.)</td>
<td>

Percent of customers agreeing that OCIO is helping them articulate needed improvements to customer processes.
A quality assurance procedure for records retention schedules and an associated disposition exists.
Response time to agency contracting needs is improving continuously.
USDA is among federal leaders in using innovative contracting approaches to secure IT services.
Effective rewrite of DR3300 -1, Telecommunications and Internet Use and Services.

</td>
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</table>

4.10 OCIO Organizational Review

OCIO Initiative 10–Ensure that OCIO is appropriately structured to meet evolving USDA IT priorities	
Description	Change is a constant factor in the IT industry. As USDA's internal and external environments evolve, OCIO must periodically explore its own organizational structure to ensure OCIO is organized appropriately to meet the changing business and technological environments within USDA and government-wide.
Potential Performance Measures *(Note: Precise targets and time frames will be set for these measures in the detailed plans developed by OCIO.)*	▪ Increase in the efficiency by which OCIO delivers service to its customers. ▪ Annual evaluation of the OCIO organizational structure.

Appendix A: How OCIO Initiatives Support USDA IT Goals

This table shows how the OCI O initiatives detailed in this plan support the USDA IT Strategic Goals.

USDA IT Strategic Goal OCIO Initiative	Goal 1—IT Strategy and Business Alignment	Goal 2—IT Organization and Skills	Goal 3 IT Management and Governance	Goal 4—Technology and Architecture
1—Protect the privacy and security of all USDA stakeholders and USDA information through an integrated and highly visible security program.	✔	✔	✔	✔
2—Continue to build alignment of USDA IT investments with agency mission and business strategies by improving USDA's integrated IT governance processes (IGP), including: ▪ **Investment planning.** ▪ **Performance evaluation.** ▪ **Portfolio management.** ▪ **Project management.** ▪ **Enterprise architecture.**	✔		✔	✔
OCIO Initiative 3–Increase the efficiency and performance of USDA IT investments through implementation of department-wide and government-wide approaches, when appropriate. This includes OCIO support for: ▪ **Participation in PIs and LoBs.** ▪ **Data center consolidation.** ▪ **Desk top support.** ▪ **Telecommunications and networking.** ▪ **Enterprise shared services.** ▪ **Identity access management.** ▪ **AgLearn.**	✔		✔	✔

USDA IT Strategic Goal OCIO Initiative	Goal 1—IT Strategy and Business Alignment	Goal 2—IT Organization and Skills	Goal 3 IT Management and Governance	Goal 4—Technology and Architecture
OCIO Initiative 4–Provide a reliable IT infrastructure for USDA through effective infrastructure management, to include rigorous approaches to: ▪ **Change control.** ▪ **Disaster recovery.** ▪ **Continuity Of Operations Planning (COOP).** ▪ **Incident response and mitigation.** ▪ **Service-based management (service level agreements).**			✓	✓
5—Increase the efficiency and performance of USDA IT investments through implementation of department-wide and government-wide approaches, when appropriate.	✓		✓	✓
6—Sustain a professional, high-quality IT workforce for USDA to meet the demands of the next five years through excellent human capital planning in partnership with USDA Office of Human Capital Management and delivery of specific, OCIO-related training programs.	✓	✓		✓
7—Continue to build strategic IT alignment between USDA/OCIO directions and the agencies' IT needs through excellent, customer-focused communications.	✓		✓	✓
8—Demonstrate to USDA budget decision-makers the value realized from USDA's IT investments.	✓		✓	
9—Evolve USDA IT business processes based on continuous learning, emerging best practices, and effective performance measurement, to include: ▪ **Customer relationship management.** ▪ **Contract management.** ▪ **Change control.**	✓		✓	
10—Ensure that OCIO is appropriately structured to meet evolving USDA IT priorities.	✓	✓		

Appendix B: Trends and Challenges Facing OCIO

OCIO's support for the USDA IT strategic goals must be responsive to its stakeholders' needs within the context of the trends and challenges facing OCIO in its external and internal environments. These trends and challenges are experienced as expectations, opportunities, constraints, and threats that shape the types, and in some cases, the content of the responses available to OCIO. Described below are the trends and challenges that senior OCIO managers believe will have a significant affect on the strategies OCIO will employ over the next five years to support the achievement of the USDA IT strategic goals.

B.1 A growing concern for security and privacy is driving the need for fully-integrated, up-to-date security approaches.

