

*Minerals Management Service*

*Information Technology  
Strategic Plan  
and  
Information Guide*

*2005 – 2007*



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## **I. Mission Statement**

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The MMS Chief Information Officer's (CIO) mission is to develop and implement a highly responsive Information Technology (IT) organization to support the MMS strategic goals and visions, while using a business-oriented approach. Operationally, the mission is to manage IT as a strategic asset while achieving substantial improvement in efficiency, through sound analytic decision making, and providing exceptional customer service in a secure IT environment.

Robert E. Brown  
CIO

## II. Executive Summary

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The Information Technology (IT) Strategic Plan and Information Guide for the Minerals Management Service (MMS) provide a three-year detailed guide of the goals, strategies and performance measures listed below. The IT goals support the goals of the President's Management Agenda and Secretary Norton's vision for a citizen-oriented governance and effective program management of tomorrow's challenges and beyond. Through collaboration and coordination, a team effort will ensure the implementation of the mission to manage IT as a strategic asset with improved efficiency, in a secure environment for our customers.

The MMS will draw upon existing assets from its employees, along with the tangible benefits of existing IT technology and procedures. The MMS will continue to grow and to evolve into a more cohesive organization with a strong corporate culture of One MMS that unifies the business culture in which the production goals are technology-driven toward meeting the six goals discussed below. These areas reflect current and future IT initiatives.

### **Goal 1: Leverage IT architecture to identify opportunities for cost savings.**

It makes good business sense to align IT with the needs of the business community to ensure that all IT solutions support the Department of the Interior (DOI) missions. Maintaining and developing the Enterprise Architecture is an ongoing process, and it is through good planning and communication that MMS will develop a blueprint to achieve the target areas determined as gaps in the current Bureau and DOI information technology environment. At the same time, the MMS will continue to be an active participant in the support of the planning, development, and implementation of any changes required for the DOI Trust Architecture.

### **Goal 2: To protect the availability, confidentiality, and integrity of MMS information technology resources.**

Information security is an indispensable function and prerequisite in meeting the IT and mission goals. The MMS has established objectives and strategies to implement the IT Security Strategy document which will strengthen the IT security infrastructure, fortify the implementation of security policies to meet or exceed national standards, and develop greater IT security awareness for its employees and customers. By implementing the MMS IT security strategies a more secure computer environment will be developed for both DOI and the Bureau that will insure improved data integrity, employee awareness, and customer confidence.

### **Goal 3: Improve the efficiency and effectiveness of MMS business processes. (E-Gov)**

The MMS recognizes that the expansion of electronic government is an integral part in transforming the way business is done. As a result of the President's Management Agenda and the Government Paperwork Elimination Act (GPEA), MMS is focusing on electronic signature capabilities, electronic invoicing, electronic records management, and a unified exchange of data between the Bureau, DOI, stakeholders and customers, in order to fully enable electronic transactions to meet GPEA standards. These initial procedures ensure that E-Government will continue to evolve in the business practices of MMS and become a vital part of daily business operations.

**Goal 4: Improve the Management of IT Investments.**

Through the Capital Planning and Investment Control (CPIC) process, MMS has outlined a framework to manage its IT investment portfolio and ensure that IT investments support the MMS mission and its programs. The MMS will continue to make significant strides in building an effective capital planning process to guarantee that IT investments are driven by business needs, managed appropriately, and meet cost, schedule and performance objectives, as these are the foundations of building an effective IT investment management process.

**Goal 5: Improve the quality, access and sharing of data between MMS and its customers and stakeholders.**

The MMS has adopted and put into practice data quality (verification and validation) processes based upon the guidance issued by the DOI and OMB. It is continuing to revise, refine, and validate the bureau's performance metrics as a second level evaluation of data quality affecting performance before beginning a more in-depth examination of internal and externally reported data. It is expected that this initial review will be used to identify potential issues, general areas for examination, and to develop the process and procedures for data quality examination.

**Goal 6: Create and safeguard records cost effectively and apply retention schedules according to federal regulations and system enforced rules.**

The records management initiatives focus on automating all pertinent MMS records management processes. Currently MMS is receiving a high volume of electronic data from external users, and this volume will continue to escalate in future years. The MMS will establish data exchange teams to develop exchange formats, including business rules, which will allow industry to electronically submit all regulatory information to the Department and Bureaus.

In addition to these six strategic goals, there are other areas of the MMS picture that are important to the ongoing success of the MMS. These topics, that are included in this document, cover a wide spectrum of interests, but when all pieced together create the final overview of the MMS strategic plan for a successful outlook in meeting burgeoning information technology.

Indeed, there are many challenges that the MMS will face. It has become clear that resources including funding and people are limited, so the MMS will be facing difficult decisions as to where to allocate its limited resources and to ensure appropriate training is provided. The MMS will continue to streamline and integrate existing business processes to better allocate valuable personnel time to reengineer smooth running, customer-oriented business operations.

The success of the MMS mission hinges on its two most valuable resources, its people and its systems. The MMS is highly dependent on IT support to achieve its important goals. The objective of the IT Strategic Plan and Information Guide is to provide a viable framework for the coordinated development, implementation, operation, and integration of IT to enhance the efficiency and effectiveness of the MMS missions and its business goals.

### III. Introduction

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The MMS operates in an environment characterized by constant change. As a strategic support structure and vital service component, we need to continually balance changing customer needs with constantly shifting technology. This situation is compounded by increased focus, at the highest levels, on security, portfolio management and return on investment, customer interaction, and management support, as well as other key drivers. At the same time the IT community is subjected to management, personnel and budgetary constraints.

The Minerals Management Service Information Technology (IT) Strategic Plan and Information Guide provides a blueprint for how the bureau will utilize information technology. The plan identifies both mission achievement and management improvement strategies we will use to support the overall mission. We are committed to simplifying delivery of services to businesses and citizens, minimizing the burden on the public and collecting information only once and reusing it. We will also simplify the business processes and utilize information technologies to reduce costs through integrating and eliminating redundant systems.

To achieve this we will coordinate and collaborate across traditional organizational boundaries to identify ways to use information technologies to improve service delivery to citizens, businesses, and other government organizations, as well as improve the bureau's own internal efficiencies and effectiveness. We will ensure that those customers that interact with the bureau electronically will do so with the assurance of appropriate security and privacy in their communications. We will also apply rigorous management procedures to ensure we are making sound IT investment decisions and managing each project in accordance with government and industry best practices.

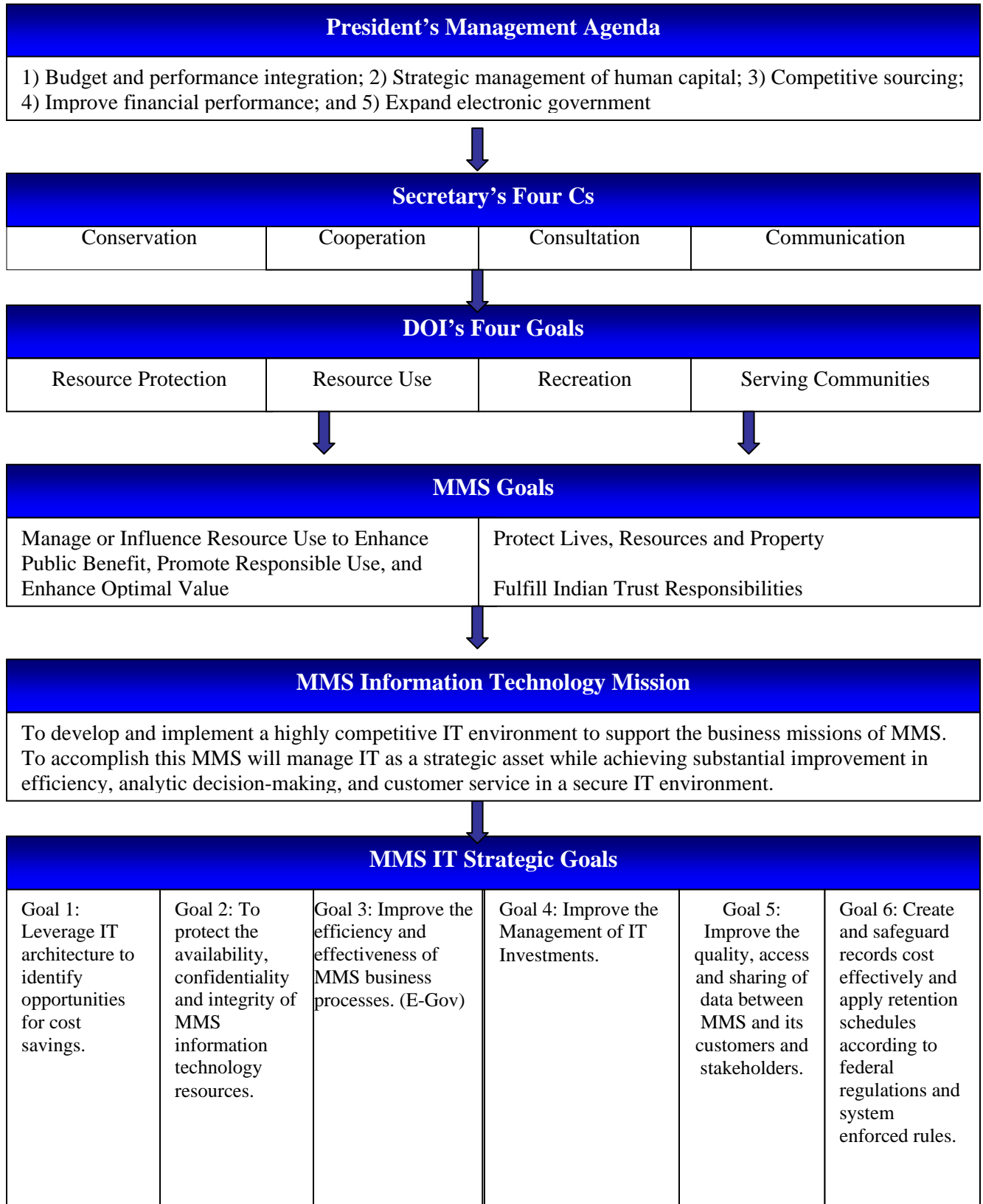
What makes the IT function unique from other business lines is its horizontal nature. It must continuously service all elements of the organization across the board simultaneously. IT management must make decisions that take into consideration both business and technical impacts throughout the MMS.

The MMS operates in an environment where its IT community has little control over its own destiny. Hardware and software technology advances, new mandates, increasing user requirements, and flat budgets, place IT professionals in a reactive posture. The current changing trend of centralization within MMS and DOI, along with increased oversight, congressional mandates, increased security requirements, and the Presidential Management Agenda, all impact how IT functions in meeting its role of supporting the accomplishment of the MMS mission.

To perform meaningful workforce planning and analysis, it is important that we anticipate what the future IT environment will bring. Support is provided by a combination of government employees and contractor staff. The workforce planning will be accomplished by utilizing vision statements and assumptions to map the IT workforce requirements from FY 05 to FY 07 and beyond.



Figure 1 below aligns the MMS mission and focus areas with the DOI goals. They are discussed throughout this document.



**Figure 1: Guiding IT Principles**

## **IV. Organizational Resources**

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There are three major program areas filled with a wide variety of resources within the MMS to ensure that the goal of focusing on customers' needs is met through excellent service and innovative solutions. The program areas are: 1) General Administration, which encompasses Executive Direction, Administrative Operations, Policy and Management Improvement (PMI), and General Support Services; 2) Offshore Minerals Management (OMM), and 3) Minerals Revenue Management (MRM). Each program area supports the others by providing valuable expertise, assistance, and cooperation to integrate the bureau into a "One MMS" culture with regard to providing IT services and resources

### **One MMS Culture**

As MMS continues to grow and evolve, it becomes even more important to develop into a cohesive organization and operate from a corporate perspective. This is the intent of the shift to the corporate culture of One MMS.

To better fulfill and manage all IT functions, the MMS created the Council of Information Management Officials (CIMO). It is comprised of senior managers from each major MMS program area and is chaired by the CIO. The CIMO was established to ensure a bureau-wide approach for addressing and introducing new technologies; implementing bureau-wide IT policies and procedures and to supporting all major information technology and management functions that provides for effective management of IT within the bureau.

The CIMO serves several functions:

- ◆ proposes to the MMS Executive Council broad IT goals and objectives, consistent with the Department and OMB;
- ◆ advises the Executive Council on policies, technologies, and issues that affect the bureau;
- ◆ reviews IT initiatives having significant impact across the bureau and proposes actions that are in the best interests of the bureau;
- ◆ coordinates the evaluation, planning, implementation, and deployment of emerging technologies and IT initiatives to meet organizational needs;
- ◆ ensures effective coordination among the MMS program offices pertaining to IT issues;

- ♦ recommends an MMS position on, and coordinates the implementation of Departmental systems within the MMS; and,
- ♦ reviews and makes recommendations on major IT investment acquisitions.

Within MMS, the CIMO governs all information technology issues. The CIMO is comprised of the CIO, Deputy CIO, the MRM Information Technology Center (ITC) Chief, the OMM Information Technology Division (ITD) Chief, and representatives from PMI and A&B. It meets quarterly and augments these meetings with bi-weekly teleconferences. Supporting the CIMO are several workgroups with specialized technical experience to guide the organization:

- ♦ The Strategic Planning Group (SPG) is comprised of senior technical managers from the three program areas within MMS. It is tasked with providing a high-level strategic vision on technical issues. The SPG is chaired by the Chief Technology Officer (CTO) and is the visionary information technology organization for the bureau. The group analyzes IT direction, trends, and technological change in the federal (and commercial) sector, determines applicability for the MMS, and provides recommendations and proposals to the CIMO for approval. Once projects are approved by the CIMO, the SPG will work closely with the Technical Work Group (TWG) to determine an implementation strategy.
- ♦ The Technical Work Group (TWG) covers a wide range of technical issues, including networks, desktops and servers. This group will work on a variety of tasks, applying appropriate resources based on technical expertise to a wide variety of technical issues. For example, staff with WAN and telecomm backgrounds (i.e. the former WAN team) will primarily take on the networking projects. Staff with client and server backgrounds will focus in that area. By combining these teams into the TWG, the MMS gains cooperative interaction and avoids redundant efforts. Primary direction will come from the SPG, but there will be significant interaction with the Security Work Group (SWG) (e.g. external connection requests, firewall policies, etc.)
- The Security Working Group (SWG) is comprised of the Bureau IT Security Manager (BITSM), the A-130 Project Manager, and the Program IT Security Managers (PITSMs). The focus of the SWG is: developing IT network security policies that affect the entire bureau; providing recommendations to the CIO regarding network security issues, and, performing the duties of a Quality Control Board on firewall-related issues. The SWG works closely with the CTO, SPG and TWG to ensure that bureau IT security is addressed.

## **General Administration**

The General Administration activities provide leadership, direction, management, coordination, communications strategy, and outreach from the area of Executive Direction. The PMI area oversees policy management and strategic planning. Administrative direction and coordination, budget, finance, equal employment and development opportunity, personnel management, procurement and support services, information resources management, and two administrative service centers fall under the Administration and Budget's Administrative Operations. The office of the CIO is also located under this umbrella, as is the General Support Services arena which provides services in support of the entire bureau. This includes providing safe and secure facilities employees can trust while achieving their goals and objectives. Providing leadership, managing resources, developing organization capabilities, building infrastructure and safety, and assuring appropriate delivery of services are the overall responsibilities of the General Administration.

