NATIONAL INSTITUTES OF HEALTH
CENTER FOR INFORMATION TECHNOLOGY

Strategic Plan
2011 - 2015

Table of Contents

Message from the CIT Director and Deputy Director

Every year it becomes more and more clear that computing technology is a critical element in both scientific research and administrative services at NIH. This CIT Strategic Plan builds on the 2007 plan, which emphasized operations, process improvement, and employee engagement. We have made significant improvements since 2007. Our Help Desk has been fully converted to a Service Desk; major portions of our computing services have been virtualized; we developed a world class IT service catalog; our enterprise software licensing service has been greatly improved; we implemented federated access for anyone wanting to use NIH scientific resources; and we have been designated a trusted Internet connectivity provider for HHS.

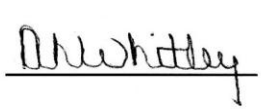
This 2011 – 2015 CIT Strategic Plan documents the services provided to NIH by CIT, current initiatives, and initiatives, goals, and objectives for the future. These have been organized within the overall context of "Service to Science" at NIH. In this way we hope to clarify and emphasize the relationship between IT initiatives and particular scientific or administrative undertakings.

Several trends in the IT sector show up in this Strategic Plan embedded in individual goals and objectives. These trends include increased attention to cyber security, keeping our data safe from external threats; expanding computational biosciences resources to intramural and extramural researchers; providing services of NIH computing on mobile platforms; and taking advantage of the new economies of scale, for example in "cloud" computing, migrating systems and services to improve capacity and save resources that may be deployed elsewhere to further the core NIH mission. We are committed to adopting new and innovative technologies to improve service and lower costs to programs. By staying current with information technology developments, and participating in creating them, CIT continues to lower the per-unit cost of IT services at NIH, which means that staff continue to get more for their IT dollar every year.

This Strategic Plan not only communicates a commitment to science and administration, it communicates our ongoing commitment to the success of each of our customer partners.

Date 11/16/10

John F. Jones, Jr., Ph.D.
Director, CIT (Acting)



Date 11/16/10

Alfred H. Whitley
Deputy Director, CIT

1. Purpose

For more than 120 years, the National Institutes of Health (NIH) has been making significant medical discoveries to improve health and save lives. Information and Information Technology (I&IT) has become a crucial supporting component in these discoveries. The purpose of this document is to articulate the Strategic Plan the NIH Center for Information Technology (CIT) will use for decision-making purposes. In addition, this plan identifies internal and external drivers, and guiding principles that influenced the overall framework and direction of CIT's strategic goals.

2. Scope

CIT's 2011-2015 Strategic Plan focuses on identifying key initiatives that serve as a blueprint to improve and expand NIH's information technology capabilities to meet defined objectives and performance measurements. This Strategic Plan describes current initiatives and what is planned to be implemented over the next four years.

3. Background

The CIT was established in 1998 to provide enterprise I&IT services to the NIH and the people who depend on NIH research and medical advances. CIT is one of 27 NIH Institutes and Centers (ICs). Its mission is to leverage I&IT to service the other 26 ICs and the Office of the Director. In 2008, the roles of the Director of CIT and the NIH Chief Information Officer (CIO) were separated, with the office of the CIO being transferred to the NIH Office of the Director. The NIH CIO is responsible for the corporate management of I&IT at NIH. CIT works in close collaboration with the NIH CIO to lay the groundwork for corporate I&IT and make possible the smooth transition of technology from one generation to the next. Together they work to ensure that I&IT supports and enhances those functions necessary to meet the NIH mission.

As shown in Figure 1, CIT is but one part of the overall IT at NIH. However, CIT is the primary central provider of cross-NIH IT services. CIT has been a leader in implementing enterprise technologies to enhance productivity and increase efficiencies. CIT offers robust and innovative IT services that facilitate global communication and collaboration to support intramural and extramural biomedical research.

CIT provides an extensive array of professional and technical services and maintains facilities to support more than 40,000 customers across NIH and other Department of Health and Human Services (HHS) Operational Divisions:

- Develops and provides the NIH backbone computer networking facilities, cabling, and telecommunications; supports, guides, and assists other NIH components in local area networking.
- Provides central email, instant messaging, authentication, Internet services, video conferencing, podcasting, and web collaborations.

- Manages a central NIH IT Service Desk that provides technical service and extensive support to over 40,000 customers.
- Operates and maintains the NIH Computer Center, which offers secure, centralized hosting for its customers.
- Provides an extensive training program that includes courses, seminars, and documentation for computer and network users.
- Provides professional project management and consulting services for IT projects.
- Serves as the central systems analysis, design, and programming resource for data processing and database projects relating to scientific, technical, management, and administrative data on multiple platforms. Designs and develops software projects to meet NIH program needs.
- Coordinates, integrates, and standardizes a vast array of computer services available throughout all of the organizations comprising NIH.
- Serves as a scientific and technological resource for other parts of HHS and for other Federal organizations with biomedical, statistical, and administrative computing needs.
- Promotes the application of High Performance Computing and Communication (HPCC) to biomedical research, including image processing, structural biology, protein folding, database searching, gene linkage analysis, and computational chemistry, using some of the most advanced, massively parallel scalable computing. Computing technology is applied to research problems involving macromolecular structure representation and modeling, and protein and DNA sequence analysis.
- Develops computer-based systems for laboratory and clinical applications, conducts computer science and engineering research and development, and consults and collaborates in computational, statistical, and mathematical aspects of data analysis. CIT supports software systems to perform these analyses and to conduct research in statistics and mathematics with applications to biomedicine.

