NATIONAL GALLERY OF ART
INFORMATION TECHNOLOGY
FY 2012

The National Gallery of Art depends heavily on Information Technology (IT) to support its interaction with the public and the staff. The Gallery's IT environment is a complex infrastructure consisting of 10 major IT systems serving the multi-faceted requirements of the Gallery including acquisition, care and display of works of art, special exhibitions and education programs, as well as financial and administrative management. The basic daily operations, beginning with opening the Gallery to the public each morning, require a variety of systems such as those for security, building automation, collections management, education, financial management, and retail.

IT supports many other non-major systems that nevertheless play a critical role in the day-to-day functions of the institution. Such systems include the VISTA scheduling system for school and group tours, a facilities' work order tracking system, a security incident reporting system used by the Protection division, and computer-assisted design (CAD) systems used by the Gallery's architects, designers and engineers.

IT is also central to the Gallery's risk management strategy as many of the systems require sophisticated IT support, from advanced climate control and security to collection, library, and financial management. The failure of any of these mission critical systems jeopardizes the security and safety of the works of art, staff and visitors and impedes the ability of the staff to meet performance goals and management initiatives.

Through the Gallery's web site, educational resources on the collection and special exhibitions offer anyone with Internet access features ranging from virtual tours to planning an actual visit and researching the collection. The Gallery's educational role is also supported by IT through the Internet/Intranet/Office Automation systems which provide the public with direct communication through its web site and e-mail and enable efficient staff communication throughout the Gallery.

The Gallery's FY 2012 IT budget submission is based on its IT Strategic Plan, updated in FY 2010 to provide a road map for IT services needed for the next 10 years. IT improvements have required multiple years to implement – up to one year to prepare the solicitation packages and select a vendor, and then up to an additional two years to install, configure and test the new systems. This plan addresses the proactive implementation, replacement, and repair of the Gallery's mission critical systems.

The Gallery's IT environment is divided into the following categories:

- Art Care Systems
- Operations and Maintenance Systems
- Protection Systems
- General Administration Systems
- Enterprise Architecture and Planning

Current State of the Art Care Systems

Collection Management System (CMS): The Gallery uses *The Museum System (TMS)*, a commercial off-the-shelf system that is used extensively throughout the museum community, to manage the collection of original works of art. This system was acquired and became operational in FY 2008. Planned enhancements to TMS have been made and provided to the Gallery by Gallery Systems, Inc., the TMS vendor. The risk of failure to CMS is <u>low</u>.

Integrated Library System (ILS): The Gallery continues to use the Ex Libris commercial off-the-shelf *Voyager* system as its Integrated Library System. Digital library products are supported using *DigiTool* and *MetaLib* products from Ex Libris. A strong technology refreshment program is in place for these systems. The risk of failure to ILS is <u>low</u>.

Digital Imaging: The Gallery's archives of slides and color transparencies are degenerating. In order to preserve quality images of the collection, this aging technology must be replaced to prevent further deterioration of the images of the works of art and to archive for future generations images of the works of art as they appear today. The Gallery's digital imaging strategy, based on a number of recommendations from an internal study, has resulted in the creation of a digital photographic laboratory and the development of a prototype central electronic repository and management system for digital images of works of art in the collection. The strategy also includes the deployment of an image ordering system (*NGA Images*) for the public.   The risk associated with the digital imaging strategy is <u>medium</u> as the Gallery lacks an enterprise-wide system for management of the digital assets of the collection.

Gallery Web Site: The Gallery's original web site was deployed in 1996 and for many years was an award winning site, but it now has become a dated resource failing to take advantage of emerging technologies to better serve the public. A new project for the redesign of the web site has been initiated and the concept design phase for the new site is complete. The risk assigned to the web is <u>medium</u>.

Current State of the Operations and Maintenance Systems

Building Automation System (BAS): One of the Gallery's key goals is to expand the coverage for monitoring and controlling temperature and relative humidity conditions throughout the Gallery complex by adding non-proprietary controllers to the BAS. A contract was awarded to Honeywell to upgrade *Enterprise Building Integrator* (EBI), the current system, to release 4.1, apply new IT security patches, and perform life cycle maintenance. The new EBI software is operational. The risk of failure assigned to this system is <u>low</u>.

Current State of the Protection Systems

Integrated Security Management System (ISMS): The Gallery continues to use Seibold's *Skyline II,* which was acquired and became operational in FY 2006, as its ISMS. The DvTel component of the ISMS was upgraded in FY 2010. A strong technology refreshment program is in place for this system. The risk of failure assigned to the security system is <u>low</u>.