## **Executive Direction**

The Executive Direction is comprised of the Office of the Director (OD), the Office of Public Affairs (OPA), the Office of Congressional Affairs (OCA), and the Office of Document Management (ODM). The OD includes the Director, the Deputy Director and their immediate staff and is responsible for providing general policy guidance and management of the MMS organization.

The OPA is responsible for broad communications strategies and outreach. Its goal is to ensure that a coordinated and consistent message and the effective exchange of information takes place with all customers and stakeholders.

The OCA serves as the primary point of contact with Congress. The OCA is responsible for the coordination of all communication and outreach with congressional offices, as well as providing a coordinated and consistent message and the effective exchange of information.

The ODM is responsible for managing all of the official documents of the OD. In addition, this office ensures the timely development and coordination of MMS documents requiring review, action, or signature by the Director, Deputy Director or Departmental officials and that documents, correspondence, or actions under review are complete, accurate, and timely.

## **Administration and Budget (A&B)**

This section provides for oversight of all administrative activities within the MMS. This oversight ensures compliance with laws relating to administrative activities. It reviews, interprets, and implements the Federal executive branch administrative policies and procedures; and develops appropriate guidance to ensure compliance with Department,

Office of Management and Budget (OMB), General Services Administration (GSA), and other executive branch administrative polices and regulations.

Also located within A&B is GovWorks, a Federal Acquisition Center comprised of trained, knowledgeable contracting officers and their support teams. GovWorks is a multi-billion dollar franchise fund set up by Congress to develop and offer better ways of buying products and services for all government agencies. GovWorks utilizes the principles of business-like customer service, expertise tailored to the client's project, all at a competitive cost, to award contracts in both a cost-effective and timely manner.

The A&B vision is to:

- ◆ Embrace the power of new ideas and innovative solutions,
- ◆ Dedicate to excellent service, and
- ◆ Focus on customers.

The A&B also provides a proactive homeland security program to ensure nationwide protection of employees, visitors, and facilities. The bureau's goal is to be prepared and have appropriate emergency management plans in place for any unexpected event or unforeseen circumstance that can cause significant disruption of mission functions.

### **CIO Office Implementation**

In complying with Secretarial Order 3244, the MMS hired a contractor, specializing in information technology, to study the IT organization. The objective of the study was to develop an IT corporate strategic plan that would create a highly competitive IT organization for the next 20 years. The contractor analyzed the existing documentation, conducted interviews, reviewed comparable organizations and best practices, and based upon their extensive expertise, made recommendations to the MMS as to how to best align the resources to become a high-performing IT organization.

Based on the recommendations by the contractor, the MMS restructured the IT environment. The MMS created a CIO position which also serves as the Associate Director for A&B. The Information Management Division (IMD), headed by the Deputy CIO, was created to help the CIO accomplish the MMS IT goals.

### **Information Management Division (IMD)**

A Deputy CIO (DCIO) position was created within the IMD. The DCIO serves as the Executive Officer of the Office of the CIO, providing overall management of the day-to-day IT operations. A Chief Technical Officer (CTO) position was also created that provides both administrative and enterprise operational support for the MMS. Four branches were created under this new structure to ensure a high-performance best practice IT organization: Capital Planning and Information Policy Branch (CPIP), A-130 Compliance Branch, Enterprise Operations Branch (EOB), and the Enterprise

Architecture Branch (EAB). The CTO oversees the EAB and the EOB. The CPIP and A-130 Branches report directly to the DCIO.

- ◆ **Capital Planning and Information Policy Branch (CPIP).** The CPIP plans, develops and disseminates bureau-wide information technology and information management policy, as well as a wide variety of functions pertaining to Federal information technology management. The branch manages the following:  
(1) Bureau capital asset planning program by performing IT investment portfolio analysis; managing the review and submission of MMS program Business Cases; developing the Bureau Exhibit 53 (IT portfolio); and maintaining liaisons with the DOI regarding MMS information technology investments; (2) the bureau FOIA Program that is an ongoing effort to implement, maintain, and monitor appropriate systems and procedures designed to facilitate the efficient and effective processing of FOIA requests; (3) the MMS Records Management Program that coordinates records management policies, guidance, procedures, and major records management initiatives. The MMS policy is to properly identify record keeping requirements and to effectively and efficiently manage needed records throughout their life-cycle regardless of medium; (4) the MMS Privacy Program, which exists to maintain and protect the personal information belonging to individuals, (5) the Government Paper and Elimination Act (GPEA) which helps program offices comply with the E-Gov initiative to provide electronic business transactions when practicable, and (6) the project management program which establishes policies and guidance for the effective management of IT projects.
  
- ◆ **A-130 Compliance Branch.** The Office of Management and Budget (OMB) Circular A-130 establishes policies for the management of Federal information resources. The circular was recently updated and places increased emphasis on security of information systems, enterprise architecture and capital planning and investment control. To ensure that MMS had policies, procedures and programs in place that were compliant with the circular, the A-130 Compliance Branch was established. This branch develops and interprets policies and procedures that implement DOI and federal IT security policies within MMS for site security, network application security, network system software security, major application security, network system access security, continuity of operations, the risk management program, and audit and evaluation of IT security. This branch is also responsible for leading certification and accreditation activities for systems, as well as participating in risk assessments and management reviews of the bureau's systems and networks, identifying security issues, and recommending mitigation or countermeasures. The branch also manages and maintains the MMS A-130 compliance documentation library, including the system security plans, asset valuations, business impact analyses, risk analyses, and all other required documentation.
  
- ◆ **Enterprise Operations Branch (EOB).** The EOB is responsible for managing the effective operations and maintenance of the MMS wide area and local area

networks; managing centralized bureau external wide area network access using firewalls, Virtual Private Networks (VPNs), and remote access dialup services; and oversees MMS System and Network Administrators as they plan and implement enhancements to the bureau's local and wide area networks. The EOB provides support for Microsoft Windows administration, system backups, e-mail, and desktop support in addition to local and national help-desk support. The EOB also implements security policies and procedures as defined by the SWG and conducts extensive network security monitoring and testing, extensive intrusion detection, and Internet content filtering.

- ♦ **Enterprise Architecture Branch (EAB).** The MMS Chief Architect guides the managers in selecting, acquiring, and managing the best possible solutions to their IT support needs, ensuring that the business is carried out effectively and cost-efficiently. The EAB lends their expertise in the area of required infrastructure to support those solutions, and must align its activities with both the DOI and the business community. They are responsible for the creation of comprehensive strategic and tactical IT plans to support the long-term business needs of the MMS. In addition, they design and develop highly technical architectural plans, which include hardware, software, network, data and other dimensions to cover all aspects of information technology. The EAB is also responsible for research and development efforts to ensure the effective implementation and function of new technologies into the current IT infrastructure.

### **Policy and Management Improvement (PMI)**

PMI reports to the Director for matters relating to the analysis of emerging policy issues, strategic planning, performance measurement and management, program assessment and evaluation, Activity Based Costing (ABC), and other management improvement matters and policies. PMI is also responsible for the decisions and management of appeals concerning royalty valuations, as well as the MMS rule-making process.

The responsibilities specific to PMI include: leading the effort to write the MMS strategic plan, the annual operational plan, as well as other tasks to provide strategic direction to the agency; leading the DOI's performance measurement and management efforts, including coordination of performance measurement and reporting to external groups, such as the DOI and OMB; management of MMS's evaluation and assessment capability to ensure optimum program performance and success, including the Management Control Review (MCR) program; conducting policy analysis and special studies in support of new and existing MMS responsibilities; development, implementation, and analysis of MMS's ABC system; and the Secretary's four C's initiatives. (Refer to Figure 1.)

PMI provides strategic input to the bureau's IT strategy that defines how information technology is utilized by MMS now and in the future. Collaborating across MMS, PMI assists in determining how information technology will support the organization's mission, goals, and strategies.

## **Minerals Revenue Management (MRM)**

The MRM Program is a high-visibility, proactive minerals revenue program and has a broad base of constituents including State Governments, Indian Tribes, and individual Indian mineral owners, and companies within the extractive minerals industry. The MRM collects, accounts for, and disburses more than \$6 billion yearly in revenues from offshore Federal mineral leases and onshore minerals leases on Federal and Indian lands.

The MRM's Information Technology Center (ITC) consolidates IT within MRM. The ITC is organized to parallel the MMS CIO organization. The Manager of the ITC reports to the Deputy Associate Director (DAD) for MRM and lends support to the MMS CIO.

The ITC has a staff and four branches or groups, which perform the following functions. The ITC Staff provides strategic planning, contracts and procurement, cost management, performance measurement, and administrative support.

- ◆ The Architecture Group consists of the group manager's staff, which concentrates on electronic commerce standardization and operations, and two teams. 1) The Architecture Management Team, which maintains the MRM Architecture, including coordination with MMS and the Department, particularly for Trust Architecture issues, technology planning and integration, systems life-cycle management, and electronic records management; and 2) The Data Administration Team which manages data resources, maintains MRM data standards establishment and enforcement, as well as maintenance of the MRM metadata repository.
- ◆ The Security and Controls Group performs security planning and MRM policies, including coordination with the bureau and DOI security functions, operations and intrusion detection, access control systems, application security, incident response investigations, and disaster recovery coordination.
- ◆ The Operations and Client Services Group consists of the manager's staff and three teams. 1) The Infrastructure Team performs change management, server oversight, enterprise licensing, and asset management; 2) The Client Team performs Citrix operations coordination, desktop support, including building and maintenance of the MRM specific software tiers, and customer support; 3) The Telecommunications Team which performs network oversight for MRM with emphasis on providing support to States and Tribal users.
- ◆ The Information Management Group maintains the MRM library, performs MRM records management, FOIA electronic statistical analysis and minerals revenue projections, and does MRM's Internet and intranet publishing.

MRM will primarily be in a steady-state mode for its major application systems. With the implementation of its Royalty-in-Kind (RIK) subsystem in 2003, the MRM has



completed the implementation of its reengineered systems and will now be concentrating on periodic upgrades to its COTS-based infrastructure that began in 2004, and incremental improvements in operation through logical extensions of its major systems.

MRM implemented a Program Management Office (PMO) in December, 2003. The PMO creation fulfills the need to bring professional, reproducible, consistent IT project management to all projects within MRM. A part of this need was to implement and monitor the IT governance framework to ensure MRM compliance with Capital Planning Investment Control (CPIC) policies, objectives, and processes. This includes ensuring that IT investments are linked to mission-critical goals and budget initiatives and are managed in accordance with validated business processes. The PMO oversees and manages the functional aspects of implementing, maintaining, enhancing, and upgrading all of MRM's enterprise-wide systems. The PMO also provides system analysis support for all MRM divisions serving as a critical link between the newly formed MRM IT Governance Board (ITGB), functional users, contractors, and IT specialists. The ITGB responsibilities include assuring continuation of daily systems operations while simultaneously implementing major system modifications and enhancements.

### **Offshore Minerals Management (OMM)**

The responsibilities of OMM are to manage mineral exploration and development on the Outer Continental Shelf (OCS) lands in a manner that is safe, environmentally sound, prevents waste, and provides a fair return for the public resources. These responsibilities are carried out in a set of programs known as Leasing and Environment, Resource Evaluation, and Regulation of Operations (ROO). The first two deal primarily with activities involved in classification, evaluation, and leasing portions of the OCS for mineral development. The third deals with regulation of the lessee or operators' activities on those leases.

OMM's Information Management Program (IMP) has two components:

- 1) The ITD is responsible for policy, standards, strategic and tactical planning, security and contingency planning, and information technology acquisition. The ITD is also charged with design, development, implementation, and maintenance of the Technical Information Management System (TIMS). The TIMS project was initiated in the early 1990's to replace and upgrade all Federal Information Processing resources that support the OMM program.
- 2) IT Computer Centers at the Gulf of Mexico (GOMR), Pacific, and Alaska OCS Regions and the Herndon headquarters design, install, and maintain production systems, support local users and provides technical consulting services for and integration of bureau programs.

From FY 2005 to FY 2008, the OMM IT community, as well as the OMM customers, will be in transition with regards to its major application systems. The TIMS will be phasing out while OCS Connect, the major applications system designed to reengineer

business processes, will be undergoing development and incremental deployment until reaching full operational status in FY 2008. Although the COTS products will be employed wherever possible for OCS Connect, it is certain that customizations will be required. It is also anticipated that some applications will need to be developed specifically for the Herndon office.

It is critical that OMM maintain a solid foundation of government IT and non-IT professionals to understand and manage the technical, operational, and administrative aspects of the systems developed, acquired, and employed by the OCS Connect initiative. Although OMM will rely heavily on contractor support, it also must have knowledgeable government personnel to ensure that the technical, financial, performance, security, and architectural aspects of the systems continue to meet the many mandated requirements.



Drilling for Mineral Development

## V. MMS and DOI Goals

Utilizing the management goal guidelines of the Secretary, in combination with the President's Management Agenda, MMS concurrently embraces a number of key management concepts that support good business practices to deliver results that matter to the American public. These concepts drive the MMS to produce good sound performance goals and measures. It is also imperative for the MMS to align these goals with the DOI's objectives. The following concepts help to create a strategic vision for the MMS for the next five years.

### Executive Goals

The Secretary outlined a vision for effective program management at the DOI that is organized around the four C's: Conservation through Cooperation, Consultation, and Communication. Secretary Norton's management reform strategy is based on four key principles:

- 1) **Customer Value:** Ensuring that all of the DOI activities add value and ensure effective use of resources.
- 2) **Accountability:** Establishing clear performance measures and holding DOI managers and employees accountable for results.
- 3) **Integration:** Identifying opportunities to avoid duplication and achieve economies to enhance customer service and efficiency.
- 4) **Modernization:** Using technology to work smarter and provide single points of access to Interior's services.

The MMS adheres to these principles and integrates them into their strategic planning by keeping these goals at the forefront of IT strategic planning.

### PMA Goals

The President's Management Agenda (PMA) contains five government-wide goals to improve Federal management and deliver results that matter to the American people:

- 1) **Competitive Sourcing** asks the government to embrace competition, innovation, and choice;
- 2) **Strategic Management of Human Capital** calls for the government to be proactive in recruiting creative and talented individuals.
- 3) **Improved Financial Accountability** calls for the government to better track its funds and conduct timely audits.
- 4) **Expanded E-government** calls for the government to empower citizens to use the Internet and other IT tools to obtain the desired information.
- 5) **Budget and Performance Integration** calls for the government to be results-oriented rather than process-oriented.

In keeping with the spirit of the PMA, the MMS contributes to all five components of the government-wide goals to improve Federal management. These factors direct the opportunities and challenges within the MMS and go hand-in-hand with Secretary Norton's vision for effective program management.