This Strategic Plan outlines CIT's near-term and future directions in support of this wide range of I& IT services to further the NIH mission. As best practices dictate, CIT's Strategic Plan utilizes and aligns with the missions, visions, goals, and desired outcomes defined by the NIH and HHS. In addition, CIT recognizes the need to integrate external policies and directives as defined by Congress and the Administration into its Strategic Plan.

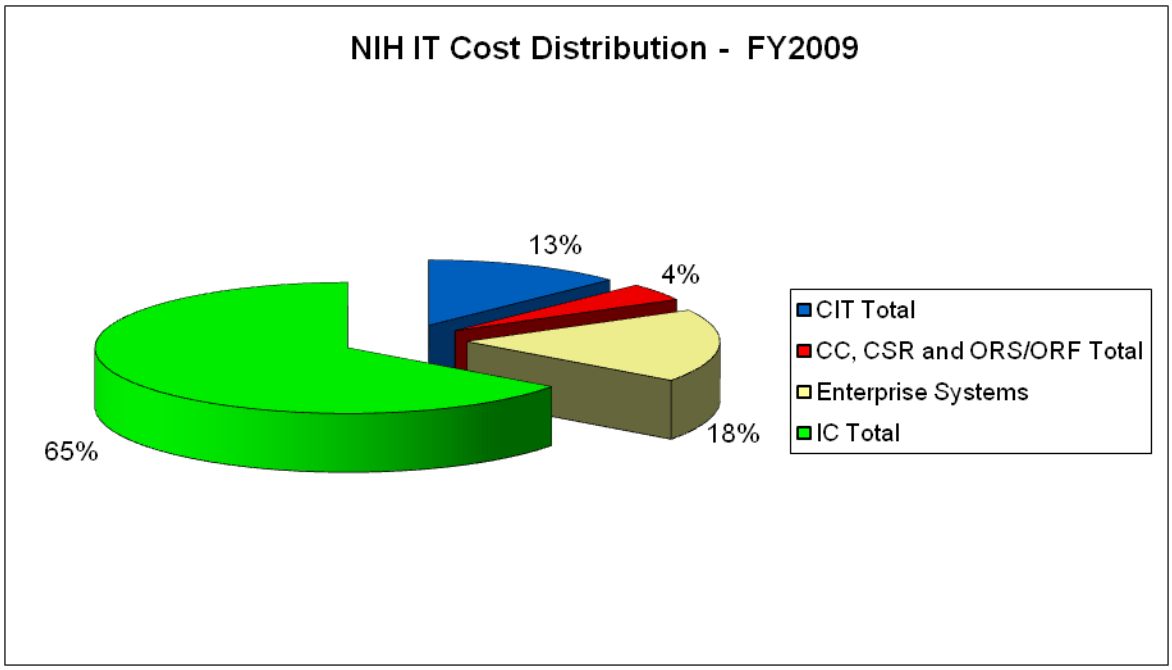


FIGURE 1

3.1. HHS Mission

The HHS mission is to enhance the health and well-being of Americans by providing for effective health and human services and by fostering strong, sustained advances in the sciences underlying medicine, public health and social sciences.

3.2. NIH Mission

The mission of NIH is science in pursuit of fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce the burdens of illness and disability.

3.3. CIT Mission and Vision

CIT's mission is to provide, coordinate, and manage information technology, to implement the vision of the NIH CIO, and to advance computational science to improve NIH's ability to discover new biomedical knowledge.

CIT's vision is to be a vital partner in the discovery of biomedical knowledge. By providing services to improve productivity, CIT is making time for discovery at NIH.

4. Strategic Framework

4.1. Drivers

There are many contributing factors that influence organizational direction. This section introduces key internal and external drivers that played a major role in formulating CIT's strategy.

4.1.1. Internal Drivers

Internal drivers are those factors that affect NIH's operating environment from within the organization. These drivers are often the result of department and agency-level goals and objectives. In addition, drivers result from discussions among NIH ICs working towards common goals. These internal drivers include:

- NIH strategic plans
- NIH Roadmap
- NIH CIO goals
- HHS Secretary's priorities
- HHS Strategic Plan[1]
- Customers/Stakeholders
  - Increasing dependence of NIH on core IT services
  - Increasing appearance of mass collaboration
- The need for collaborative scientific support for the Intramural Research Program
- Limited resources and increasing demands.
- NIH IT Assessment

4.1.2. External Drivers

NIH recognizes the need to adapt to mandates by the Administration and Congress. These external drivers include:

- Presidential initiatives and directives[2]
- Legislation[3]
- Office of Management and Budget (OMB) guidance[4]
- Government Accounting Office (GAO) reports
- Inspector General (IG) Audits
- The public, customers, and stakeholders
- Increasing sophistication of security threats
- Evolving technologies
- Continuing budgetary pressures
- Increased use of the Internet as context for scientific collaboration
  - Growing demand for access and authentication

[1] http://aspe.hhs.gov/hhsplan
[2] Including the Open Government Initiative, Accountability Initiative, and Executive Order 13101 (Greening the Government)
[3] Including the E-Government Act of 2002; Federal Information Security Management Act of 2002 (FISMA); Clinger Cohen Act of 1996 (CCA); Paperwork Reduction Act of 1995 (PRA), Government Performance and Results Act of 1993 (GPRA), Privacy Act of 1974; and Section 508 of the Rehabilitation Act of 1973.
[4] Including Circulars A-11, A76, and, Memo 97-02, and ITILOB Optimization.