Fire Alarm System: The Gallery's Fire Alarm system provides for fire detection, emergency notification, fixed and portable fire suppression, and life safety controls. The main system, the Siemens Cerebus-Pyrotronics MLX (fire alarms) / MXLV (emergency notification), was last upgraded in FY 2009. The Siemens Network Command Center graphic display software was last upgraded in FY 2008 and is in need of an upgrade to replace the unsupported Windows XP software. In addition, an independent assessment of the complete system is planned for FY 2011 to ensure that the system is properly configured and supported to meet the Gallery's needs for protection of people and the works of art. It is expected, based on the Gallery's internal knowledge of this system, that this assessment will identify areas needing immediate attention. Currently, the risk assigned to this system is <u>medium</u>.

Current State of the General Administration Systems

Financial Management System (FMS): The Gallery uses *Oracle Federal Financials*, a web-based, externally hosted system as its FMS. Phase I of the new financial system was deployed in FY 2007. Phase II of the new system was deployed in FY 2008. The current release of Oracle (version 11.5.10) will no longer be supported after FY 2013. The risk of failure assigned to FMS is <u>medium</u>.

General Support System (GSS)

-   **End User Systems and Services (EUSS):** The Gallery has standardized and modernized its Office Automation (OA) environment. Current Gallery-wide desktop Intel-based PC and Apple Macintosh hardware platforms are in place with standardized Microsoft Windows XP/Office 2007 and Macintosh OS 10 system software supported by an outsourced Help Desk. Inventory control of the OA assets has increased with the use of an on-line inventory management system and bar coding of equipment. The IT security of the OA environment has been enhanced with the development of a strong IT Security program and the addition of virus protection software throughout the OA architecture. A highly successful on-site OA training program has been implemented. The intranet is now a part of the EUSS project. The risk of failure to EUSS remains <u>low</u>.

-   **Mainframes and Servers Services and Support (MSSS):** The Gallery's server environment is kept current with a strong technology refreshment program. We have put in place virtual server technology as part of our efforts to reduce cost and increase the reliability and availability of our IT systems. The risk of failure to the MSSS remains <u>low</u>.

-   **Telecommunications Systems and Support (TSS):** The Gallery's current data network infrastructure, which supports the 10 major IT mission systems and over 1,000 workstations, is out-of-date and highly unstable. The existing network is unable to handle the current data traffic and is being replaced in phases. The first and second phases, the purchase and installation of new core switches and the wiring from the core switches to the data closets, are complete. Phase 3, a multi-year

activity, is underway. This phase involves the replacement of the routers and wiring within the data closets and the wiring to the desktops.

The Gallery has an extensive telecommunications infrastructure that supports voice (land-line and cellular) and voicemail. The Gallery recently upgraded the voice system to the latest version of the Avaya software.

The risk of failure to the TSS is <u>high</u>.

FISMA/IT Security Program: Gallery-wide IT security was a high priority in FY 2010 and the Gallery continued to make progress in meeting FISMA requirements. An independent contractor continues to assist the Gallery with Certification and Accreditation (C&A) of the major IT systems.

Current State of Enterprise Architecture and Planning

Enterprise Architecture: The Gallery continues to maintain its Enterprise Architecture Modernization Blueprint which is being modified to address the Gallery's new IT Strategic Plan (IT 2020). IT 2020 identifies emerging needs in the following areas:

- Centralized Calendar & Resource Scheduler
- Enterprise Digital Asset Management
- Enterprise Document Management
- Financial Management Enhancements
- Gallery-wide Collaborative Technologies
- Human Resource Management Platform
- Infrastructure Optimization
- Innovation Lab
- Integrated Procurement & Contract Management
- Intranet Modernization
- Inventory Management
- Learning & Training Management
- Mobile Connected Workforce
- Network (Data & Voice) Modernization
- Visitor Enrichment, and
- Works of Art Information Sharing.

Capital Planning and Control Process (CPIC): The Gallery's IT Steering Committee (ITSC) took on a major role in the development of the Gallery's new IT Strategic Plan, IT 2020, and continued its role in the selection and evaluation of major IT system projects as documented in our CPIC process. The ITSC reviews the priorities for the IT budget based on mission need and continued its recommendation of all major IT modernization efforts. The Gallery continued to focus on IT risk management, adherence to the Gallery's enterprise architecture, and inclusion of IT security as part of all IT modernization programs.