### **Competitive Sourcing**

The MMS is committed to obtaining services from the private sector when it is cost effective and will not impact the quality of the products and services that it provides to its constituents. The MMS supports the concepts of the Federal Activities Inventory Reform Act of 1998 (FAIR Act) which provides a process for identifying the functions of the Federal Government that are commercial in nature.

The MMS IT organization's commercial positions are always being studied, and when a need arises for additional resources, contracting is the preferred option. Recently, the MMS directly converted to "contract" many IT functions, and plans to continue this process during the next several years.

### **Strategic Management of Human Capital**

In July, 2003 the MMS completed a year-long effort to analyze the MMS workforce and drivers expected to affect the work of the bureau. The MMS has completed the first stages of planning for the workforce and succession management. Gaps in the IT workforce were identified by each program area in the MMS, particularly in the 2210 (IT Specialist) series. Gap worksheets provided managers the opportunity to examine the current workforce against expected workload drivers through the year 2007. These gaps will be addressed through both FTE and contractor support. To address workforce planning challenges, the MMS published its 2003 – 2007 Workforce Plan, which identified human capital management strategies, implementation, and evaluation processes. The MMS now updates the workforce plan quarterly and reports on the status of previously identified gaps and also reports on new gaps both staffing and skill related. The MMS workforce planning coordinator is working directly with the IT strategic planning coordinator to address the overall bureau status of IT workforce planning requirements. The quarterly plan updates will be the vehicle used to capture the status and progress of meeting IT workforce planning challenges.

Knowledge management is also part of the President's Management Agenda initiative for Strategic Human Capital. It is a critical success factor in OPM's Human Capital Assessment and Accountability Framework, and is included in Measure 4 of the U.S. Department of the Interior Human Capital Scorecard. Within MMS, it is part of the Workforce Plan under Solutions and Implementation: "Integrate knowledge and learning management initiatives with the MMS Workforce Plan." This IT Strategic Plan addresses the information technology component of knowledge management under "Factors Affecting IT".

## **Improving Financial Performance**

Improved Financial Performance was a key reason for implementing the MMS reengineered business processes and support systems. The MMS has an excellent record of financial performance in the area of royalty collections and disbursement and has received unqualified audit opinions consistently in this area. Over the past few years, the MMS has reengineered its business processes to improve financial performance, and its reporting processes to include use of web-based reporting by industry, which greatly reduced paper reports, and reporting error rates. Financial statements, which were issued quarterly, accelerated the end-of-year reporting with the elimination of off-line processes. The statements now assure improved accuracy, and the timely compliance with OMB and Treasury requirements. In FY 2005, MMS will transition to the new Financial and Business Management System (FBMS) that meets all current federal financial system standards. The usefulness of the system has been enhanced to meet the needs of comparative financial reporting, reporting on financial performance measures, and increased financial and performance integration.

## **Expanded Electronic Government**

E-Government has significant implications for the way government agencies conduct business and deliver services to the public. E-Government can enable MMS to enhance its resource use and mineral revenue activities in a variety of ways, primarily through improving access to DOI information and by permitting online activities.

Using online tools, MMS will provide customers, partners, and citizens with a single-point of contact to conduct transactions, obtain resource use data, and provide feedback and other information. There is great potential for timely, cost-effective service on a national level.

E-Government strategies to help achieve this potential in future years include:

- ◆ Tools that enable efficient access to, and use of, natural resources through on-line leases and permits;
- ◆ Streamlined and integrated revenue collection and disbursement tools that allow online tracking, monitoring, communication, and payment;
- ◆ Robust, responsive electronic models to assess the values of land, mineral, and energy resources to optimize their value;
- ◆ Tools to coordinate with other Federal agencies, State, local and Tribal governments, private sector partners, and citizen stewards, to offer appropriate technical assistance and foster two-way information exchange;
- ◆ Tools that increase public outreach to stakeholders, including communication of responsible use policies, and collection of customer feedback.

## **Budget and Performance Integration**

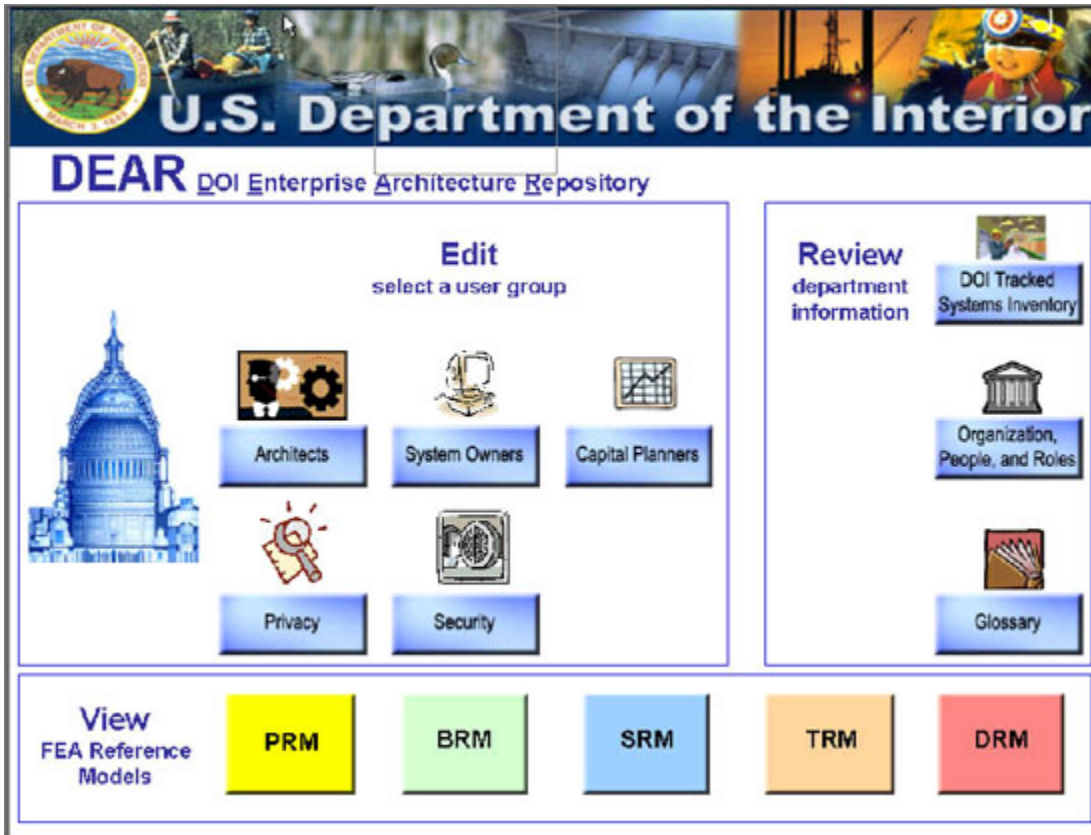
The MMS has fully integrated its performance and budget process for information technology. Exhibits are prepared according to DOI/OMB guidance and include: performance goals and measures, enterprise architecture (FEA reference models), bureau mission statements, alternative analysis, project spending plans (cost/benefit plan), risk assessment, acquisition strategy, investment management, and security. IT spending inventories fully reconcile with annual budget requests.

The MMS work activities were designed to allow MMS managers to evaluate budget decisions based on cost and performance. These activity costs are exported into the MMS ABC model, which allows MMS to analyze and map costs to its performance measures.

For FY 2004, MMS revised its work activities to enable the bureau to map to the new DOI ABC system and the Department's strategic plan. The bureau ABC system is now responsive to high-level outputs requested by the DOI. Presently IT costs are measured consistently across the DOI. Implementing an ABC/M system that best suits the needs of the bureau and the DOI requires continual refinement and improvement over future years.

## **Performance Goals and Measures**

The IT system performance measures are critical for demonstrating the need, value, and impact of systems on overall program performance. The OMB has taken the lead for the development of a government-wide methodology of IT performance measures for government systems through the Performance Reference Model (PRM) and the corresponding Business Reference Model (BRM) developed by the Federal Enterprise Architecture Program Management Office (FEAPMO) at OMB. The MMS, in conjunction with the DOI, has developed a corresponding model, based upon the PRM, the DOI Strategic Plan, and the MMS Performance Architecture that meets the requirements for demonstrating the value added by IT. The model, called the Department Enterprise Architecture Repository (DEAR) is populated with bureau system data. Figure 2. below depicts the web page for DEAR.



**Figure 2: DEAR web page**

In the MMS model for IT performance measures there are two categories of performance. The first category contains measures relating to the implementation and development of a system. The second category covers the system's operational measures. Development measures are generally used to define whether or not a system as developed meets the design specifications, and whether the system was constructed on time and within budget. These development measures are to track and evaluate the management and progress of the development and implementation of a system. The OMB PRM currently does not address the need for implementation and development measures, but these types of measures are critical for evaluating non-mature systems. Future iterations of the model are expected to cover this area.

The second category of measurement for IT systems is the operational measures. Operational measures are the measurement of the inputs, outputs, processes, intermediate outcome measures and end-outcome measures of the operational system and the corresponding programs that it supports. At the input, output, and process level, the metrics are system specific and correspond to the technology, process, and activity level of the PRM line-of-sight methodology. Intermediate outcomes should not necessarily be system specific and would correspond to the customer results and perhaps the mission and business results aspects of the PRM pyramid. This is where it would be expected that the impact of the system would be demonstrated on making program processes more

efficient and effective. End outcomes would not be system specific and would correspond to the strategic outcomes in the PRM model.

All MMS IT systems have a fully developed performance architecture that demonstrates the success at development and implementation of a system, if it is a system in development, and has operational measures capable of demonstrating both a direct positive output impact on the program(s) supported by the system and the indirect positive outcome impact on the program for mature systems. These architectures are continuously being updated to fulfill bureau requirements.

**How the MMS Aligns with OMB and DOI Goals**

Table 1 below shows how the MMS IT Goals map to the OMB and DOI Goals.

**Table 1: IT Goals Linked to OMB and DOI Goals**

	Goal 1: Leverage IT architecture to identify opportunities for cost savings.	Goal 2: To protect the availability, confidentiality and integrity of MMS information technology resources.	Goal 3: Improve the efficiency and effectiveness of MMS business processes. (E-Gov)	Goal 4: Improve the Management of IT Investments.	Goal 5: Improve the quality, access and sharing of data between MMS and its customers and stakeholders.	Goal 6: Create and safeguard records cost effectively and apply retention schedules according to federal regulations and system enforced rules.
<b>DOI EXECUTIVE GOALS</b>						
Customer Value				X		
Accountability				X		
Integration	X					
Modernization	X					
<b>PMA GOALS</b>						
Competitive Sourcing						
Human Capital			X			
Financial Accountability						
Expanded E-Gov			X			X
Budget and Performance Integration						



	Goal 1: Leverage IT architecture to identify opportunities for cost savings.	Goal 2: To protect the availability, confidentiality and integrity of MMS information technology resources.	Goal 3: Improve the efficiency and effectiveness of MMS business processes. (E-Gov)	Goal 4: Improve the Management of IT Investments.	Goal 5: Improve the quality, access and sharing of data between MMS and its customers and stakeholders.	Goal 6: Create and safeguard records cost effectively and apply retention schedules according to federal regulations and system enforced rules.
<b>MMS GOALS</b>						
Manage or Influence Resource Use to Enhance Public Benefit, Promote Responsible Use and Enhance Optimal Value	X	X	X	X	X	X
Protect Lives, Resources and Property	X	X	X	X	X	X
Fulfill Indian Trust Responsibilities		X			X	X

The DOI and OMB developed the current IT policies and procedures and the MMS intends to align its goals to follow suit, particularly in the following areas:

### **An Enterprise Architecture Approach**

The Clinger-Cohen Act requires Federal agencies to use an Enterprise Architecture (EA) approach to IT management. The EA approach is a comprehensive view of what an organization does, how it does it, and how IT supports it. The OMB is leading the development of the Federal Enterprise Architecture (FEA), the DOI OCIO is leading a parallel effort at the Department, and the MMS is building an EA at the bureau level.

An EA will make possible horizontal (cross-Federal and cross-bureau) and vertical (Federal, state, and local governments) collaboration and communication with respect to IT investments.

Specific goals have been established for achieving the E-Government strategy by OMB:

- ◆ Simplify work processes to improve service to citizens.

- ◆ Use the annual budget process and other OMB requirements to support E-Government implementation.
- ◆ Improve project delivery through development, recruitment and retention of a qualified IT workforce.
- ◆ Continue to modernize agency IT management around citizen-centered lines of business.

The MMS has the same goals in its implementation of an EA and E-Government projects. Under the MRM Reengineering and the OCS Connect projects, the intent is to simplify processes and improve interactions with stakeholders and customers. The MMS will continue to look for ways to do this as it moves on to other IT and non-IT development efforts.

## **DOI E-Government Strategic Framework**

The new DOI E-Government framework defines a common mission and purpose for the use of E-Government throughout DOI. It establishes E-Government goals and objectives that foster a more citizen-centered, efficient, and results-oriented organization.

The E-Government Strategic Framework defines six E-Government Goals for the DOI. The first four goals: Resource Protection, Resource Use, Recreation, and Serving Communities, correlate to the goals of the Department's Strategic Plan and reflect the mission-oriented nature of E-Government at the DOI. For MMS, this is focused on the energy and non-energy goals under Resource Use and the Indian Trust Management goal under Serving Communities. The fifth goal, Management Support, emphasizes the improvement in internal efficiency that E-Government can provide. The final goal, Organizational E-Government Capabilities, identifies the special capabilities that must exist to create an effective E-Government program.

## **Future Strategic Thinking**

The OMB and DOI will be focusing on these primary areas over the next five years, by using continued development, refinement and application of the Reference Models, and the merging of cross-bureau and cross-agency systems to eliminate duplicative and wasteful systems.

The DOI Reference Models (Business, Performance, Service, Data, and Technical) will continue to be refined and applied. For MMS, this means that the IT and non-IT performance measures under the DOI and MMS versions of the Performance Reference Model (PRM) will need to be able to show a complete line-of-sight performance impact relative to the investment and continued operation of the system. It also impacts MMS in that data, both IT and non-IT, will have to meet the requirements for validation, verification, and other standards outlined under the Technical Reference Model (TRM).

The second major thrust during the next three years for DOI and OMB will be to merge similar bureau and agency systems to reduce duplicative efforts. For OMB, this will be displayed in the next set of Quicksilver E-Government initiatives that will be implemented in the next couple of years. Most of these will focus on parallel administrative processes that are the same or similar across a large number of federal agencies. For DOI, the focus will be on the development of an Enterprise Services Network (ESN) and the continued development of the DOI Financial Business Management System (FBMS).

## **Strategic Vision Implementation**

Like the DOI, the MMS is undertaking a new approach to its planning efforts. The MMS is developing the *MMS Perspective*, a document that provides the strategic framework for MMS. The *MMS Perspective* is directly linked to the Department's Strategic Plan and will serve as a public, corporate overview document. It will be ready for FY 2005 planning purposes.

The MMS is also developing a second corporate planning document, the annual internal operating plan. The bureau will issue its new annual internal operating plan for FY 2005 under the new DOI strategic plan. The annual internal operating plan will be used as a guidance document that contains performance measures and strategies that are clear and useful to supervisors and managers at all levels of the organization. When completed, the annual plan will present intermediate and final outcome measures that tie directly to the DOI's goals, as well as set annual and five-year targets for achieving goals, and provide a comparison to this IT Strategic Plan.