4.2. Guiding Principles

CIT is careful to ensure that technology is used as a tool to support NIH's scientific and business goals. In order to do this, CIT adheres to the following principles:

Principle 1: Deliver forward-looking IT services that foster creative discoveries and innovative research strategies to promote the protection of health.

- Rationale: The NIH interfaces with many collaborators around the world and supports a premier Clinical Center. Therefore, it is imperative that CIT's services are robust and available to meet demands. The NIH's core mission is to develop new knowledge. Therefore, providing I&IT support in a way that fosters creativity is essential.

Principle 2: Collaborate with customers to develop solutions that transform biomedical research.

- Rationale: CIT's primary mission is to support NIH's ICs and their varying missions. Consequently, CIT must develop solutions that seamlessly meet and exceed customer expectations. Additionally, when innovative approaches have been developed in the ICs, it is part of CIT's mission to aid the rapid spread of those approaches to other communities that would benefit from them.

Principle 3: Deliver flexible and cost-effective products and services that add value for our customers.

- Rationale: With limited resources, it is imperative that CIT develops and supports cost-effective, flexible, and reusable products and services.

Principle 4: Provide a secure information infrastructure that encourages collaboration and information sharing.

- Rationale: Security and privacy are ongoing concerns for organizations. Therefore, CIT will implement appropriate security controls to protect data assets and privacy.

Principle 5: Develop solutions that adhere to the NIH and HHS Enterprise Architectures.

- Rationale: Effectively leveraging enterprise IT resources is key to containing IT costs and promoting data sharing. Adherence to an Enterprise Architecture enables the reuse and novel recombination of IT resources, thus achieving cost savings and expediting IT development. Therefore, CIT will help develop, implement, and use the Enterprise Architecture.

4.3. NIH CIO Goals

CIT is aligned with the HHS and NIH missions in coordination with the NIH CIO. Prior to 2008, CIT and the NIH CIO were combined in one organization, with the CIT Director also serving as the NIH CIO. In an effort to provide NIH with greater I&IT efficiencies, integration, and oversight, the Office of the CIO (OCIO) was separated from CIT and moved to the NIH Office of the Director. The OCIO develops IT-related strategy, services, and policy to ensure that all NIH IT serves the mission of NIH and addresses the goals of the Director of NIH, and that the NIH IT infrastructure is secure, cost-effective, responsive, and measured against industry benchmarks. CIT functions as the operating arm of the CIO, providing IT expertise for OCIO program activities and providing enterprise IT services and research and administrative support to all of NIH. CIT is committed to the vision and goals set by the CIO. In 2010 the NIH CIO established a CIO Goals Initiative Plan with the following five goals:

1. Advanced tools, systems, and knowledge infrastructure exist so that knowledge creation, discovery and sharing are commonplace throughout the (NIH) biomedical community.

2. NIH I&IT is adaptable so that NIH can rapidly respond to changing business and research needs.

3. NIH IT infrastructure is secure, cost-effective, responsive, and benchmarks at or above industry standards.

4. NIH I&IT professionals think holistically about I&IT at the NIH and act and lead others to act in the best interest of their IC in the larger context of NIH, HHS, and the scientific mission.

5. Foster a more capable workforce across NIH by enabling all users–researchers, IT and business professionals–to understand and utilize IT to their benefit.

5. CIT's Strategic Goals

Since its establishment in 1998, CIT has maintained highly reliable and available services, including at least 99.9% availability for NIHnet, hosting services, central email service, Active Directory, MS Windows infrastructure, and Data Center for production enterprise applications. While balancing limited resources, increasing demands, attrition, and changing technology, CIT's 2011-2015 plan communicates commitment to its customers and continuous improvement. This structured, results-oriented strategic plan is closely aligned with the HHS Enterprise IT goals[5] and the NIH CIO's goals.