Technology is becoming increasingly involved with business processes, allowing for more information, including sensitive or classified, to be disseminated through electronic mediums. This trend coupled with the increasing complexity of the technology itself and more abundant and sophisticated cyber threats have increased concerns over privacy and security. At USDA, OCIO will need to continue to enable their customers and partners with the tools and policies necessary to conduct their business safely. OCIO must also continue to maintain technology with up to date security measures and plan for increasing amounts of requirements and reporting.

B.2 The demand of enterprise stakeholders for greater productivity and efficiency increases the demand on IT organizations.

Whether in the private sector or the public sector, stakeholders are interested in increasing the productivity and efficiency of the organization's efforts. In federal circles, the President's Management Agenda (PMA) has called for all agencies to increase operational efficiencies, improve services, decrease duplication, improve financial management, and deliver services electronically to the citizens.

The accomplishment of these objectives, coupled by decreasing budgets and limited resources, relies on re-engineering, realignment, and, in some cases, consolidation of government practices as the way for agencies to succeed in the future government environment. In turn, these strategies must be supported by effective, far-reaching, and far-sighted IT practices and projects.

Furthermore, stakeholders are also increasing their demands for accountability and transparency in the management of the organization, including more effective and disciplined IT investment and management. The CCA of 1996 is only one of several federal statutes that mandate that federal agencies' plans, manage, and monitor their IT investments more effectively.

B.3 Throughout the IT industry, greater consolidation of common business processes and systems is becoming a best practice for increasing IT efficiency.

IT is only as effective as the processes it supports. Therefore, as IT has evolved over the past three decades, the understanding of organizational processes has also evolved. In government, this evolution is evident in the growing recognition that standard functions are shared by agencies government wide, and this understanding is leading to the standardizing and outsourcing of common business functions.

Specifically, the Office of Management and Budget (OMB) has propagated a series of 9 "LoBs" and 18 other initiatives that move the federal departments and agencies toward a more centralized use of "shared computing and processing activities." USDA is involved in the majority of these initiatives, including grants management, email, e-authentication, financial management, and others.

In addition, this recognition has led to consolidation efforts internal to USDA. The USDA target architecture references a three-level structure—federal, USDA-wide, and agency-specific—as a guide to aide in IT investment planning within USDA. Of course, historically agencies have been focused on the accomplishment of their specific agency mission. Balancing this agency point of view with a greater awareness of the benefits of adopting a higher-level, more consolidated approach to common IT services is a constant factor in today's IT environment.

B.4 The demand for better, more responsive, citizen-centric services is driving the review and realignment of major IT investments and IT delivery mechanisms.

Excellent service to the citizen must respond to expanding expectation of the citizen to access services online. New business models being implemented through the Internet are leading to expectations of 24 hour access to key information and routine services.

In order to meet these citizen expectations, OCIO and the programs must find a common understanding and language that will allow them to communicate and work collaboratively to develop business solutions. The trend in government to help close this gap has been the alignment of the IT department with the business units.

B.5 The demand and expectations for improved, reliable, accountable, and extensible IT services continue to rise.

Over the past two decades, organizations have become increasingly sensitive to the need to have reliable and resilient IT infrastructure and support services. These demands are very much in line with the increasing pressure on organizations to manage IT resources with ever greater degrees of responsibility. As IT demands continue to increase, USDA has seen the need to adopt management best practices and to develop and document successful and repeatable processes and procedures. These processes and procedures are created to ensure a high level of customer service delivery. As new and evolving technologies emerge, USDA must continue this improvement.

B.6 The continuing exponential increase in information places high demands on an organization's ability to manage, store, and retrieve that information for its stakeholders.

As information continues to grow exponentially, the need to store and manage that information becomes even more challenging. Data continue to grow rapidly in volume and type, threatening to overwhelm even the largest storage facilities. Web sites expand overnight, making effective and timely content management a real concern. Records proliferate constantly, which in turn, causes an expansion in the definition of what constitutes an official record. As a result, organizations are coming under increasing pressure to manage this huge volume of records more effectively.

B.7 Increasing pressures on the workforce—including growing retirement eligibility, growing employee expectations for flexibility and mobility, and constantly changing skills—places a premium on effective IT workforce planning.