The plans will also contain measurable productivity of program activities that are tied to costs within the ABC system, making MMS more results oriented while providing a mechanism to hold managers accountable for these results.



Land drilling rig on a man-made gravel island, Beaufort Sea, Alaska

## **VI. Factors Affecting IT**

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The emerging technologies, in addition to numerous internal and external factors, necessitate the direction taken by the MMS in both streamlining requirements and creating platforms for sharing information, while increasing customer service. The goals that the MMS will follow support sound strategic planning and good business sense for both the MMS and its stakeholders.

The following factors affect how IT is managed and lead to best practices in order for the MMS to serve our variety of customers and stakeholders.

### **Resource Challenges**

Although MMS will increasingly rely heavily on contract support, it must also have a cadre of highly knowledgeable government personnel to ensure that the technical, financial, architectural, performance and security aspects of the systems continue to meet business and mission needs. In addition, government staff members will be able to ensure the appropriate oversight of the contractors and the many newly mandated IT requirements. The MMS needs to have government staff in key IT areas including policy, capital planning, systems architecture, project and performance management, data management and security to accomplish this oversight.

### **Management**

Developing strategies for integrating, implementing and managing IT systems and processes is vital and can make or break an organization. The MMS has developed plans and mandates to address this concern. Three particular improvements in this area are: establishment of the IT Investment Review Board (ITIRB); restructure of the Council of Information Management Officials (CIMO); and the integration of project management.

The following discusses in detail each of the three development areas.

- ♦ **ITIRB** - This Board was created to provide a mechanism to coordinate bureau-wide planning for IT projects and to monitor the progress of the projects. The Board advises the Director of the MMS on the conduct of IT activities so that current and future information systems support the goals and objectives of the bureau. The board meets quarterly to review large IT acquisitions; review system development requests; review and approve/disapprove capital asset plans and business cases; evaluate quarterly milestone review documents to determine the viability of IT projects; and to identify significant IT related risks. The Board is comprised of the Deputy Director and Associate Directors as voting members; the Chiefs of the Information Management Division, Budget Division, and Procurement Division are ex officio nonvoting members.

- ♦ **CIMO** - The council was established to address and introduce new technologies, implement bureau-wide policies, and to support all major information technology and management functions that provide for effective management of IT within the bureau. More information regarding the CIMO is described under the section “One MMS Culture”.
- ♦ **Project Management** – Project management is a systematic approach that uses knowledge, skills, techniques, and tools to plan and control a product. The major goals of project management are to be within scope, within budget, and on schedule. The need for improved management of MMS’s FY 2004 \$57 million in IT investments requires the implementation of a comprehensive IT project management framework. This framework will facilitate better coordination, management and visibility of IT investments. Project management is addressed in the capital planning goal.

### **Enterprise Architecture Effort**

The Enterprise Architecture (EA) is never complete, as it is an on ongoing process. During the development of the EA, the MMS recognizes that there are gaps in the current technical environment that need to be filled to meet the strategic needs of the bureau, and be in alignment with the DOI. The gap analysis asks the fundamental question “What key changes must be undertaken to achieve the future target architecture?” The answers to these questions are the gaps between the current and the future environment that will enable MMS to develop a blueprint to achieve the target architecture. For EA to be a meaningful tool for decision-making, the gaps will need to be identified and addressed regularly. EA is explained in greater detail under the MMS architecture goal section.

### **Knowledge Management**

The MMS’s knowledge management program will focus on knowledge sharing and making accessible MMS’s explicit and tacit knowledge. The explicit knowledge, such as reference manuals, regulations, seismic data sets, well logs, permits, and plans will be captured and stored in MMS’s shared data environment. Tacit knowledge, such as lessons learned will also be captured and stored for reference. Knowledge categories and user screens will be created based on program area and employee needs. A knowledge directory will be created to list subject matter and stakeholder experts by program areas.

An online collaborative environment will support real time knowledge sharing among MMS program areas and external stakeholders. The MMS is currently storing a significant volume of information into the online library where the intranet search engine can be used. There are also yellow pages employees can use to find subject matter experts.

Future endeavors include the following. MMS is exploring the possibility of developing a knowledge management portal in conjunction with the e-gov portal used now in certain MMS offices. We are working toward implementing content management software for

the intranet. The importance for knowledge management would be in using categorization and taxonomy for searching. Some software packages actually perform automatic categorization. Also in the intellectual capital realm is a Learning Management System which DOI is planning to obtain in FY 2005 for implementation by all bureaus.

### **Data Exchange**

Ready access to accurate, consistent, and combinable data is essential to the overall MMS mission. Federal agencies and industry have endeavored to build the data model and infrastructure required for online exchange of data between disparate information systems and stakeholders. The problem is typified by numerous physical networks of people, paper-intensive processes, and the amount, type, and complexity of information involved in the oil and gas decision-making and development processes.

The MMS has “de facto” data stewards. “De facto” stewards are not formally assigned the responsibility but rather take on the responsibility of managing the data per need and interest. To effectively manage the MMS information assets – data, content and knowledge – it is important to assign accountability for the quality of these assets; accountability for defining information assets according to the way the business intends to use them; accountability for making certain information assets re-used rather than re-created; and accountability for making certain the data assets are of high quality both in terms of design and accuracy. Informal stewards already exist in MMS, and those individuals have accountability for the data assets. This process should be formalized. People should be accountable for defining, creating and managing data and its quality. Fully implemented stewardship brings out the best qualities of data administration, data re-use, efficiency in data integration and application development. Understanding how data is used across the bureau and knowing who in the bureau is accountable and responsible for managing this data are major steps toward the improvement of enterprise data management.

### **XML**

Extensible Markup Language (XML) provides a foundation for creating documents and document systems. XML operates on two main levels. First, it provides syntax for document markup. Second, it provides syntax for declaring the structures of documents. The XML is clearly targeted at the web, though it certainly has applications well beyond it. The XML's simplicity is its key selling point, and perhaps its strongest feature. XML can be used on a wide variety of platforms and interpreted by a wide variety of tools. Because the document structures behave consistently, parsers that interpret them can be built at a relatively low cost in any number of languages. The XML supports a number of key standards for character encoding, allowing it to be used all over the world in a number of different computing environments.

The XML will become a common thread uniting a wide variety of applications, smoothly managing data across distributed systems. It also opens up the prospect of reusable page content. With appropriate supporting applications, XML data could be extracted from a

document and loaded into a corporate data store, making it easy to manipulate the information later. It provides a core set of standards to share documents and is a markup language for documents containing structured information. The XML's potential as a universal transfer format, allowing even applications of different types to exchange data smoothly, holds as much promise as its role as a document system.

### **Portals**

Part of the MMS internal plan will be the use of portals. The primary benefit of deploying a portal is self-service access to information. Using a portal will provide a secure, single point of interaction for users to access diverse information, services, and business processes personalized to their specific needs and responsibilities. The portal will empower users to find documents and use applications on their own, and keeps employees connected. It helps ensure that employees stay connected with stakeholders, have the ability to communicate effectively and efficiently, and have access to information so that each employee has the data they need.

### **Commercial Off The Shelf (COTS) Software**

MMS must assess its current and future IT environment to align them with changing oil and gas industry practice and trends, customer needs, and public policy. To do this, MMS must impose reporting requirements on the oil and gas industry to collect, analyze, and disseminate data necessary to regulate the industry. The MMS must look at investing in standard core infrastructure in such areas as data exchanges, industry data models, web-enabled systems, document management software, and security and business processes. This is to be accomplished primarily through the use of established COTS software.

The OMB and the DOI have recently required that bureaus use primarily COTS software and integrated COTS software, resulting in less software development and cost. The MMS will periodically conduct market research of commercial and government applications that might be used in place of custom software. Also, MMS will collaborate with other DOI bureaus to leverage solutions whenever possible.



## **VII. Management of Information Systems**

The MMS major systems have, or will go through, reengineering processes fulfilling a better business approach. The MMS has been streamlining and integrating its business processes to better allocate valuable personnel time to reengineered, smooth running, and customer-oriented business operations. The DOI and MMS will need efficient ways to process complex requests and reporting to ensure safe and environmentally sound development and accurate and timely collection and distribution of revenues. By following a customer-and-business-first approach, MMS recognizes that technology is an enabler and major improvements can also be realized by streamlining current business processes; providing better service to customers; implementing new processes; addressing organizational design issues; establishing performance measurement procedures; enhancing communication; and aligning business operations with strategic plans that will provide the most benefit. The MMS has or is in the process of updating its major information systems to support this process

The following areas capture the essence of the MMS information systems: Major Application Systems, MMS Administrative Systems, and Departmental initiatives captured by the MMS.

### **Major Application Systems**

#### **Mineral Revenue Management (MRM) Support System**

The MRM Support System consists of four subsystems: Financial, Data Warehouse, Compliance Asset Management, and RIK. The Financial subsystem accounts for all Federal, State and Indian minerals rents, royalties, bonuses and their distribution/disbursement to the Treasury, States and Indian tribes. The revenues transferred to the States and Indians are an important source of income to these stakeholders and are used to fund schools, infrastructure and many services. Disruption of these transfers may adversely affect all recipients, but particularly individual Indian mineral owners. The Financial subsystem also issues bills for late, underpaid or unpaid royalties. Most of the input data for the Financial subsystem consists of royalty reports and production reports received from industry electronically via an electronic reporting contractor.

The Data Warehouse subsystem provides a repository of current and historical financial, reference, and production information used by internal users, Bureau of Land Management and other agencies, as well as State and Tribal entities that do audit under contract for MRM of leases within their jurisdiction. The Data Warehouse subsystem also provides an electronic means for industry to get reports back on the results of their royalty and production reports and for State and Tribal revenue officials to get reports on revenues received and disbursed.

The Compliance Asset Management subsystem extends the Data Warehouse subsystem with a number of tools aimed at assuring that MRM is paid all the revenues owed. These tools include targeting tools and other specialized tools for finding anomalies in follow-up reporting. Compliance activities yield a varying stream of revenues based on when individual findings, settlements, or adjudications of payment disputes occur.

The Royalty-in-Kind subsystem provides the automated systems support and internal controls to manage the transportation, processing and sale of oil and natural gas it receives from lessees as payment of royalties due. The RIK subsystem enables MRM to accelerate cash flows derived from RIK sales, significantly reduce the business and compliance cycle time, and effectively manage the timely fill of the Nation's Strategic Petroleum Reserve.

### **The Outer Continental Shelf (OCS) Connect System**

The Outer Continental Shelf (OCS) Connect project is focused on the delivery of Citizen-Centered e-Government and IT management by automating data exchange capabilities, improving operating efficiency, and providing the agility and flexibility to adjust to and meet future business conditions and demands. The business processes of the OMM are being reengineered and converted to online business applications to increase the quality of data received, the applications used in the analysis of that data, and the resulting programmatic decisions. This will increase the visibility of the bureau's processes, as well as the accountability for its actions.

The OMM OCS Connect effort will also directly respond to the direction and guidance provided by the Administration and Congress to: improve mission performance and service delivery; better manage and maintain a competent and capable federal workforce; and capitalize on opportunities to outsource support and services necessary to conduct and improve business operations.

Specifically, the transformation effort will help OMM to:

- ◆ Design and implement an integrated corporate database, working collaboratively with state and federal agencies, industry, and citizens to enable MMS to better achieve its strategic goals—safe and environmentally sound offshore operations.
- ◆ Deliver web-based, paperless transactions in near real-time.
- ◆ Introduce "Knowledge Management" tools to electronically collect, store, receive, and distribute information from or to internal and external stakeholders, and to help minimize knowledge loss from retiring employees by capturing tacit knowledge on areas of expertise and specialized business practices.
- ◆ Coordinate workflow for the regulatory process to reduce redundant requests and maximize stakeholder reviews, again promoting more efficient analysis and shorter cycle times.

- ♦ Support multiple federal and state requirements surrounding regulation of the offshore oil and gas industry, and
- ♦ provides a standard data model for industry and stakeholders, which may apply to other domestic and international processes in other agencies.

### **The Technical Information Management System (TIMS)**

The TIMS is the OMM corporate database system and related infrastructure. The TIMS is a legacy system and is in the maintenance phase of system life. The TIMS was designed to provide the capability to collect, retrieve, store, process, and display information through a suite of standardized hardware, communications equipment, and software to support the MMS OMM mission. The system automates many common business and regulatory functions of the OMM. It consists of more than 40 major business components and nearly a thousand separate modules. The majority of OMM employees, and many of the employees located in the MMS's Minerals Revenue Management Program use the system. Members of the public, environmental groups and the oil and gas industry also heavily use the information generated by the TIMS.

The OMM-wide TIMS architecture is in a steady state of maintenance. Technical enhancements must be made over time so the IT program keeps pace both with the IT industry and with the IT systems of its business partners, and shares in the task of sustaining OMM's strategic vision. The TIMS will be replaced by OMM's e-Government Transformation project, OCS Connect.

### **MMS Administrative Systems**

#### **General Support Systems (GSS)**

The MMS WAN (Wide Area Network) consists of the MCI backbone segment and supports the MMS Network (MMSnet) general support system in three key local area network (LAN) environments - Denver, Herndon, and New Orleans. The MMSnet does not include the network backbone segment because the MMS WAN is managed, controlled, and operated by MCI/UUnet and meets the FTS2001 security requirements. The MMSnet provides support for MMS business applications, facilitates inter- and intra-Bureau network connections, and provides Internet access for the all MMS programs.

#### **Internet**

The MMS has maintained a presence on the World Wide Web (WWW) to provide up-to-date MMS information to its worldwide constituents since September, 1995. The web site (<http://www.mms.gov>) provides the public the mission and organizational structure of the MMS, press releases, frequently requested FOIA information, data on MMS lease sales and statistics, and other information of interest to the general public. The MMS reengineered the MMS Internet site in 2000, providing a uniform agency web presence and easier access to key information. Since that time the renovated site has received

many positive reviews from customers. The MMS Internet site is managed by the Program area representatives on the World Wide Web Committee (W3) which consists of a Policy Steering Group and a Technical Advisory Group. The W3 Committee sets policy and guidance for the operation, use, and technical support of all the MMS internet sites.

### **Intranet**

The MMS Knowledge Pipeline (the intranet) is the secure network of servers that deliver web-based content and services to the internal MMS community. The Intranet is an integral part of the bureau-wide information sharing and architecture structure, supported by the Microsoft Active Directory infrastructure. With these tools, MMS will be well positioned to create an information sharing community within a distributed work force, support collaborative work teams, and provide accurate and timely information to make successful business decisions throughout the bureau. The intranet will continue to improve in design and functionality in future fiscal years, providing more powerful and effective electronic search techniques, enabling retrieval of administrative and program-specific information, database collaboration, and creating web-enabled MMS business processes. The end of fiscal year 2004 started the redesign effort of the existing Pipeline and MMS.GOV business processes. The Information Architecture of the Pipeline will be redesigned to make the content of the Pipeline easier to locate and use. Additionally, this redesign effort will extend intelligent data-capture capabilities to a wider audience, including MMS remote users, intranet users, and special needs users.