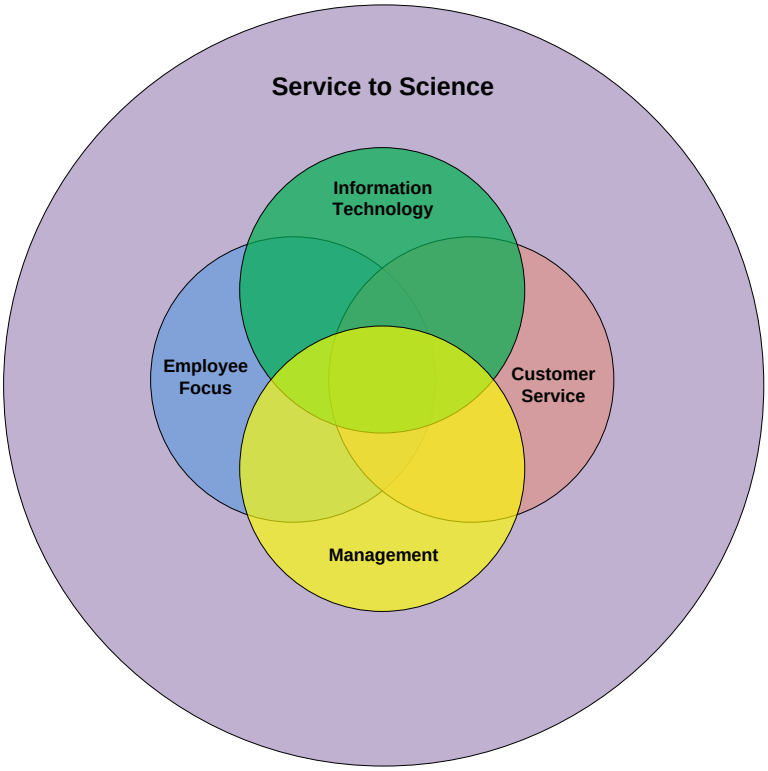


FIGURE 2 **CIT's Five Major Goal Areas**

Similar to the Balanced Scorecard[6] approach, the plan is divided into five key areas as shown in the following pages: Service to Science, Information Technology, Management, Customer Service, and Employee Focus, with a goal, primary objectives, and long- and short-term CIT initiatives for each area. The plan is focused on CIT's long-term strategic goals and contains specific initiatives to meet long-term and short-term NIH and HHS objectives. Ongoing services and activities in support of NIH are reflected in Appendix B.

[5] HHS Enterprise Information Technology Strategic Plan (Draft) FY2006 – FY2010 (http://www.hhs.gov/ocio/plans/itstrategicplan.html)

[6] Kaplan, Robert S., and David P. Norton. 1993. Putting the balanced scorecard to work. Harvard Business Review (September-October): 134-147.

1. SERVICE TO SCIENCE

Goal: Enable and improve biomedical research.

Objectives:

- Support, enhance, and advance collaborative computational science.
- Advance scientific, technical, and engineering progress through innovative solutions in the areas of biomedical informatics, genomics, structural biology, image analysis, computational methods and algorithms, parallel computing, biomedical instrumentation, molecular modeling, knowledge management, and mathematical and statistical analysis.
- Enhance current programs in systems biology.
- Enhance current programs in collective intelligence.
- Enhance the communication of research results.
- Maintain and enhance IT infrastructure in support of biomedical research.
- Build coalitions with key investigators inside and outside NIH.
- Support the NIH Director's five thematic areas, especially for translational medicine.

2011 Initiatives:

- Develop a unified CIT-wide high performance computing strategy and state-of-the-art infrastructure.
- Investigate next generation Biowulf and IRPGrid.
- Improve high performance computing capacity through the High Performance Network Cluster Replacement Initiative.
- Expand the High Performance Parallel File System.
- Increase the NIHNet backbone bandwidth to support high performance computing storage and processing needs.
- Provide project management and software development expertise to support biomedical endeavors at the NIH.
- Provide IT web services in support of the NIH-wide communication plan to transmit research results to the public.
- Develop bioinformatics to support next generation genome sequencing applications and computational support for systems biology.
- Develop biomedical and clinical research instrumentation, methods, and core technology development capabilities.
- Develop and evaluate the efficacy of decision support systems for science management and translational research.
- Expand Federated access to NIH and other scientific resources.
- Develop a STAR METRIC tool to begin measuring science.

2012 – 2015 Directions:

- Provide additional capacity and technology infrastructure as required to continue to conduct biomedical research.
  - Continue to selectively target upgrades in infrastructure via a unified CIT-wide strategy.
  - Enhance high performance scientific supercomputing in order to support NIH science and research.
- Continue implementation and enhancement of bioinformatics to support next generation genome sequencing applications and computational support for systems biology.
- Continue to develop biomedical and clinical research instrumentation, methods, and core technology development capabilities.
- Use collective intelligence to evaluate the efficacy of decision support systems and to solve problems in biomedical research.
- Enhance the STAR METRIC program.
- Continue to expand Federated access to NIH and other scientific resources.

2. INFORMATION TECHNOLOGY

Goal: Provide a secure, trusted, and reliable IT environment that is cost effective, responsive and benchmarks at or above industry standards.