FY 2010 Accomplishments

During FY 2010, the Gallery completed its new 10-year IT strategic plan. User surveys were conducted focusing on satisfaction with the existing IT systems and services, and identification of unmet IT needs. The refreshment cycles and support for the existing major IT systems were reviewed and documented, as were museum and IT trends. From this body of information, the plan was developed which addresses the proactive replacement, implementation, and repair of the Gallery's mission critical systems.

Art Care: Phase 2 of CMS was deployed, completing the final phase of the CMS modernization project. This upgrade provides functionality to improve efficiency in managing the works of art by providing for the update of exhibition and loan records in batch mode and accessioning of objects in lots rather than individually.

The ILS *Voyager* software was upgraded to the latest version. The Ex Libris' *DigiTool* digital asset management system was made available to Gallery staff, providing them with access to over 50,000 images.

The design and build stages for the *NGA Images* system commenced. This new system will consist of two parts: a public facing, front-end web site which will provide the public with images of the works of art, and a back-end system which will provide management of the rights associated with these works of art.

The conceptual design for the re-designed Web Site was completed and a content management system was selected to serve as the central repository for all web content.

Operations and Maintenance: Additional alarm points were connected to the BAS in the East Building art spaces.

Protection: The Gallery completed issuance of HSPD-12 compliant badges to all Gallery employees; issuance of HSPD-12 badges to long term contractors is underway. A pilot project to assess the use of Radio Frequency Identification (RFID) in protecting the art was successfully completed; plans are underway to extend the use of RFID tags to additional galleries. A new *iTrak Incident Reporting and Risk Management* application was deployed to automate the documentation and case management of incidents that occur at the Gallery.

General Administration:

The data network modernization project continued with renovation of two telecommunications rooms and wiring to associated office areas in the east portion of the Connecting Link. A new firewall was acquired and installed as part of technology refreshment.

The renovation of the Gallery's Data Center was completed, providing a new fire suppression system and HVAC. The server architecture in the Data Center was modified to support "virtualization".

Technology refreshment of the Gallery's office automation system continued with the purchase and deployment of new workstations including monitors, printers and scanners. Software upgrades were provided for Internet Explorer (to version 7) and Microsoft Office (to version 2007).

The Gallery's Large Auditorium was successfully upgraded to replace its aged analog projection system with digital projection and audio equipment.

The implementation phase of the e-OPF project was initiated, with setup of the Gallery's e-OPF established at OPM and planning for conversion of existing personnel files.

Certification and Accreditation (C&A) was completed for the Retail Management System (RMS) and Financial Management System (FMS). The C&A for the Physical Protection Program (PPP), which evaluates the IT security of the Integrated Security Management System and Fire Alarm System, was initiated. The Risk Categorization and the development of the PPP System Security Plan were completed; System Test and Evaluation (ST&E) is underway.

The Gallery's servers were placed under formal configuration management and configured according to NIST guidelines. The annual independent internal and external scan of the data and security networks was performed and IT security vulnerabilities discovered were remediated. Weekly and monthly reporting of virus and spam activity continued. Monthly reporting on the deployment of Microsoft-related IT security patches continued. Metrics were captured on suspended network accounts and failed attempts to access the Gallery's remote access system. A priority was placed on IT Security Awareness training and all users of the Gallery's network received the required annual refresher training.

FY 2011 Objectives

In FY 2011, the Gallery will continue to maintain and enhance the 10 major IT systems through a strong technology refreshment program.

Art Care: The Digital Imaging *NGA Images* system will be deployed. A contract to build the Gallery's new web site will be awarded and the technical design phase will commence. Vendor maintenance will continue for the CMS and ILS.

Operations and Maintenance: The BAS will be maintained through the maintenance contract with Honeywell; additional sensors will be installed in the East Building.

Protection: Activity will center on an independent assessment of the Fire Alarm system. A plan of action will be developed for addressing deficiencies that are discovered.

General Administration: Work on the Phase 3 network modernization project will continue with renovation of the telecommunications closets in the west portion of the Connecting Link and rewiring of the adjoining staff offices. A plan for addressing the cabling of the East Building will be developed, approved, and initiated; the East Building

plan will take into consideration East Building renovations that are part of the Master Facility plan.

Back-end conversion of OPF files and day-forward processing will be completed, providing Gallery staff with on-line access to their personnel folders through the e-OPF portal.

The Gallery will continue to put a high priority on FISMA compliance. Certification and Accreditation of the Art Care systems (CMS, ILS, Digital Imaging, and the Web Site) will occur.