### **Voice and Data Integrated Network Project**

In FY 2005 the MMS plans to replace its independent voice and data systems as well as its Universal Power Supply with a single integrated solution (e.g. voice, data, and UPS). Some of the logical objectives to accomplish this initiative are single vendor integrated solutions for both voice and data, system-wide security, Enterprise Services Network (ESN) integration between all offices, integrated voicemail subsystem, an integrated unified messaging subsystem, interoperability with other DOI bureaus VoIP systems, integrated call management systems, and centralized voice management and administration.

The MMS is also embarking on a system-wide upgrade of the MCI-operated backbone by migrating to their new higher speed vBNS (Very High Performance Backbone Network Service) offering in the same timeframe. This is important because once this improved network is in place other MMS offices can also migrate to this new voice over Internet Protocol (IP) platform and be assured that end-to-end quality of service between locations is already in place.

### **Miscellaneous Systems**

A newly implemented administrative system called **ROARS** (Resume and Online

Application and Referral System) is the web-based automated hiring management system used by MMS. The system allows for a paperless method of accepting applications, the development of automated rating and ranking criteria, automatic rating and ranking of applicants, e-mail notification of status to applicants, and the paperless referral of applicants to management.

MMS has recently implemented Quicktime, a fully web-enabled time and attendance entry system, with extensive labor tracking capabilities. The system streamlines processes and eliminates paper, and it also provides electronic signatures and record-keeping.

### **Electronic Invoicing**

Electronic invoicing is a new initiative that began in FY 2004 which is located within GovWorks located at GovPay.gov. GovWorks currently processes some 2,000 invoices per month for approximately 500 vendors. Integral to the electronic invoicing system is the ability to provide invoice workflow processing. Existing approval processes need to be duplicated in an electronic format. Exception processing, which is part of the current work flow, also needs to be addressed in the electronic invoicing system. This system should provide easy and secure access for vendors and employees on a global basis. Vendors must have the ability to review and monitor the progress of invoices through the electronic invoicing system. Future strategic planning will bring compatibility and scalability of hardware and software, and the necessary upgrades to be useful to the public.

### **Departmental and MMS Administrative Systems**

There are several systems that MMS is implementing in conjunction with either the DOI or other bureaus within the DOI.

### **Enterprise Services Network**

The MMS is participating in a DOI project to consolidate and centralize IT services into a shared management model. The primary business drivers behind this migration are improvements in overall cost savings and management effectiveness and control. Consolidation of the bureaus' WANs will be achieved through a systematic process of connecting existing bureau hubs to a service provider's shared network backbone to form an Enterprise Service Network (ESN). The ESN is envisioned to be a standards-based intra-network backbone that integrates existing networks, systems, and computing environments to provide secure and robust telecommunications between DOI, its bureaus and offices. Specifically, the ESN investment will achieve technical consolidation, centralization and sharing of all of the following DOI-wide resources identified in CIO Council Best Practices Committee guidance. It lists the network backbone, help desks, access circuits, WAN contracts, intrusion detection and firewall services, and network management resources. In addition, remote access users (employees, remote offices, and other stakeholders who must access DOI networks from remote locations) are considered

an integral part of DOI's overall network community, and the ESN investment will encompass a common, Department-wide remote access solution as a critical component. Thus, the ESN will provide the data communications to support both intranet and Internet access across the DOI.

As a modernized, integrated network backbone infrastructure, the ESN will deliver very significant operational and foundational benefits to the Government. Centralized, standardized, and consolidated network operations, including security, will also enable consolidation of the multiple network and security policies and procedures that exist in the current environment. As a result, DOI will be able to operate under one common security policy and full compliance by all bureaus and offices will be much easier to achieve and monitor. In addition, the provisioning of future DOI and bureau-wide network services will be less costly and time-consuming, as standard applications can be deployed through a common implementation process, without the customization that is required in the current environment. Finally, by providing any-to-any access among all DOI bureaus, the ESN will facilitate communication between bureaus and with other stakeholders and improve their ability to share resources (data and applications) and collaborate on ongoing and future e-government initiatives.

### **Enterprise Wide Information Technology**

The DOI is taking a corporate approach to enterprise-wide information technology that will include consolidated purchases of hardware and software, uniting helpdesks and e-mail support functions, web services, and the coordination of training. For the near term, the MMS will continue to support and maintain the Microsoft Exchange architecture taking advantage of new features and capabilities associated with software upgrades, including web-based e-mail service. Other short-term initiatives will include a migration to Microsoft Exchange/Outlook 2003, transition to the standardized DOI anti-virus software – Symantec, upgrade to Windows Server 2003, upgrade to Windows XP client, upgrade to Microsoft SMS 2003, and a movement of the MMS Active Directory (AD) domain to a Departmental AD forest.

Appropriate technology solutions can improve internal efficiency and provide a value-added solution for delivery to the customer. Managing infrastructure operations at the enterprise-level requires taking advantage of economies of scale and mature and scalable technologies. At present, Enterprise Infrastructure Operations (EIO) includes a range of shared services including:

- ◆ Messaging
- ◆ Data Networking
- ◆ Desktop Management
- ◆ Software licensing
- ◆ Internet connectivity

## **Financial and Business Management System (FBMS)**

The MMS will implement the Financial and Business Management (FBMS) in FY2005 in conjunction with the DOI, and that new system will replace both ABACIS and IDEAS. Since its inception, FBMS has been a collaborative undertaking among all the DOI bureaus. The project is designed to support federal financial management standards and to establish common business practices across the DOI. The FBMS will streamline linkages between critical financial management systems necessary to assure financial accountability throughout the DOI. The FBMS is a major enterprise management initiative that will integrate financial management, procurement, property management and other subsidiary systems and will revamp administrative processes throughout the DOI. The system will include the following critical business functions: core financial; acquisition; travel; personal property and fleet management; real property, budget formulation; financial assistance, and enterprise management information. This includes standardizing and streamlining the underlying functional processes with adequate internal controls and security.

## VIII. MMS IT Goals

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The strategic planning team determined that the best way to represent strategic initiatives was to establish the following IT goals. The goals identified under the major priority areas reflect current and future IT initiatives. Appendix A provides milestones for each of the IT goal listed:

**Goal 1:** Leverage IT architecture to identify opportunities for cost savings.

**Goal 2:** To protect the availability, confidentiality, and integrity of MMS information technology resources.

**Goal 3:** Improve the efficiency and effectiveness of MMS business processes. (E-Gov)

**Goal 4:** Improve the Management of IT Investments.

**Goal 5:** Improve the quality, access and sharing of data between MMS and its customers and stakeholders.

**Goal 6:** Create and safeguard records cost effectively and apply retention schedules according to federal regulations and system enforced rules.

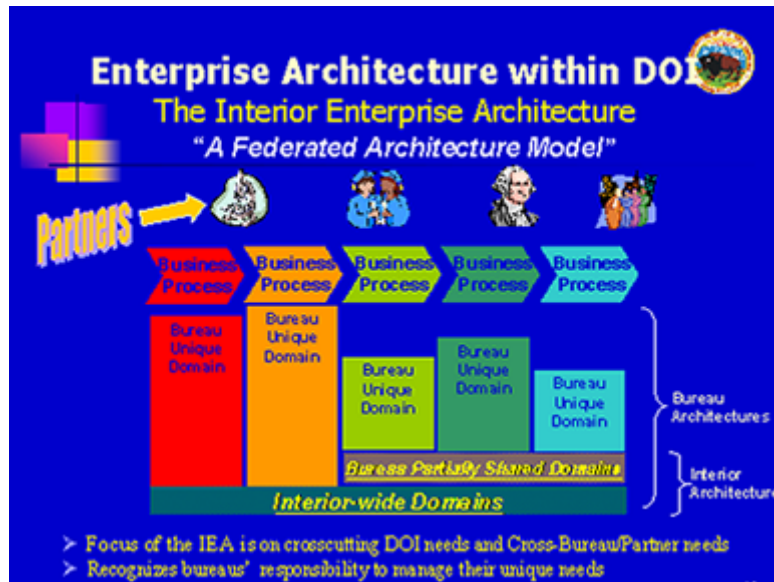
<p><b>Goal 1: Leverage IT architecture to identify opportunities for cost savings.</b></p>
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### **Background**

The development of the Interior Enterprise Architecture (IEA) is a Department-wide initiative whose purpose is to ensure that all IT solutions implemented throughout the DOI directly support the business mission, functions, and processes of the DOI in an efficient, effective, and timely manner. The Clinger-Cohen Act of 1996 mandates development of enterprise architecture, but even without that mandate, it simply makes good business sense to align IT with the needs of the DOI business community.



The DOI has adopted a "Federated" model for its architecture as shown in Figure 3 below.



**Figure 3: Enterprise Architecture with DOI**

The MMS goal is to develop and implement an effective MMS Enterprise Architecture program. The priority area milestones for Enterprise Integration in Appendix A establish the 5 stages that GAO determined to be effective in accomplishing an EA program, to complete the MMS goal of filling in the gaps. The MMS must align with the Interior Enterprise Architecture (IEA). The MMS started this initiative in FY 2004, with an anticipated completion date of FY 2006. With the participation of each of its business units, MMS is developing an extensible cost-efficient architecture for its infrastructure as well as for appropriate mission-specific systems. The Technical Reference Model (TRM) components being used as Agency standards include Web browsers, word processors, desktop computers and operating systems, workstations and network hardware, telecommunications, and protocols. Additionally, preferred databases and third generation languages are specified for use in mission-specific systems.

The MMS is responsible for tracking and evaluating technology and industry trends that may affect bureau standards, and for suggesting and evaluating changes to the Bureau infrastructure. Senior IT staff expends much effort keeping up with the state-of-the-art industry trends, and the changing needs of clients. The MMS's architecture and the resultant hardware and software are continually being evaluated and periodically modified to reflect the changing environment.

The MMS reviews new IT systems to identify possible conflicts with bureau architecture and to look for commonalities and potential economies of scale.

The MMS IT architecture will seamlessly integrate IT systems, data, and architectural components in a networking and communications environment. The objective of the IT

Architecture is to support DOI and OMB initiatives while providing its customers with a comprehensive energy management program.

To ensure success, MMS's architecture will encompass the following:

- ◆ Plan the business direction of the Interior as an enterprise,
- ◆ ensure IT investments are aligned with MMS mission, vision, and goals,
- ◆ design processes that support strategic business planning as well as sustain ongoing tactical decisions when implementing systems,
- ◆ share IT infrastructure components without sacrificing responsiveness to the changing business needs,
- ◆ make IT environment adaptable in order to quickly adjust to changes in the business environment,
- ◆ have a governance process that supports the ongoing evolution of the architecture as well as its enforcement,
- ◆ be involved with changing business strategies,
- ◆ provide well-integrated enterprise-wide systems and services,
- ◆ streamline administrative business processes,
- ◆ achieve consensus on standards across the enterprise,
- ◆ address environmental and safety concerns,
- ◆ improve data integrity over the life cycle, and
- ◆ comply with appropriate security measures.

### **Maintaining the Enterprise Architecture (EA)**

Another component of maintaining the EA is the governance of architecture standards. The CIO reviews compliance to the EA via its responsibility for IT strategic planning and IT procurement oversight. The key to administering this compliance role is good communication and planning.

### **Trust Architecture**

An important parallel subset of the DOI EA is that of the Trust Architecture. The Trust Architecture was developed in response to requirements of the Court in the Cobell litigation. This Architecture comprises the subset of systems that involve Indian Trust data that includes the MMS Reengineering Systems. The Trust Architecture documents the "as-is" and provides a structure for the planning, development, and implementation of

changes required to get to the “to-be” Trust Architecture. The MMS will continue to be a very active participant in this activity.

**Strategies and Performance Measures**

The requirements for successful implementation include the following strategies and performance measures:

**Strategy 1.1:** Establish EA baseline inventory.

**Performance Measure 1.1.1:** 85% of MMS systems documented in the Bureau Enterprise Architecture Repository (BEAR) by the end of FY05.

**Performance Measure 1.1.2:** 95% of MMS systems documented in the Bureau Enterprise Architecture Repository (BEAR) by the end of FY06.

**Strategy 1.2:** Establish governance for EA.

**Performance Measure 1.2.1:** 25% of IT procurements in FY05 are reviewed for compliance with the DOI Technical Architecture.

**Performance Measure 1.2.2:** 50% of IT procurements in FY06 are reviewed for compliance with the DOI Technical Architecture.

**Performance Measure 1.2.3:** 95% of IT procurements in FY07 are reviewed for compliance with the DOI Technical Architecture.

**Strategy 1.3:** Move MMS forward to align with DOI architecture requirements.

**Performance Measure 1.3.1:** Map 95% of MMS’ major systems to the DOI Business Reference Model functions and activities in the Department Enterprise Architecture Repository (DEAR) in FY05.

The Enterprise Architecture milestones in Appendix A directly support the Enterprise Architecture goal above.

**Progress Update**

<b>Enterprise Architecture (EA) Milestones</b>
<b>Stage 2: Started building the EA Management Foundation. Began to Establish Baseline for Financial, Business and Trust Systems. Verification of Financial, Business and Trust System Information.</b>
<b>Started to Review and Reassess the EA. Began to Monitor Program Controls. Started Updating and Maintaining the DOI Enterprise Architecture Repository (DEAR).</b>

**Goal 2: To protect the availability, confidentiality, and integrity of MMS information technology resources.**

**Background**

Increasingly interconnected information technology systems and networks are critical to achieving the MMS’s mission. Information security is an indispensable function that demands strategic thinking and is a prerequisite to meeting IT and mission goals.

Security weaknesses have been identified in the past by penetration/vulnerability tests, audits, and reviews of the current systems. The MMS has taken steps to protect its critical infrastructure and eliminate significant vulnerabilities. The baseline for the IT Security Program is the requirement that all systems and networks be certified and accredited (C&A). Thereafter, systems will be periodically re-certified and re-accredited. The MMS will continue to implement a comprehensive strategy for strengthening and improving the information security program.

The MMS IT security program aligns and integrates a matrix of vision, goals, and strategies that address the fundamental security components of people, technology, policy, processes, and procedures, and that are tracked and evaluated through the implementation of performance measures. The SWG mentioned earlier provides the necessary government oversight and identify risks associated with the network, create/implement risk mitigation solutions and resolve conflicts associated with implementing network security.

IT security is a continually evolving process that is difficult, complicated, and time consuming to manage and implement. The MMS IT Security Strategy Plan, defines the minimum activities to provide effective security for MMS systems and assets.

**Strategies and Performance Measures**

The requirements for successful implementation include the following strategies and performance measures:

**Strategy 2.1:** Strengthen the implementation of IT security policies to meet or exceed national standards.

**Performance Measure 2.1:** Improve MMS’s annual IT Security scorecard score by 3% per month until 95% is reached.

**Strategy 2.2:** Strengthen the MMS IT security infrastructure to prevent security breaches in the IT infrastructure.

**Performance Measure 2.2:** 100% of the attempts to breach the IT infrastructure will be detected by the controls in place; as new threats emerge, the infrastructure will be strengthened to address the changed environment.