Objectives:

- Enhance the confidentiality, availability, capacity, and integrity of IT resources.
- Protect services, systems, and resources from unauthorized access or misuse and incorporate security into their lifecycles.
- Monitor and track capacity utilization to meet demand and detect and correct problems before user impact.
- Enhance awareness of and compliance with all Federal mandates, including Enterprise Architecture, greening, security, privacy, FOIA, EPLC, and Section 508.
- Implement high-availability enterprise services to achieve cost savings, operational efficiencies, and enhanced security.
- Use Enterprise Architecture to promote interoperability and transparent, secure data flow.
- Support and implement secure data sharing across NIH to support science in accordance with policies and guidelines.
- Maximize the value of technology investments through enterprise-wide procurement and licensing.
- Implement a “corporate” approach to IT infrastructure.
- Explore emerging technologies to foster innovation.
- Provide leadership and demonstrate added value to NIH and Departmental programs.
- Improve support of the research and business processes of NIH including partnering with a goal of optimizing performance, not just automating existing processes.

2011 Initiatives:

- Achieve 99.9% availability for all IT systems.
- Achieve a 99% completion rate for telecommunications service request timeliness and accuracy.
- Increase on-time and first-call resolution by at least 5%.
- Reduce call abandonment to 10% or less.
- Conduct a metrics program that tracks and reports KPIs (Key Performance Indicators) on a quarterly basis and addresses capacity utilization and planning, and operations analysis.
- Expand Enterprise Network Services in at least two buildings.
- Finalize and adhere to NIH Server Rooms & Data Center Policy and HHS Data Center consolidation.
- Provide more “Greening” of the Data Center with a new Energy Efficient Cluster Initiative.
- Implement Building 10 shared cabling infrastructure.
- Upgrade the Land Mobile Radio system to support both analog and digital platforms, save costs, and improve coverage and reliability in Building 10.
- Increase the systems covered by the NIH application monitoring service.
- Improve service-oriented architecture program visibility.
- Convert web sites to MOSS.
- Meet 2011 508 targets for increased website compliance.
- Implement two-factor authentication for remote access.
- Implement Net Access Control.
- Become a Trusted Internet Connection (TIC) access provider.
- Pilot an enterprise Voice Over Internet Protocol (VoIP) solution for NIH.
- Improve search engines employed on the NIH websites.
- Expand virtualization.
- Implement Cloud Storage.
- Increase provision of the services of NIH computing on mobile platforms.
- Implement wireless access to the service ticket system.
- Enable direct IT Service Desk routing for at least 50% of the ICs.

- Support and deploy the United States Government Baseline Configuration settings for MS Windows 7 and Internet Explorer 8.
- Expand NIH Login to systems, including Enterprise systems.
- Provide large-scale email boxes on a fee-for-service basis.
- Provide a semi-annual “state of the infrastructure” briefing.
- Implement the desktop encryption plan.
- Complete the CPS installation and transition to the new UPS system.
- Deploy Active Directory 2010, SharePoint 2010, and MS Project Server 2010.
- Transfer ten FTE from infrastructure to science collaboration, as funding mechanisms permit.
- Implement CIT level Change Management and Cost and Price Models.

2012 – 2015 Directions:

- Improve existing processes through use of IT Infrastructure Library (ITIL) when appropriate.
- Provide more energy-efficient solutions.
- Enable direct IT Service Desk routing for 100% of the ICs.
- Implement an automated software license management solution.
- Encrypt CIT portable media devices.
- Continue conducting metrics program.
- Continue to expand Enterprise Network Services.
- Continue to implement a central cabling system.
- Expand the in-building antenna system to enhance cellular coverage for the Bethesda campus.
- Extend Land Mobile Radio trunking service to Rocky Mountain Labs, NIEHS, and Baltimore.
- Continue Data Center consolidation.
- Designate additional FTE per year to science collaboration as appropriate.

3. MANAGEMENT

Goal: Achieve excellence in management practices to proactively anticipate and respond to changing research and business needs.

Objectives:

- Implement industry best practices to strengthen IT management.
- Demonstrate sound strategy and decision-making in all matters.
- Assure that effective internal controls are developed and maintained to ensure program integrity.
- Apply project management best practices to maximize success.
- Promote cost-effective solutions by sharing and implementing best practices.
- Provide leadership in IT for research management, i.e., the use of information and analytical tools to assist in strategic decision-making on the direction of science research and funding at NIH.
- Ensure IT systems adhere to enterprise architecture.
- Ensure that the CIT organizational structure is optimized to support the mission of NIH.

2011 Initiatives:

- Update the ITIL Program Plan.
- Expand CIT's Systems Assurance Program.
- Integrate and apply cross disciplinary efforts to move organization forward.
- Improve Continuity Assurance Program (CAP) situation awareness.
- Develop and implement two initiatives to improve environmental performance, pollution prevention, or conservation of resources.
- Create an infrastructure related library that consists of best practices using SharePoint or Wiki technology.
- Improve property management to reduce annual lost property to less than 6% of total inventory.
- Update the CIT Continuity of Operations (COOP) plan.
- Improve IT support for NIH Continuity of Operations.
- Update CIT rate book.
- Complete ITIL costing model and financial updates.
- Develop a comprehensive acquisition planning strategy to ensure prompt processing of procurements.
- Develop and implement timelines and processes to expedite Federal hiring.
- Develop an internal CIT survey to improve inter-divisional cooperation/teamwork.
- Complete implementation of CIT Managed Desktop Lifecycle program.
- Evaluate implementation of managed printer services.
- Improve integration of the NIH IT Service Desk, CAP, Network Operations Center (NOC), and Data Center operations for increased system availability.
- Complete the NIH software spend analysis.
- Initiate an HHS-wide software spend analysis.
- Initiate an assessment of the feasibility of a 360 degree evaluation for all managers.