Within the next five years, a significant number of USDA IT professionals will become eligible for retirement. The potential loss of these workers represents a challenge—they carry with them a wealth of skills and organizational knowledge about business issues that USDA will need to replace to operate at its current level. The current generation of USDA IT workers possesses critical knowledge about the operation of older, legacy systems that the next generation of USDA IT workers will have to learn to ensure that these systems are maintained and remain operational. Additionally, the next generation of

USDA workers will bring new skills, new technological models, and new enthusiasm for the continuous learning that has become a critical requirement for professional in today's rapidly changing technological environment. Workforce planning at USDA will need to acknowledge and plan for the loss of knowledge on critical systems and business practices as well as for the increase in IT competencies that will be brought in with the next generation.

B.8 IT continues to evolve at a rapid pace.

IT continues to evolve rapidly on many fronts simultaneously. These developments put great pressure on the modern organization to understand the developments, evaluate which are of real importance to the organization, and to develop response plans for incorporating the new technology, including the acquisition of the new skills, if any, that are required to support the new developments. Unless new technological developments are anticipated and controlled effectively, they can have significant unanticipated affects on large, high technology projects and complex infrastructures. In addition, major developments can have significant impact on workforce planning activities.

B.9 Funding constraints continue to affect OCIO implementation choices.

IT organizations have infinite resource needs. However, throughout the industry, organizations are experiencing a climate of fiscal restraint and shrinking resources. IT groups are being constantly challenged to find new and innovative ways of doing business, but to accomplish those benefits with little or no real increase in funding. Over the past years, USDA has experienced this same struggle and USDA IT planners anticipate that it will continue as a standard element of IT planning for the future. Therefore, it becomes paramount that USDA plans its IT investments carefully, clearly articulates how its IT projects are expected to support the USDA mission, and then measures the value obtained from those investments to validate the trust placed in them by USDA's IT budget decision-makers.

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Appendix C: Authorities for IT Management At USDA

OCIO Role and Responsibilities

CCA of 1996 provides that the government IT shop be operated exactly as an efficient and profitable business would be operated. Acquisition, planning and management of technology must be treated as a "capital investment." While the law is complex, all consumers of hardware and software in the agencies and staff offices should be aware of the Chief Information Officer's leadership in implementing this statute. Additional laws related to CIO duties include the Paperwork Reduction Act, the Federal Information Security Management Act (FISMA), and other laws, regulations, and guidance.

Specific areas of responsibility of the CIO include:

Information Technology (IT) Management to encompass CPIC, Performance Measurement, and Enterprise Architecture for our IT investments and results.

IT Workforce Planning to guarantee a trained, effective, well-structured workforce prepared to provide the required IT services.

Information Management to limit the amount of information required from the public and to report progress in restricting paperwork to that required by law or other essential need.

Information Security to protect the availability of the Department's computer systems, the integrity of business operations, and the confidentiality of sensitive information.

Information Quality Guidelines oversight and maintenance to ensure and maximize the quality, objectivity, utility, and integrity of information, including statistical information, disseminated by the Department.

OCIO Strategic Planning Legislation

Over the past few years, Congress has passed an unprecedented amount of legislation aimed at improving agency performance through implementation of more effective strategic, financial, and acquisition management policies. The CCA of 1996, the Government Information Security Reform Act (GISRA) of 2000, the Government Performance and Results Act (GPRA) of 1993, the Chief Financial Officer's Act (CFOA) of 1990, the Paperwork Reduction Act (PRA) of 1995 and the E-Government Act of 2002 are relevant legislation that directs agencies to improve the uses and efficiency of IT within their organizations.

The table below provides a summary description of each act.

Legislation	Description
CCA, 1996	Improves the productivity, efficiency, and effectiveness of federal programs through improved acquisition, use, and disposal of IT resources.
Government Information Security Reform Act, 2000	Focuses on the program management, implementation, and evaluation aspects of the security of systems.
Government Performance and Results Act, 1993	Holds federal agencies accountable for achieving program results and requires them to clarify their missions, set program goals, and measure (and report) performance related to meeting those goals.

Paperwork Reduction Act, 1995	Ensures that operations and decisions are integrated with organization planning, budget, financial management, human resources management, and program decisions.
E-Government Act of 2002	Codifies the President's Management Agenda (PMA) to expand EGovernment initiatives, sets new OMB reporting requirements and codifies the existence of the CIO Council.
Chief Financial Officer's Act, 1990	Manages the strategy for developing and integrating individual agency accounting, financial information and other financial management systems to ensure adequacy, consistency, and timeliness of financial information.

Figure 3 – Legislation Related to OCIO IT Strategic Planning