**Strategy 2.3:** Develop greater IT security awareness.

**Performance Measure 2.3:** 100% of MMS staff has taken IT security training and has passed the security test annually.

The benefits of implementing these strategies include improved support of DOI and bureau IT security requirements; a more secure computing environment; higher customer confidence; establishment of a secure foundation for major applications; more educated employees; more rapid response to security incidents; and improved data integrity.

The Security milestones in Appendix A directly support the IT Security goal above.

The MMS IT Security Strategy Plan establishes a baseline and direction for implementing the MMS IT security program vision. The MMS IT Security Plan Summaries are included in Appendix B of this document.

### **Progress Update**

<b>Completed Certification &amp; Accreditation for all High Risk Systems.</b>
<b>Implemented FISMA Action Plan and Improved Score on FISMA Scorecard.</b>
<b>Provided Annual Security Awareness Training to all Employees and Contractors.</b>
<b>Provided Annual Professional IT Security Training to all IT Employees and Contractors, Including System Owners, Program Managers and Project Managers.</b>
<b>Implemented Incident Handling Program and Train Staff in Incident Handling Procedures.</b>
<b>Provided Monthly Update Plan of Action and Milestones (POA&amp;Ms) for all High Risk Systems. The POA&amp;Ms contain security weaknesses identified during the review and audit processes.</b>
<b>Conducted Annual Management Control Review of all High Risk Systems.</b>
<b>Maintained Certification &amp; Accreditation (C&amp;A) for all Systems. A system needs to be recertified and reaccredited every 3 years or in the event a major change occurs.</b>

### **Goal 3: Improve the efficiency and effectiveness of MMS business processes. (E-Gov)**

#### **Background**

Since MMS's formation, it has sought to find easier, faster, more reliable means of exchanging information with the internal and external clients. The MMS also recognizes that electronic government expansion is an integral part of transforming the way business is done, making MMS more efficient, responsive, and effective in its business processes, providing better value to the American taxpayer. The overriding objective of eMMS (MMS' e-government efforts) is the application of information technology as a strategic asset to support the efforts of our programs and to enable operating efficiencies and effectiveness in the areas of administration and management. The outcome of these efforts is expected to be the transformation and enhancement of the delivery of MMS' programs, services, and information through efficient, secure business processes and accessible, reliable, useful data through modern technology.

The E-Gov priority area milestones in Appendix A provide initial implementation activities and establish standards for MMS E-Gov projects.

#### **Current and Future DOI-wide E-Gov Projects**

There are a number of future DOI-wide and Government-wide E-Government projects that will affect MMS. Some of these, such as E-Records Management and E-Rulemaking are already a part of the development process of some current MMS systems.

**GPEA:** The Government Paperwork Elimination Act (GPEA) of 1998 required federal agencies to provide their customers and business partners the option to conduct all transactions online by 2003. The MMS has made progress toward GPEA readiness, completing an assessment of fifty-eight OMB-approved information collections and identifying each appropriate for conversion to electronic processing. The MMS, along with the DOI, is focusing on electronic signature capabilities, electronic records management, and interoperability in order to fully enable electronic transactions for GPEA.

**E-Records Management.** The management of electronic records is a statutory mandate and a necessity for accountability. Refer to the Document and Records Management section.

**E-Rulemaking.** The E-Rulemaking initiative transforms the current rulemaking process in order to allow the public to easily access and search all publicly available regulatory material. See Document and Records Management section.

**E-Travel.** This E-Government project provides a government-wide web-based service to consolidate travel functions, provide improved services to government employees, and

minimize costs. From travel planning and authorization through the employee reimbursement process, E-Travel combines administrative, financial, and information technology best practices to produce cost savings and improved employee productivity.

**E-Authentication.** Federal services are available on-line, but many require some form of identity verification before a transaction can take place. The E-Authentication project will provide a secure, easy-to-use and consistent method of proving identity to the government, minimizing the burden on businesses, the public, and government. The project will establish uniform processes for establishing electronic identification and allow citizens and businesses to use non-government issued credentials to conduct transactions with the government.

**E-Training.** The E-Training project creates a training environment that is more efficient and provides improved services and learning management support to the Federal government. The E-Training provides learning management system functionality and a simplified process to learn about training opportunities, with one-stop access to e-products and services, advancing the accomplishment of agency missions. The Gov Online Learning Center houses a repository of products, services and performance support tools that meet the needs of the workforce.

**Integrated Acquisition Environment.** This E-Government project will facilitate the cost-effective acquisition of goods and services, while eliminating inefficiencies in the current acquisition process. The project integrates a number of inter-governmental data warehouse efforts, such as agency systems that maintain information about a supplier's capabilities, past performance, and services, and makes that data available throughout the government. The project will also streamline acquisition by providing a directory to facilitate ordering from interagency contracts and catalogs, and will redesign the process for ordering, billing, and collection.

### **Strategies and Performance Measures**

The requirements for successful implementation include the following strategies and performance measures:

**Strategy 3.1:** Citizens and businesses will benefit from expanded access, faster processing, and greater accuracy of information required for decision making.

**Performance Measure 3.1:** Provide one-stop shopping for citizens by decreasing the number of web links for OSC Connect information by 75% by the end of FY 2005.

**Strategy 3.2:** Improve the business processes for validating completeness of Oil Spill Financial Responsibilities reports.

**Performance Measure 3.2:** Reduce the time it takes to file the Oil Spill Financial Responsibilities Reports by 25% by the end of FY 2005.

**Strategy 3.3:** Optimize lease and permit management processes.

**Performance Measure 3.3:** By the end of FY2005, disburse 95% of the mineral revenues on a timely basis per regulation.

**Strategy 3.4:** Establish a cross bureau working group to examine the feasibility of synchronized or integrated databases, and issue a preliminary report on findings

**Performance Measure 3.4.1:** By January 2005, a cross-bureau working group will meet to examine opportunities to take advantage of the development process of OCS Connect to bring about better integration of the program systems

**Performance Measure 3.4.2:** By March 2005, a cross-bureau users group will be formed to examine the long-term opportunities and road-blocks to the development of a virtually integrated database.

**Strategy 3.5:** Establish cross-bureau working group on Integrated Electronic Data and Records Management (IEDRM) to examine the current state of our efforts. Issue a report on our current status with recommendations and priorities for a bureau-wide IEDRM effort.

**Performance Measure 3.5.1:** By March 2005, a cross bureau working group will be formed to examine the integration of EDRM efforts across the bureau.

**Performance Measure 3.5.2:** By June 2005, issue a status report and recommendations for integration of EDRM efforts across the bureau and with the Department.

The E-Gov milestones in Appendix A directly support the E-Gov goal above. These and other MMS specific e-government efforts are covered in more detail in the MMS e-Government Strategic Implementation Plan.

### **Progress Update**

<b>Began the implementation of the OCS Connect Project which is re-engineering the core business processes with process owners. The project implemented re-engineered procedures in a secure web-enabled environment by leveraging Commercial-Off-The-Shelf (COTS) software and best practices. The project also provides online access to appropriate OMM information for staff, industry, and the public.</b>
<b>Began upgrading MRM's PeopleSoft financial system from version 7.5 to 8.4 . The upgraded version web-enables the financial system and will allow further E-Gov capabilities in the future.</b>
<b>Began to use a web-based online public commenting system within OCS Connect that readily integrates into the OMB E-Gov E-Rulemaking initiative.</b>
<b>Acquired an OMM Standard Logical Data Model (SLDM) for OCS</b>



Connect consolidating “best-of-breed” industry resources such as models, standard specifications, and reference dictionaries.

Began development of a web XML data exchange protocol that will serve as the basis for the standard for the exchange of regulatory oil and gas data at all levels of government – federal, state and international.

#### **Goal 4: Improve the Management of IT Investments.**

##### **Background**

The capital planning process is driven by specific mandates coupled with strategic planning. One initiative that must be followed is the Clinger-Cohen Act (CCA) of 1996. The CCA was enacted to address many of the problems related to Federal IT management. CPIC is a structured process in which proposed and ongoing IT investments are continually monitored throughout their lifecycle. CPIC is a performance-based, integrated approach to managing risks and returns of capital assets for a given project. It is mandated that a project must achieve expected benefits in accordance with accurate and complete costs, schedules, and technical and performance baselines. Through the CPIC process, MMS has outlined a framework to manage its IT investment portfolio and ensure that IT investments support the MMS mission, strategic goals, and business priorities.

The MMS has recently made significant strides to implement an effective capital planning process to ensure that IT investments are driven by business needs, managed appropriately, and meet cost, schedule and performance objectives. These efforts are the foundation of building an effective IT investment management process.

Project management plays a big part in capital planning. To ensure that guiding principles in the area of IT project management are implemented consistently across the bureau the MMS will identify and evaluate pertinent industry and Federal standards. They will also research various certification programs to ascertain the levels of experience needed to successfully manage IT projects. The MMS will identify certification programs for training opportunities as well as investigate the prospect of creating an MMS-specific certification program. The goal is to create, recruit, and retain a cadre’ of personnel resources with strong core competencies in the areas of program and project management with in-depth knowledge and experience in the IT field. To ensure that these valuable personnel resources are fully utilized to achieve the goals, key IT projects will be staffed by a government management workforce to provide the appropriate oversight and success.

All IT projects should use the Earned Value Management System methodology to manage software projects. The EVMS guidelines incorporate best business practices for program management systems that have proven to provide strong benefits for program or enterprise planning and control. The processes include integration of program scope, schedule, and

cost objectives, establishment of a baseline plan for accomplishment of program objectives, and use of earned value techniques for performance measurement during the execution of a program. The system provides a sound basis for problem identification, corrective actions, and management replanning as may be required.

IT performance measurement is essential to the CIO in communicating the value of IT and in building business cases within the Capital Planning and Investment Control Process.

There are numerous benefits of IT performance measurements which include the following:

- ♦ Strategically demonstrate improvements in IT.
- ♦ Achieve longer-term value through successful delivery of core business functions.
- ♦ Build and sustain a business-wise, proactive, and strategic agenda shared by IT and senior MMS management.
- ♦ Forge a high degree of participation with top management and the program offices, in plain language—not IT language.
- ♦ Make IT strategy drive the capital planning and resource allocation processes the MMS is committed to developing in regard to specific performance measurements for its IT systems, applications, and services.

The MMS will rely on the ITIRB, the Information Management Division and the project owners to work collectively to build the investment process. The ITIRB, mentioned earlier, will ensure that investments are considered as part of the overall portfolio of investments, support the agency's strategic goals, and achieve performance goals and objectives with minimal risks, lowest life-cycle costs and greatest benefits to the business. The IMD is responsible for providing expert guidance to both the ITIRB and the program offices in all areas of capital planning and investment management. The IMD will review business cases to ensure compliance with OMB and DOI policies and guidelines and provide suggested changes to the project owners. Project owners are responsible for ensuring that the investment is lead by a qualified project manager who is assisted by an integrated project team. Together, this team will ensure that the investment is delivered on schedule, within budget and that established performance goals are met. The goal of the CPIC process is to develop a project portfolio that enables the IT investment to achieve the highest business value or return across the organization. The portfolio management approach is based on aligning projects/initiatives with the mission. The process must include a disciplined prioritization process, which requires understanding the business goals and being able to balance multiple evaluation criteria.

The General Accounting Office's Information Technology Investment Management (ITIM) framework identifies critical processes for successful IT investment and organizes these processes into a framework of increasingly mature stages. The ITIM is comprised of five stages of maturity. Each stage builds upon the lower stages and enhances the organization's ability to manage its IT investments. The stages are characterized in the following manner. In Stage 1 IT management processes are project-centric and have widely variable outcomes. During Stage 2 repeatable investment control techniques are in place. In Stage 3 comprehensive IT investment portfolio selection and control

techniques are in place. Stage 4 is demonstrated by evaluation techniques that focus on improving the performance and management of the IT investment portfolio. During Stage 5 techniques for leveraging IT are deployed to strategically shape business outcomes. The five maturity stages represent the steps toward achieving a mature, comprehensive IT investment management process. In April 2003, MMS conducted an ITIM self-assessment and found itself to be at Stage 1 maturity, Creating Investment Awareness. It has been mandated by the DOI that Stage 2 be achieved by the end of FY 2005 and Stage 3 by FY 2008. The Capital Planning area priority milestones in Appendix A provide a roadmap for MMS's progress through the maturity stages.

### **Strategies and Performance Measures**

The requirements for successful implementation include the following strategies and performance measures:

**Strategy 4.1:** Ensure that all IT project managers for IT investments are certified Project Management Professionals (PMP) with the Project Management Institute.

**Performance Measure 4.1:** 95 % of IT project managers are PMP certified by May 2006.

**Strategy 4.2:** Ensure projects are on track for cost and schedule goals.

**Performance Measure 4.2:** All major IT investments are within 10% variance for cost and schedule by December 2005.

**Strategy 4.3:** Improve the management processes for capital investments.

**Performance Measure 4.3:** Meet level 2 ITIM requirements by December 2005.

The capital planning milestones in Appendix A directly support the capital planning goal above.

### **Progress Update**

<b>Implemented a standard process for the rating and ranking of IT investments and ensured that the investments assist in the achievement of MMS's strategic goals.</b>
<b>Expanded the ITIRB's understanding of the investment boards' roles and responsibilities in the capital planning process as well as portfolio management.</b>

**Goal 5: Improve the quality, access and sharing of data between MMS and its customers and stakeholders.**

**Background**

The MMS has adopted and put into practice data quality (verification and validation) processes for performance measures based upon the guidance issued by the DOI and OMB, and is beginning the process for developing and instituting a corporate methodology for ensuring data quality for externally reported data. The overall goal for this effort is to have in place a solid process for validating and verifying our reported data that meets OMB and Departmental requirements by FY 2008.

To date, MMS has validated the DOI end outcome and key intermediate outcome performance metrics, and uses internal control practices to ensure the reliability of data collection. The MMS is continuing to revise, refine and validate its bureau performance metrics including the IT performance measures as a second level evaluation. All non-key and bureau level performance metrics had definitional dictionaries developed by the end of FY2004 to form the basis of the review. All new performance measures for IT systems, as reported in OMB Exhibit 300's, will also be required to have definitional dictionaries completed before submission to OMB. These data dictionaries will include the measure definition, data collection source and methods, measure calculation methodology, and related information. The protocol and methodology for program and bureau data collection is still being developed based on the many sources of program and bureau performance.

As a component of data management under the Clinger-Cohen Act and under the guidelines issued by OMB under Public Law 106-554, a CIO must be able to measure, evaluate, and justify the cost of gathering and reporting data in relation to the quality of that data and that the data must meet a minimum level of quality, objectivity, utility and integrity. During the beginning of FY 2005, a data quality team will be established to develop and lead the implementation of a corporate methodology for ensuring the data quality of externally reported data. The team, led by PMI, is beginning the data quality effort by first looking at certain segments of data and then expanding from there. They have recently begun a review effort for all data used in the reporting of metrics in the MMS Performance Architecture. This effort is expected to produce a baseline which will be expanded to cover other data used and reported by the Bureau. The expected outcome of the team's effort is a corporate policy covering data quality that would be in place and operational by summer of 2005. The Data Quality priority area milestones in Appendix A reflect the team's planned activities.