2012 – 2015 Directions:

- Develop a comprehensive solution for portfolio analysis and reporting.
- Improve IT governance consistent with NIH IT Assessment recommendations.
- Continue implementing ITIL best practices as appropriate.
- Implement managed printer services as appropriate.
- Develop and maintain CIT IT security policies.
- Redesign and implement new CIT billing system.
- Implement the comprehensive acquisition strategy developed in 2011.
- Continue to improve the recruitment processes.
- Pilot a 360 degree evaluation for all managers; develop a baseline; implement the 360 degree evaluation and use results as part of the annual evaluation process.

4. CUSTOMER SERVICE

Goal: Enhance the value, quality, availability and delivery of information and services to our collaborators, customers, and other stakeholders in a transparent, responsive, and cost-effective manner.

Objectives:

- Improve responsiveness to customers.
- Enhance relationships and communications with our collaborators, customers, and other stakeholders.
- Work to understand and anticipate the needs of our collaborators, customers, and other stakeholders.
- Foster a more capable workforce across NIH by increasing their understanding and use of IT.
- Improve usability and ensure accessibility of IT systems and applications.

2011 Initiatives:

- Enable partnering relationships with the ICs.
- Enhance stakeholder and customer communications.
- Ensure new employees and contractors receive customer service training.
- Increase efforts to educate the customers on current service offerings.
- Develop and implement a Customer Survey program. Use results to improve customer service.
- Continue to conduct Partner Focus meetings.
- Implement online self-help capabilities where appropriate.
- Make at least 50% of CIT Training courses available online.
- Update SAS and Microsoft enterprise agreements to provide increased flexibilities.
- Implement new enterprise agreements with Adobe, IBM, and Symantec.
- Increase password self-service registrations by at least 12%.
- Improve support for Macintosh users.

2012 – 2015 Directions:

- Implement remote assistance tools to improve responsiveness.
- Deploy outcomes oriented service evaluation tools.
- Continue to provide self-help capabilities where appropriate.
- Continue to provide customer service training to new employees and contractors.
- Continue to conduct customer surveys and utilize results to improve services.
- Provision CIT virtual desktop environments.
- Make all CIT Training courses available online.

5. EMPLOYEE FOCUS

Goal: Develop and maintain a diverse, high-quality, competitive CIT workforce.

Objectives:

- Leverage human capital programs and resources to recruit, develop, and retain a diverse high quality workforce.
- Foster a positive work environment.
- Lead and manage an inclusive workforce that maximizes the talents of each person to achieve sound results.
- Influence others toward a spirit of service and contributions to mission accomplishment.
- Respect, understand, value, and seek out individual differences and diversity to achieve the vision and mission of the organization.
- Engage others to translate opportunities into action.
- Create and sustain an organizational culture that encourages staff to provide excellent internal and external customer service.
- Ensure that the CIT workforce is knowledgeable and professionally current.

2011 Initiatives:

- Develop a CIT Employee Engagement program to make CIT a workplace of choice.
- Promote a healthier workforce lifestyle by providing at least five activities and communication initiatives in support of the NIH Wellness initiative.
- Expand telework as appropriate to achieve a 10% increase in participation over the 2010 level.
- Actively pursue recruitment of minorities and persons with disabilities to meet MD715 goals.
- Send All Source vacancy announcements to identified targeted communities.
- Continue the Building 12 workplace improvement program.
- Use IT competencies to produce a more capable IT workforce.
- Promote training opportunities.
- Train staff in new technologies that may benefit NIH.
- Develop a program of enhanced internal communications to improve management's ability to share CIT and NIH cultures and values with staff.
- Ensure all managers, GS-13 and above, are trained in ITIL Foundations or higher. Certification is required for technical managers.

2012– 2015 Directions:

- Conduct annual surveys of the CIT work force to improve on organizational engagement.
- Update the CIT Succession Plan to ensure depth of talent for future leadership.
- Continue to invest in our human resources to enable them to support innovative technologies.
- Continue to enhance internal communications.

6. Governance and Oversight

CIT manages its programs and operations in compliance with NIH-wide management and budget requirements. CIT programs are subject to rigorous review under NIH-wide oversight of central services organizations. The management review process involves the following governance bodies:

- NIH Steering Committee – Established by the NIH Director to provide trans-NIH governance and streamlined decision-making, it has ultimate funding/budget approval authority.

- Management and Budget Work Group (MBWG) – Responsible for central services budget review, it makes funding recommendations to the NIH Steering Committee.

- IT Working Group (ITWG) – With primary responsibility to monitor and ensure the overall performance of NIH's enterprise-level IT programs and investments, it makes funding recommendations to the MBWG. CIT's budget is reviewed by the ITWG. The ITWG also has three sub-working groups focused on the IT requirements of specific NIH business domains:
    - Clinical Research Information System (CRIS) Steering Committee (Intramural),
    - Extramural IT Steering Committee (also referred to as the Extramural ITWG), and
    - Administrative Management Systems Steering Committee (AMSSC).