FY 2012 IT Budget Request

The Gallery's FY 2012 budget request for IT is $8,013,000, an increase of $1,315,000 over the FY 2010 Enacted Budget. This increase is supported by the Gallery's IT Strategic Plan.

Art Care: $451,000 is requested for Art Care IT systems in FY 2012, a decrease of $51,000 below the FY 2010 Enacted Budget. This change is associated with new reporting guidance from OMB to transfer hardware and system software costs to the General Support System/MSSS within the General Administration function.

Operations and Maintenance: $125,000 is requested for Operations and Maintenance IT programs in FY 2012, the same as the FY 2010 Enacted Budget. These funds will be used to maintain the BAS.

Protection: $585,000 is requested for Protection IT programs in FY 2012, an increase of $180,000 over the FY 2010 Enacted Budget. This increase is needed for acquisition of maintenance contracts for the Fire Alarm system and for addressing deficiencies in the existing system. The remainder of the budget is for the steady state costs for maintaining the ISMS.

General Administration: $6,852,000 is requested for General Administration IT systems in FY 2012, an increase of $1,186,000 over the FY 2010 Enacted Budget. The increase provides funding for migration to release 12 of the Oracle FMS; additional funds for Phase 3 of the network modernization project, acquisition of shared services support needed for the Human Resources activities necessary to address the President's hiring reform initiatives and protection of Personally Identifiable Information (PII), and the transfer of hardware and system software costs from the Art Care function per OMB's new reporting requirements. The remaining funds are for the steady state costs of the G&A IT projects. These projects include FMS, IT Security, Enterprise Architecture, National Finance Center fees for Personnel & Payroll processing, and the General Support System.

Included on the following page is the Gallery's FY 2012 Information Technology Budget Request.

	FY 2010 Enacted	FY 2011 Continuing Resolution	FY 2012 Request	FY 2012 Increase/ (Decrease) FY 2010
ART CARE				
Other Services				
Collection Management System (CMS)	$ 60	$ 60	$ 50	$ (10)
Integrated Library System (ILS)	84	84	84	-
Digital Imaging	50	50	50	-
Web Site	238	238	217	(21)
subtotal	432	432	401	(31)
Equipment				
Integrated Library System (ILS)	20	20	-	(20)
Digital Imaging	50	50	50	-
subtotal	70	70	50	(20)
Total Art Care	**502**	**502**	**451**	**(51)**
OPERATIONS AND MAINTENANCE				
Other Services				
Building Automation System (BAS)	50	50	115	65
Equipment				
Building Automation System (BAS)	75	75	10	(65)
Total Operations and Maintenance	**125**	**125**	**125**	**-**
PROTECTION				
Other Services				
Integrated Security Management System (ISMS)	380	380	560	180
Equipment				
Integrated Security Management System (ISMS)	25	25	25	-
Total Protection	**405**	**405**	**585**	**180**

	FY 2010 Enacted	FY 2011 Continuing Resolution	FY 2012 Request	FY 2012 Increase/ (Decrease) FY 2010
GENERAL ADMINISTRATION				
Rent, Communications, Utlities				
GSS - Telecommunications	$ 319	$ 319	$ 319	$ -
Other Services				
Financial Management System (FMS)	818	818	487	(331)
General Support Systems (GSS)	2,787	2,787	3,086	299
IT Security	375	375	447	72
Enterprise Architecture	176	176	182	6
Human Resources	121	121	155	34
subtotal	4,277	4,277	4,357	80
Supplies				
General Support Systems (GSS)	57	57	57	-
subtotal	57	57	57	-
Equipment				
Financial Management System (FMS)	-	-	350	350
General Support Systems (GSS)	1,013	1,013	1,569	556
Human Resources	-	-	200	200
subtotal	1,013	1,013	2,119	1,106
Total General Administration	**5,666**	**5,666**	**6,852**	**1,186**
				$ -
GRAND TOTAL IT BUDGET	**$ 6,698**	**$ 6,698**	**$ 8,013**	**$ 1,315**
SUMMARY BY OBJECT CLASS				
Total Rent, Communications & Utilities	$ 319	$ 319	$ 319	$ -
Total Other Services	5,139	5,139	5,433	294
Total Supplies	57	57	57	-
Total Equipment	1,183	1,183	2,204	1,021
				-
GRAND TOTAL IT BUDGET	**$ 6,698**	**$ 6,698**	**$ 8,013**	**$ 1,315**