## **Strategies and Performance Measures**

The requirements for successful implementation include the following strategies and performance measures:

**Strategy 5.1:** Streamline and enable the exchange of data between OMM and stakeholders by promoting the use and sharing of data.

**Performance Measure 5.1:** TBD by the end of FY06.

**Strategy 5.2:** Develop a central OMM repository for offshore data.

**Performance Measure 5.2:** TBD by the end of FY06.

**Strategy 5.3:** Establish data ownership and stewardship to improve the management of data.

**Performance Measure 5.3:** TBD by the end of FY06.

**Strategy 5.4:** Align OMM's data with DOI's data reference model.

**Performance Measure 5.4:** TBD by the end of FY06.

The data quality management milestones in Appendix A directly support the data quality management goal above.

## **Progress Update**

<b>Established base data validation and verification on GPRA measures based upon adoption of DOI standards.</b>
<b>Began development of data definition templates for all Department level and bureau level IT and non-IT performance measures.</b>
<b>Established a Data Quality Team.</b>

**Goal 6: Create and safeguard records cost effectively and apply retention schedules according to federal regulations and system enforced rules.**

**Background**

The Records Management Program is an active and continuing program for the economical and effective management of the creation, storage, maintenance, use, preservation and disposition of all MMS records. Records management initiatives focus on automating MMS's records management processes. The main thrust of this activity will be to complete the MMS records inventory and analysis in FY 2005. The results of the inventory will be incorporated into a web-based database that will allow easy access for consultation, reports, and revisions. The MMS Records Management Handbook will be updated, to ensure all MMS records are scheduled as determined by the records inventory and to include media-neutral formats. Electronic records reporting forms were developed at the close of FY 2004. Planned for FY 2005 are the development and revision of records management policies consistent with the DOI. In FY 2005, MMS plans to begin working closely with OST and their initiative with the Department to plan and develop a DOI electronic document and records management system. The MMS intends to fully integrate with this DOI electronic records system by FY 2008. These activities are reflected in the Document and Records priority area milestones in Appendix A.

**E-Document** The MMS is receiving data electronically from external users. Data (forms, documents, letters, charts and attachments) will be electronically submitted, received and processed. These electronic documents are the data assets of the bureau. E-documents will be received, indexed and stored in e-files similar to the file rooms available today. Efficient indexing techniques will be developed for all documents for easy online access and archiving. The success of electronic documents is measured by the speed and ease the information is found by the user. Data standards, data quality and data exchange values will be defined for each form or document in collaboration with industry. The MMS will establish data exchange teams to develop exchange formats, including business rules that will allow industry to electronically submit all regulatory information.

**E-Rules** There is a growing recognition among agencies and industry that the development of uniform data transfer procedures, supporting standards, and business rules will accelerate the acceptance and reduce the cost of data exchange. Unique data exchange formats with business rules will be developed for all e-documents and published and stored in an MMS registry. Publication of these exchange formats will greatly increase the quality and utility of these data. By publishing MMS data exchange requirements, agencies and stakeholders will enhance their ability to communicate with one another electronically. Oil and gas data may be exchanged more cost-effectively with industry partners through industry-approved XML vocabularies. The MMS's fundamental philosophy is to leverage the XML vocabulary standardization efforts within

private industry and government to promote interoperability of its information management systems. The initial step of E-Rulemaking will be the creation of Regulations.gov, a government-wide docket system to provide a single Internet access point to regulatory material.

**E-File** The E-file will provide access for day-to-day retrieval of industry-submitted documents, such as MMS forms, financial, letters, and drawings, that need to be stored and saved for daily or future reference. The E-file enables the filing of documents electronically from any web connected site. Customers can create, share, collaborate, and electronically sign documents before they are filed with the client.

The online data verification methods make this process fast and more accurate for all participants. E-filing should reduce the cost and time for document management by 40 to 50 percent according to research estimates. E-file and the E-document will yield a higher return in knowledge and a more efficient work process.

**E-Records** The E-Records Management project helps agencies to better manage electronic records, so that records information can be effectively used to support timely and effective decision-making, enhance service delivery, and ensure accountability. It establishes consistent policies, models, requirements, and standards to guide agencies in the implementation of electronic records management systems. The MMS's future records management processes and tools will align with the government-wide electronic records management initiative led by the National Archives Records Administration (NARA). Future records will be captured and managed electronically in MMS's shared data environment. Records will be transferred to NARA electronically in a variety of data types and formats so that they may be preserved for future use by government and citizens.

**MMS Electronic Records Initiative** In FY 2004 the Offshore Minerals Management (OMM) program office of the Minerals Management Service (MMS) started developing a system that will result in a web-enabled system, with incremental system implementation through FY 2008, that incorporates all of the OMM business rules into the OCS Connect system. The system will incorporate the functionality of an Electronic Data Management System (EDMS) and provide for the integration of an Electronic Records Management System (ERMS) as that is defined by the Department of Interior and the Minerals Management Service (MMS).

The first step that has been taken is to develop a public commenting system called Public Connect that was implemented in August 2004. The system is built upon the EDMS, Documentum, and was originally modeled on the EPA EDOCKET system as a functional model, but has been expanded upon significantly. Documentum is sufficiently robust to be scaled to an enterprise level, and is capable of serving as the EDMS/ERMS base at the bureau level and capable of delivering any NARA requirements.

Public connect permits the public to participate online in a secure environment in the programmatic business processes of OMM. It provides the public with the ability to engage in a dialogue with OMM in the 5-year leasing plan process; individual lease sale processes, including the National Environmental Policy Act (NEPA) documentation; plans and permits; Notices to Lessees (NTLs); and the rulemaking process, as well as other programmatic documents that are disseminated to the public for review and comment. By mid FY 2006 implementation will enable the program to capture the development process as development takes place, establish a process file, and provides traceability of actions as well as facilitate access and retrieval of relevant documents and records.

In September 2004 the OMM contracted to develop an EDMS/ERMS strategic plan and an implementation plan to extend the initial EDMS functionality of the Public Connect across all program areas. In general, the EDMS functionality will be extended with the roll out of the system integration of each re-engineered business process workflow in the OCS Connect system.

The strategic plan begins with a comprehensive inventory and assessment of all document and record holdings of the OMM across all program offices and locations. The plan will address the business needs from the perspective of unstructured data as represented by letters, memoranda, faxes and other hard copy documents as well as the increasing number of digital document types received from our customers.

The MMS records management program has become a highly visible program area due to electronic records volumes, protracted Indian litigation, and growing internal and external needs for timely access to offshore minerals and gas records, mineral revenue records and administrative records. Workloads associated with the identification, classification, storage, retrieval and disposition of records have placed complex demands on operational processes and personnel.

### **Strategies and Performance Measures**

The requirements for successful implementation include the following strategies and performance measures:

**Strategy 6.1:** Measure the effectiveness of the records management program to ensure MMS program offices are compliant with electronic and vital records policies.

**Measure 6.1.1:** By the end of FY06, 25% of MMS program areas are compliant with MMS electronic and vital record policies.

**Measure 6.1.2:** By the end of FY07, 95% of MMS program areas are compliant with MMS electronic and vital record policies.

**Strategy 6.2:** Institutionalize records management processes and practices within MMS.



**Measure 6.2.1:** 95% of the records management custodian and coordinator positions have records management responsibilities included in their position descriptions and performance plans by the end of FY06.

**Measure 6.2.2:** Records management practices are imbedded in all IT programs and IT teams within MMS by FY06.

**Strategy 6.3:** Complete a MMS-wide records inventory and have a records retention schedule approved through the National Archives and Records Administration (NARA).

**Measure 6.3.1:** By the end of FY05, 75% of all records are inventoried.

**Measure 6.3.2:** By the end of FY06, 95% of all records are inventoried.

**Measure 6.3.3:** By the end of FY06, 50 % of all records scheduled have been appraised and approved by NARA.

**Measure 6.3.4:** By the end of FY07, 95% of all records scheduled have been appraised and approved by NARA.

The document and records management milestones in Appendix A directly support the document and records management goal above.

**Progress Update**

<b>Developed Electronic Records Reporting Forms.</b>
<b>Developed a Public Commenting System</b>

## IX. Budget Projections

The MMS budget has hovered just above \$250,000,000 in each of the recent fiscal years. In each of those years, MMS has been relatively successful in its bid for IT related program reengineering projects, but less successful in normal life cycle system replacements. The MMS has often been required to find funding for those systems from within existing resources or by offsetting the costs by increasing receipt revenues. Looking several years into the future, MMS expects that new systems requirements will need to be funded more often than not with existing resources.

The accomplishment of MMS' mission hinges on its two most valuable resources, its people and its systems. The MMS is highly dependant on IT support to accomplish its mission expending over 25 percent of its annual appropriation in recent years on IT services. This level of expenditures from the MMS appropriation is second only to personnel compensation and benefits which comprise approximately 50 percent of the appropriation, but when those two large areas of expenditures are combined with mission related travel, utilities, space and other costs, the bureau's maneuverability in funding new initiatives or required upgrades is severely limited.

Figure 4 below provides a summary of MMS IT investments for fiscal years 2004 and 2005. Due to the sensitive nature of the information, budget projects for out years are not included.

<b>MMS Summary of Information Technology Investments</b> (Dollars in Millions)		
	FY 2004 Enacted	FY 2005 Request
<b>Bureau Major Investments</b>		
OCS Connect	11.7	15.9
TIMS	5.3	6.6
RIK/MRM Reengineering (MRM Support System)	14.9	15.1
<b>Other Investments</b>		
Administrative Systems	1.6	1.6
Quicksilver Projects	.7	1.0
Infrastructure	18.1	19.4
IT Security	3.5	3.5
Architecture and Planning	4.0	5.1
<b>Total</b>	<b>59.8</b>	<b>68.2</b>

**Figure 4: MMS Summary of IT Investments**

## X. Policy Recommendations

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After reviewing the current policies and procedures in place within MMS, five key areas requiring the establishment of new policy to provide the necessary training and/or implementation of current DOI guidelines were identified: Project Management, Records, FOIA/Privacy, Architecture and Security. At the same time a number of miscellaneous policies need to be addressed and enhanced to meet long term goals. All existing IT policies, procedures and guidelines will also be reviewed based on the overall strategic plan; however, priority areas of existing policy will be addressed and prioritized for future changes and potential success. These new and existing policies for consideration are listed below.

These policy recommendations will be made to both the CIMO and ITIRB councils for their review and potential implementation.

### Areas for New Policy Establishment

- ♦ **Project Management** – In FY 2005 the MMS will develop a project management policy to outline qualifications and training requirements as well as project management responsibilities for different levels of the various projects.
- ♦ **Records** - In FY 2005, the MMS will potentially develop a computer-based records management training program that will include the description and use of all records and their maintenance. Beginning in FY 2005, records management policy will be developed that will require all electronic systems to be appropriately scheduled and incorporated into the records schedule.
- ♦ **FOIA/Privacy** - The MMS is considering computer-based-training (CBT) courses for FOIA and Privacy. Depending on DOI mandates, the Privacy training will be mandatory similar to the DOI security CBT course.
- ♦ **Architecture** - The MMS must adhere to the new and ongoing DOI Federal Enterprise Architecture policies. New bureau policy establishment will begin in FY 2005.
- ♦ **Security** - The DOI will be conducting a feasibility study of the use of Public Key Infrastructure (PKI) in DOI. The PKI integrates digital certificates, public-key cryptography, and certificate authorities into a total enterprise-wide network security architecture. With DOI approval, the MMS will implement PKI to protect the security of the digital communications and business transactions.

The following security-related documents need to be further developed and written for policy distribution. These are projected to be completed in FY 2005.

- Patch Deployment
- Log Review
- Monthly Network Vulnerability Scan
- Password Protection Policy
- Password Audit
- Remote Access Plan
- Computer Security Incident Procedures
- Anti-Virus Process
- Automatically Forward E-mail Policy
- Wireless Communication Policy

♦ **Miscellaneous Policies**

The following miscellaneous policies require addressing:

- Procurement policies for consolidating acquisitions of specific IT goods and services are anticipated to be formulated and will include a unified budget process with capital investment planning and technology refreshment consideration,
- Data warehousing policy will potentially be developed based on both Interior and non-Interior experience, and
- E-Government governance policy will be formulated that will include multi-bureau and multi-agency implementation.

**Existing Policy That Will be Reviewed and Prioritized for Change**

All IT policy, procedures, and guidelines will potentially be reviewed. The following policies should be addressed specifically:

- ♦ System Life Cycle Methodology policies, which would incorporate change management and business case development. Anticipated completion, FY 2005,
- ♦ the MMS policy for both FOIA and Privacy for compliance with new DOI regulations. Anticipated completion, end of FY 2005,
- ♦ the current IT Capital Planning Interim Policy Document (IPD) and incorporated into the MMS Manual. Anticipated completion, beginning of FY 2005, and
- ♦ IT Security Directive - MMS Manual (375 MMSM 19). Anticipated completion, beginning of FY 2005.

## **XI. Conclusion**

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This plan provides a strategic framework for the coordinated development, implementation, operation, and integration of information technology within the MMS to enhance the efficiency and effectiveness of the organization in meeting its mission and its business goals. It provides an organizational framework for the continued development of an architecture that can support more levels and types of electronic interactions. Over the next three years MMS will continue to be a part of the societal and governmental shift to electronic-based interactions and management. This will be accomplished through the suitable integration of information technology, such as evolving software and hardware, in all of our reengineering efforts to improve our efficiency in the use of resources and our effectiveness in meeting our mission.

IT is an important strategic aspect to the continued evolution and development of MMS' programs. To meet the future needs of the employees, customers, constituents, and stakeholders, a larger aspect of the corporate business model will be the exchange and management of information. The current IT structure is evolving through a two-pronged approach to incorporate the concepts of electronic government into practices supported by a modern IT architecture to meet these future needs.

The first approach focuses on the modernization of IT investments within the MMS by applying the business fundamentals of e-business and better IT management. This results in reduced reporting requirements and automated internal processes with the benefits of reducing time and costs, creating customer satisfaction.

The second approach focuses on integrating IT investments with other bureaus centered on groups of citizens (i.e., individuals, businesses, other governments and Federal Government employees). This will result in the creation of centralized points of access for government services and sharing information more efficiently and effectively with State, local, and Tribal governments.

The primary results we will achieve by FY 2007 are:

- A Bureau/DOI integrated EA that aligns with capital planning and provides information needed to appropriately invest for the future;
- C&A maintained for all appropriate systems;
- Reengineered the majority of MMS systems to an E-Gov environment;
- A Bureau portfolio-based IT management system;
- Provided assessments of validation and verification of data;
- Developed a Bureau Electronic Data Management System (EDMS);
- Implemented the DOI Integrated Document and Records Management System.

The MMS is a small bureau with a vast impact, and has long been committed to serving the country in the best and most proficient manner possible. It will continue looking for new innovations to ensure that the Nation receives the best value for its precious resources – now and in the future.