CIT follows the I&IT management principles and policies and enterprise architecture established by the NIH CIO. In addition, the CIT leadership actively participates in the NIH IT Management Committee (ITMC), chaired by the NIH CIO, and composed of senior IT officials at the ICs. The ITMC advises the NIH CIO on I&IT management and planning and serves as a conduit between the IC and the CIO on I&IT issues.

In addition to identifying I&IT investments that require NIH and HHS level reviews, CIT is responsible for participating in NIH's capital planning and investment control (CPIC) process. Capital planning and investment control are key requirements of the Clinger-Cohen Act (CCA) of 1996 and the implementing regulations and guidance issued by OMB and HHS. OMB's increased scrutiny of I&IT investments and other legislative mandates (e.g., the E-Government Act, Government Performance and Results Act, and Federal Information Security Management Act) contribute to increasing management attention to I&IT oversight and compliance. Further, I&IT investments should be aligned with HHS Goals as expressed in the HHS Strategic Plan 2007-2012 (http://aspe.hhs.gov/hhsplan/) and goals of the NIH CIO. The alignment of CIT's goals is demonstrated in Appendix A.

At CIT, enterprise-wide performance measures are in place, both as part of the annual I&IT investment planning process and in the performance contracts of senior management. Performance results are tracked against measures to provide critical information about whether overall I&IT activities are achieving expected goals.

Appendix A: CIT Alignment with HHS/NIH Strategic Goals

Each CIT strategic goal aligns with, and contributes to, the goals of the Department and NIH.

CIT Goals Aligned with HHS Goals					
HHS Goals[7] **HHS Strategic Plan Goals and Objectives – FY2007-2012**	**CIT Goals**				
	1	**2**	**3**	**4**	**5**
1. Improve the safety, quality, affordability and accessibility of health care, including behavioral health care and long-term care					
2. Prevent and control disease, injury, illness, and disability across the lifespan, and protect the public from infectious, occupational, environmental, and terrorist threats					
3. Promote the economic and social well-being of individuals, families, and communities					
4. Advance scientific and biomedical research and development related to health and human services	✓	✓	✓	✓	✓

Table 1

CIT Goals Aligned with HHS IT Goals					
HHS IT Goals[8] **HHS Enterprise Information Technology Strategic Plan (Draft) FY2006-2010**	**CIT Goals**				
	1	**2**	**3**	**4**	**5**
1. Provide a secure and trusted IT environment		✓			
2. Enhance the quality, availability, and delivery of HHS information and services to citizens, employees, businesses, and governments	✓	✓		✓	
3. Implement an enterprise approach to information technology infrastructure and common administrative systems that will foster innovation and collaboration	✓	✓	✓		
4. Enable and improve the integration of health and human services information	✓	✓	✓		
5. Achieve excellence in IT management practices			✓		✓

Table 2

[7] http://aspe.hhs.gov/hhsplan
[8] http://www.hhs.gov/ocio/plans/itstrategicplan.html

CIT Goals Aligned with NIH Goals					
NIH Goals[9]	**CIT Goals**				
	1	**2**	**3**	**4**	**5**
1. Foster fundamental creative discoveries, innovative research strategies, and their applications as a basis to advance significantly the Nation's capacity to protect and improve health	✓	✓	✓	✓	✓
2. Develop, maintain, and renew scientific human and physical resources that will assure the Nation's capability to prevent disease	✓	✓		✓	
3. Expand the knowledge base in medical and associated sciences in order to enhance the Nation's economic well-being and ensure a continued high return on the public investment in research	✓	✓	✓	✓	✓
4. Exemplify and promote the highest level of scientific integrity, public accountability, and social responsibility in the conduct of science	✓		✓	✓	

Table 3

CIT Goals Aligned with the NIH Director's Five Thematic Areas					
Dr. Collins's Five Thematic Areas[10]	**CIT Goals**				
	1	**2**	**3**	**4**	**5**
1. Applying the unprecedented opportunities in genomics and other high-throughput technologies to understand fundamental biology, and to uncover the causes of specific diseases	✓				
2. Translating basic science discoveries into new and better treatments	✓				
3. Putting science to work for the benefit of health care reform	✓				
4. Encouraging a greater focus on global health	✓				
5. Reinvigorating and empowering the biomedical research community	✓				

Table 4

CIT Goals Aligned with NIH CIO Goals					
NIH CIO Goals	**CIT Goals**				
	1	**2**	**3**	**4**	**5**
1. Advanced tools, systems, and knowledge infrastructure exist so that knowledge creation, discovery, and sharing are commonplace throughout the (NIH) biomedical community.	✓	✓			
2. NIH I&IT is adaptable so that NIH can rapidly respond to changing business and research needs.	✓	✓	✓		
3. NIH IT infrastructure is secure, cost-effective, responsive, and benchmarks at or above industry standards.		✓	✓		
4. NIH I&IT professionals think holistically about I&IT at the NIH and act and lead others to act in the best interest of their IC in the larger context of NIH, HHS and the scientific mission.			✓		
5. Foster a more capable workforce across NIH by enabling all users- researchers, IT and business professionals- to understand and utilize IT to their benefit.				✓	✓

Table 5

[9] http://www.nih.gov/about/mission.htm

[10] Biennial Report of the Director of the National Institutes of Health (NIH) for Fiscal Years (FYs) 2008 and 2009), Draft 4/8/10, pages 1:3-6.

CIT Goals Aligned with NIH ITILOB Goals					
NIH ITILOB Goals	**CIT Goals**				
	1	**2**	**3**	**4**	**5**
1. Improve IT Infrastructure Governance and Management with the use of Control Objectives for Information and related Technology practices		✓	✓		
2. Use Information Technology Infrastructure Library (ITIL) to support NIH IT Infrastructure services		✓			
3. Ensure End User Services and Support effectiveness and efficiency through targeted improvement in support processes and procurement		✓	✓	✓	
4. Ensure Telecommunications Services and Support effectiveness and efficiency		✓			
5. Ensure Mainframe and Server Services and Support effectiveness and efficiency		✓			

Table 6

Appendix B: CIT Products and Services

From http://cit.nih.gov/ServiceCatalog/

Application Services (6)

- Call Center Management (Aspect)
- Call Center Management (Operator Services)
- Content Management System (CMS) Service
- Custom Application Development Services
- Scientific Coding Application Subscription Service
- Web Design and Development Services

Communication/Collaboration Services (28)

- 508 Telecommunication Services
- ActiveSynch Wireless Messaging Services (iPhone, Windows Pocket PC, Palm, smartphone)
- BlackBerry Wireless Messaging Services
- Central Email Service (CES)
- Conference Room Design and Support
- Electronic Publishing Book Services
- Email Vaulting Service (Archiving)
- HHS Federated Messaging Services
- Instant Messaging Services
- Mobile Device Alerting Service
- Mobile Documents Service
- MOSS SharePoint and Content Management Services for Dedicated Environments
- MOSS SharePoint and Content Management Services
- NexTalk Service (NTS)
- NIH Central Fax Service (eFax)
- NIH External Directory Service
- NIH Listserv Mailing-List Service
- NIH Portal Services
- Secure Email/File Transfer Service
- Service Oriented Architecture (SOA) Services
- Telephony Procurement Service
- Telework Voice Services
- Video Relay Service (VRS)
- Video TeleConferencing (VTC)
- VideoCasting
- Voicemail Services
- Web Collaboration
- Wiki Services

Connectivity Services (16)

- 102 Paging Network Support
- Cable Management - Horizontal Cabling
- Cable Management - Infrastructure Graphical Database (IGDB)
- Cable Management - Inter/Intra Building Connectivity
- Cable TV Installation and Consultation
- Consolidated Network Monitoring System (CNMS)
- Distributed Antenna System
- Facilities Network Services (FACnet)
- Network Security Services
- New Construction and Renovation Cabling Projects
- NIHnet Extranet Site-To-Site VPN Service
- NIHnet Remote Access Service
- NIHnet Wireless Network Service
- Telecom Emergency Management Services
- Telephone Installation and Moves, Adds and Changes (MAC) Services
- Two-Way Radio Services

Enterprise Applications IT Support (3)

- Business Intelligence Services
- Enterprise Application Services
- NIH Enterprise Directory (NED) Services

Hosting Services (8)

- ColdFusion Hosting
- Co-Location Services
- Database Hosting Services
- Google Search Engine Service
- Mainframe (Titan) Hosting Services
- Unix Hosting Services
- Windows Hosting Services
- zLinux Virtual Server Hosting

Infrastructure Services (16)

- Active Directory Development and Testing Services
- Active Directory Management and Operations Services
- Application Monitoring Services
- Desktop Management Service
- Distributed File System Namespace (DFS Namespace)
- Domain Name Resolution Services (DNS, DDNS, DNS-HA, WINS)
- Dynamic Host Configuration Protocol Service (DHCP)
- Enterprise Authentication Services
- LDAP Directory Service
- NIHnet Customized Network Solutions
- NIHnet Enterprise Network Service (ENS)
- NIHnet Internet Service
- NIHnet Network Operations Center (NOC)
- NIHnet Perimeter Security Services
- Password Management Services
- Password Self-Service (iForgotMyPassWord)

Procurement/Licensing Services (1)

Enterprise Software Licensing (iSDP)

Professional Services (9)

Consulting Services
General IT Security Services
IT System Security Certification and Accreditation
NIH Network Consulting
Project Management Services
Relationship Management
Security Incident Handling
Systems Assurance
Telephony Consulting

Scientific Computing Services (5)

Biowulf Computational Cluster
Helix Managed Storage
Helix Scientific Computing
IMARIS
MASCOT

Support Services (14)

Continuity Assurance Program (CAP)
Deskside Support Services
eDiscovery Services
Knowledge Management Services
Media Sanitization Service
Messaging and Infrastructure Support Services
NIH Telephone Operator Services
Service Desk
Service Ticket System
Signal Page Services
Telecommunications Circuit Management Services
Telecommunications Testing and Maintenance Services
Telephone Directory Services
Telephone Repair Services

Training Services (3)

Custom IT Training
IT Training Facilitation (Classroom Rental)
IT Training