## STRATEGIC PLAN APPENDIX A

**Table 1**  
**IRM Strategic Goal - Milestones**

Enterprise Architecture (EA) Milestones	
2005	Educate MMS staff and management on the Enterprise Architecture.
2005	Review and Reassess the EA. Monitored Program Controls. Update and Maintain the DOI Enterprise Architecture Repository (DEAR).
2005	Stage 2: Building the EA Management Foundation. Establish Baseline for Financial, Business and Trust Systems. Verification of Financial, Business and Trust System Information.
2005	Stage 3: Developing the Modernization Blueprint. Identify Target Architecture.
2006	Stage 4: Complete the EA. Integrate EA with CPIC and SLC Processes and Execute.
2007	Stage 5: Leveraging the EA to Manage Change (50% of critical attributes).
2005 – 2007	Ensure Continuous Improvement.

Security Milestones	
2005 – 2007	Provide Annual Security Awareness Training to all Employees and Contractors.
2005 – 2007	Provide Annual Professional IT Security Training to all IT Employees and Contractors, Including System Owners, Program Managers and Project Managers.
2005 – 2007	Implement Incident Handling Program and Train Staff in Incident Handling Procedures.
2005 – 2007	Monthly Update Plan of Action and Milestones (POA&Ms) for all High Risk Systems. The POA&Ms contain security weaknesses identified during the review and audit processes.
2005 – 2007	Conduct Annual Management Control Review of all High Risk Systems.
2005 – 2007	Maintain Certification & Accreditation (C&A) for all Systems. A system needs to be recertified and reaccredited every 3 years or in the event a major change occurs.
2005 – 2007	Conduct Annual Risk Assessment of all Systems. Risk must periodically be assessed due to threats and vulnerabilities constantly changing.

E-Gov Milestones	
2005 -2007	Extend the XML data exchange protocol standard for the data associated with each cluster in OSC Connect.
2005 - 2007	Implement and extend the OMM Standard Logical Data Model (SLDM) for OCS Connect consolidating “best-of-breed” industry resources such as models, standard specifications, and reference dictionaries.
2005 – 2007	Continuation of re-engineering for OCS Connect the next tier of clusters or prioritized processes. As enabling technology that supports the re-engineered processes is developed and enhancements of existing capabilities are implemented, the supporting infrastructure will be expanded to enable integration into the live environment.
2005 – 2007	Enhancement of three particular electronic options for OCS Connect: online reporting, software upload transmissions over the Internet, and Electronic Data Interchange.

<b>Capital Planning Milestones</b>	
2005	Complete a Comprehensive IT Asset Inventory.
2005	Develop project management policies and procedures for all levels of IT investments.
2005	Implement an Automated System to assist in the Planning, Evaluation, Selection, and Control of IT projects.
2005	Develop IT portfolio selection criteria that supports MMS's mission, strategic goals, and business priorities.
2005	Attain ITIM Level 2 Maturity by having repeatable investment control techniques in place.
2005	Develop policy for aligning IT decision-making authority among existing Boards.
2005	Develop policies and procedures for analyzing IT investments to include validating Cost, Benefit, Schedule and Risk (CBSR) Data.
2006	Ensure that the IT investment portfolio achieves its CBSR expectations.
2007	Create and maintain portfolio selection criteria to move from project-based to portfolio-based IT management.

<b>Data Quality Milestones</b>	
2005	Continue to develop data definition templates for all Department level and bureau level IT and non-IT performance measures.
2005	Report metrics in the MMS Performance Architecture
2005	Develop a corporate process for evaluating and assessing data quality and validity.
2006	Complete an inventory and risk analysis of all data points that would be considered under the data quality and validity process.
2007	Implement a periodic assessment process based upon the completed inventory for data and first assessment.

<b>Document and Records Milestones</b>	
2005	Develop an EDMS/ERMS Strategic Plan.
2005-2007	Develop and Revise Records Management Policies consistent with the Department.
2005	Implementation of a Leasing/NEPA Application.
2005	Complete the MMS Records Inventory and Analysis.
2005	Develop business rules for all e-documents.
2005	Develop a Computer-Based Records Management Training Program.
2005 – 2007	Develop an Bureau Electronic Document Management System
2007	Integrate the Department's Electronic Records System

## STRATEGIC PLAN APPENDIX B

### MMS Security Plan Summaries

#### MMSNet System Security Plan

The MMS Network (MMSNet) provides the basic network functionality to MMS major applications and other applications. The computer network is made up of three LANs consisting of interconnected personal computers. The MMS operating environment consists of a Microsoft based LAN/WAN supporting a headquarters offices in Herndon, and regional offices in Denver and New Orleans (including Camarillo and Anchorage). The majority of MMS users have workstations for exchanging e-mail using Microsoft Outlook and Microsoft Office for office automation. There are data centers in each of the regional offices with Denver providing centralized computer operations support. The data centers consist of a variety of Windows and UNIX based servers that provide the infrastructure to support the MMS IT architecture. Contractors are used extensively to supplement the skills of the government staff to support IT operations and help desk support.

The only system accessed by the general public is the Bureau's web site, [www.mms.gov](http://www.mms.gov). Its host resides on a separate segment of the network (DMZ) and has public access considerations built into it. However, MMS allows limited access to data for selected external users, such as Indian tribes and oil companies, to receive information from the Data Warehouse via Brio Portal tools that create views and “canned” (pre-written) reports for these users. This access requires a userid and password that drives security that limits the data that may be accessed by the user to only their data.

The MMS WAN consists of the MMSNet and a backbone segment provided by MCI. The MCI backbone interconnects MMS major sites and provides for connections from MMS major sites to other external entities. The MMS will accredit only the three LANs (MMSNet) because the Department will assume responsibility for the WAN backbone in the future.

The MMSNet System Security Plan contains technical information about the system, its security requirements, and the controls implemented to provide protection against its risks and vulnerabilities. It also delineates responsibilities and expected behavior of all individuals who access the system including Management Controls, Operational Controls, and Technical Controls. The MMSNet SSP follows the NIST 800-18 Guide for Developing Security Plans for Information Technology Systems.



## **ABACIS System Security Plan**

The Advanced Budget Accounting Control Information System (ABACIS) operates under the authority of the MMS Office of Administration and Budget (OA&B) in Herndon, VA. The MMS operates ABACIS as its core accounting and financial management system. The purpose of ABACIS is to support the Bureau's accounting and financial needs and to provide program managers with accurate and timely financial resource information. The ABACIS uses a hierarchical relational database structured to facilitate all levels of reporting, including reports to OMB, Treasury, program managers, and preparation of CFO related financial statements. The ABACIS system functionality includes recording all cash, budgetary, and proprietary transactions.

The ABACIS is physically housed in a government-leased building located in Herndon, VA. The building is occupied by federal agencies as well as private industry and is not open to the public. Physical and electronic barriers restrict access to the facility to authorized personnel only. The ABACIS operates on an HP3000, Model 967 minicomputer utilizing MPE/iX operating system together with TurboImage database management software. The security software packages used to protect the system resources are Security 3000, VEAudit 3000, and DBAudit.

The information handled by ABACIS is essential to the mission of MMS. The loss, misuse, or unauthorized modification of data contained in the system could greatly affect MMS's ability to perform its mission or cause significant embarrassment to the Bureau. Protection of this system remains essential. The information processed by the system is as follows: Privacy Act, financial/budget, and mission critical.

The ABACIS System Security Plan (SSP) contains technical information about the system, its security requirements, and the controls implemented to provide protection against its risks and vulnerabilities. It also delineates responsibilities and expected behavior of all individuals who access the system including Management Controls, Operational Controls, and Technical Controls. The ABACIS SSP follows the NIST 800-18 Guide for Developing Security Plans for Information Technology Systems.

## **TIMS System Security Plan**

The Technical Information Management System (TIMS) is a major critical computerized information system that automates many of the business and regulatory functions of the OMM. The system enables the MMS regional and Headquarters staff to share and combine data; create and print maps; standardize processes, forms, and reports; promote the electronic submission of data; and reduce the costs of setting up and maintaining duplicate databases and information storage and retrieval systems. The TIMS also assists staff in providing estimates of undiscovered economically recoverable resources and in deriving estimated reservation prices for oil and gas tracts offered for lease on the Outer Continental Shelf (OCS).

The TIMS consists of more than 40 major program areas, known as components. These 40 components contain over 800 separate modules (applications, forms, and reports). The system uses approximately 55 different types of hardware items and 68 software items to operate.

One TIMS component, eWell, is a web based component. Oil companies submit information collected on operations associated with the regulatory compliance and conduct of well drilling, well completion, and workover operation on the OCS. Specifically, eWell has web based applications for receiving and approving of well permitting and reporting information for well operations from the oil industry.

The TIMS database stores detailed information on about 1.4 billion acres of submerged lands; on nearly 6,500 leases in the Gulf of Mexico, Alaska, and Pacific OCS Regions daily lease activities, production volumes of minerals--primarily oil, gas, and sulfur, and on a wide variety of development, exploration, and environmental plans, actions, and activities.

The TIMS System Security Plan contains technical information about the system, its security requirements, and the controls implemented to provide protection against its risks and vulnerabilities. It also delineates responsibilities and expected behavior of all individuals who access the system including Management Controls, Operational Controls, and Technical Controls. The TIMS SSP follows the NIST 800-18 Guide for Developing Security Plans for Information Technology Systems.

## **OCS Connect System Security Plan**

The OCS Connect is in the Developmental/Acquisition phase of its life cycle. The development of the OCS Connect is a major effort undertaken by the OMM to move the program toward an integrated client/server network architecture that provides high quality, flexible, responsive, user-oriented, integrated data process at a reasonable cost.

- ♦ OCS Connect is a multi-year program for OMM designed to transform key business processes and implement technologies to support the transformed business model.
- ♦ OCS Connect will re-engineer approximately 78 of OMM's key business processes.
- ♦ The OCS Connect System is composed of 6 subsystems including a centralized business integrity (security) subsystem.
- ♦ OMM will deploy approximately 5 modular deliveries (versions) the OCS Connect technical solution within the next 6 years.
- ♦ The OCS Connect database will store detailed information on about 1.4 billion acres of submerged lands; on nearly 6,500 leases in the Gulf of Mexico, Alaska, and Pacific OCS Regions daily lease activities, production volumes of minerals--primarily oil, gas, and sulfur--and on a wide variety of development, exploration, and environmental plans, actions, and activities.

The criticality of the OCS Connect is considered as Mission-Critical, because the failure or unavailability of the system components, its resources, and its data will preclude OMM from performing its core mission.

The OCS Connect System Security Plan contains technical information about the system, its security requirements, and describes controls, in place and planned, to protect OCS Connect resources and services. It also delineates responsibilities and expected behavior of all individuals who access the system including Management Controls, Operational Controls, and Technical Controls. In accordance with NIST SP 800-18, Guide for Developing Security Plans for Information Technology Systems, the OCS Connect System Security Plan addresses three categories of security control measures: management, operational, and technical controls.

## **Minerals Revenue Management (MRM) Re-Engineering (including RIK) System Security Plan**

The MRM is responsible for the management of all revenue associated with both federal offshore and onshore mineral leases. Based at the Denver Federal Center in Lakewood, CO, and with field offices near principal energy development areas in Texas, Oklahoma, and New Mexico, MRM provides the Federal Government with one of the largest sources of non-tax revenue.

The Bureau of Indian Affairs (BIA) and the Bureau of Land Management (BLM) administer Indian mineral leases, which are not federal leases and located only onshore, while MRM, in conjunction with BIA, provides revenue management services for mineral leases on Indian lands.

The MRM re-engineering systems consist of MRM Financial System (MFS), MRM Data Warehouse (DW)/Compliance Asset Management (CAM) System, and the newly implemented Royalty-in-Kind (RIK) System.

The re-engineering production systems (MFS, DW/CAM, and RIK) are physically housed in a USinternetworking (USi) owned private facility in Annapolis, MD. Contract employees physically located at 44 Union, Lakewood, Colorado administer the systems. The disaster recovery system is physically housed in a USi owned private facility in Wood Dale, IL. The COLD and CKS Systems (included as part of the MFS system) production sites are physically housed at the Denver Federal Center facility, buildings 53 and 85, respectively. All buildings are only open to personnel that possess an approved badge or escort.

### **Mineral Financial Sub-System (MFS)**

The MRM financial system improves the process of accounting for, and disbursing the revenues that the government collects from mineral companies extracting minerals from Federal and Indian lands. The system uses PeopleSoft Financials for education and government, a commercial-Off-The-Shelf (COTS) financial software package. This sub-system accounts for revenues whether from Royalty-in-Value (the collection of royalties from companies that pay based on percentage of the value of the sale of the mineral) or Royalty in Kind (RIK) where the government takes actual receipt of a percentage of the actual mineral produced and then sells it. This sub-system also performs distribution and verification of revenues. RIK reflects the other asset management methodology – the generation, collection, distribution, and verification of revenue. Two additional components included in the MFS system are COLD (Computer Output on Laser Disk), used to store copies of all reports and checks, and the Check Scanning equipment, used to input checks into the financial system.

### **Data Warehouse/Compliance Asset Management (DW/CAM)**

The DW/CAM system provides a repository of historical, financial, and production information used by internal users, BLM, and other agencies, as well as State and Tribal entities for auditing. The DW also provides an electronic means for industry to get reports back on the results of their royalty and production reports and for State and Tribal revenue officials to get reports on revenues received and disbursed.

The CAM extends the DW with a number of tools aimed at assuring that MRM is paid all the revenues owed. These tools include targeting tools and other specialized tools for finding anomalies in reporting for follow-up.

## **Royalty in Kind (RIK) Sub-System**

The implementation of the RIK Program requires separate software, also COTS, for tracking the taking, sale, and the unique costs associated with taking the actual minerals. Rather than receiving cash payment of royalty from lessees under the Royalty In Value (RIV) approach, the RIK asset management methodology involves taking royalty mineral ownership and competitively selling the asset for fair market value. The RIK operations are a recent departure from the primary mode of business for the MMS which is RIV. Rather than receiving all or part of its oil and gas royalties “in value” (money) from the RIK participants, RIK operations receive royalties “in kind” (a volume of the commodity). The RIK program thoroughly analyses market conditions to determine and track when it is advantageous to take its share in kind, i.e. when the total return to the government is greater. All users of the RIK System are internal to MRM – no public access is available.

## **Other Factors**

Both MFS and DW/CAM are classified as Trust Management Systems. Thus the MRM recognizes the high level of information sensitivity in terms of security for these systems, as they contain trust data. The estimated risk is at the Bureau level and could be a fiduciary loss along with a loss of public confidence. The RIK system is classified as a mission critical system. The estimated risk and magnitude of harm resulting from loss, misuse, or unauthorized access could be disclosure and inaccurate reporting of data in the RIK system.

The MRM Support System Security Plan contains technical information about the system, its security requirements, and the controls implemented to provide protection against its risks and vulnerabilities. It also delineates responsibilities and expected behavior of all individuals who access the system including Management Controls, Operational Controls, and Technical Controls. The MRMSS and RIK fully followed DOI and NIST guidance in its recent Certification and Accreditation dated May 24, 2004 .