U.S. Department of the Interior
Bureau of Land Management

Bureau of Land Management Information Technology Strategic Plan 2019–2024

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It is with great pleasure that we present to you the *Bureau of Land Management Information Technology Strategic Plan 2019-2024*—a critical guide that outlines our strategic goals and objectives.

This plan defines the overall scope and approach for how the BLM's information technology (IT) will provide vital support to programs across the Bureau, thus enabling more effective and efficient achievement of the BLM mission and organizational goals. In developing this IT strategic plan, we engaged all levels of BLM field, center, and directorate employees to develop and refine clear, concise, meaningful, and achievable strategic goals and objectives.

The realigning of IT resources under the National Operations Center will allow us to be a more streamlined and efficient IT organization, creating opportunities for us to reduce duplication and reevaluate how we provide services to our customers. The new structure of one IT organization fully embraces Federal Information Technology Acquisition Reform Act requirements; Presidential, Departmental, and Bureau initiatives; and state, center, and directorate priorities.

Communication is key to the BLM's continued success. Effectively communicating with all customers, both internal and external, is critical to ensuring that information management and technology priorities are responsive to the needs of BLM's customers and stakeholders. Technological advancements will be focused on business needs to increase efficiency and return on investments. Communication also requires transparency, and we will therefore convey IT decisions as clearly as possible through the IT Investment Board to the Executive Leadership Team, Field Committee, Business Management Council, and line managers through emails, meetings, and meeting minutes available on the IT investment management website (**https://sites.google.com/a/blm.gov/wo800im/?pli=1**).

Finally, the goals and objectives of this strategic plan cannot be fulfilled without the BLM's talented and dedicated workforce. We strive to match skillsets with the BLM's IT priorities, attract and cultivate an agile and skillful workforce, and create a positive and rewarding working environment for these valued employees.

We are adapting to take advantage of a rapidly changing technological landscape. We invite you to join us in support of this IT strategic plan that focuses on customer service, innovation, delivered security, data integration and management, and leveraging our entire BLM workforce skillset to meet the business needs and support the vital mission of the BLM.

Michael Nedd
Deputy Director, Operations

Howard Cantor
Director, National
Operations Center

Mark Nielsen
Associate Chief
Information Officer

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Information Technology in the BLM

The Bureau of Land Management's (BLM's) mission is to sustain the health, diversity, and productivity of public lands for the use and enjoyment of present and future generations. The BLM manages more than 10 percent of the nation's surface area and a large portion of the nation's subsurface minerals. These lands and resources are located primarily in the West, often in remote areas. The BLM has a highly distributed workforce that works closely with its customers to understand greatly differing local needs and to resolve often competing uses of America's public lands and resources. The BLM's multiple use mission requires a diverse workforce that encompasses a wide variety of disciplines, including almost all scientific and engineering disciplines, law enforcement, fire, conservation, energy development, and many others related to the management and use of the land as well as disciplines involved in business operations. The BLM collects, uses, and disseminates data in nearly every aspect of its work, so information technology (IT) is vital to accomplishing its mission.

IT Vision

To provide exceptional IT services, the best available equipment, and innovative solutions by engaging BLM employees and other stakeholders as our partners, using accountable processes, and maintaining a skilled workforce so that we exceed expectations of timeliness, quality, and ease of accomplishing work in support of the BLM's mission.

IT Mission

To provide IT equipment, applications, support, services, and innovative solutions that enable BLM employees to collect, report, analyze, and share land and resource data; streamline business processes and transactions with internal and external customers; and provide transparency and accessibility of information and services to all stakeholders.

The BLM collects, uses, and disseminates data in nearly every aspect of its work, so information technology (IT) is vital to accomplishing its mission.

IT Core Principles

1. Accountability.
2. Honesty.
3. Transparency.
4. Adaptability.
5. Effectiveness.

IT Goals

1. **Customers:** Build strategic customer partnerships.
2. **Innovation:** Enhance IT capabilities through innovation.
3. **Planning and Fiscal Responsibility:** Improve IT management and planning.
4. **Workforce:** Maintain a skilled, collaborative, and flexible IT workforce.
5. **Security and Service Delivery:** Provide efficient, effective, and secure IT services.
6. **Records, Data, and Information:** Manage records, data, and information as business assets.

IT Customers

BLM's IT staff serves employees at all levels of the BLM organization. BLM employees are located throughout the United States, from national offices to state, district, and field offices that are often in remote locations. Employees work in multiple disciplines within the wide range of BLM programs, such as energy and minerals, recreation and visitor services, rangelands and grazing, and fire and aviation. They need to be able to communicate and share information with each other internally as well as with highly diverse external customers and partners to accomplish their work.

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The BLM's IT Strategy

The BLM's IT strategy (figure 1) identifies the managerial and organizational actions required to translate its IT mission and vision into an implementable and measurable set of IT objectives. The goals and objectives clarify how the IT organization can best serve BLM business priorities with a wide-ranging portfolio of services and technologies, from digital radio communications to remote sensing to cloud computing. They are designed to improve the alignment of IT services, communications, data management, and technology-based innovation in direct support of BLM business efficiency.

Emphasizing these objectives while continuing to support all mission initiatives improves worker efficiency through technology, program effectiveness through innovation, and communications both internally and externally. Successful implementation of this IT strategy will enable the BLM to operate as a forward-looking organization with information management capabilities that meet or exceed customer expectations.

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BLM Information Technology (IT) Strategy

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IT MISSION

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GOALS

Customers	Innovation	Workforce	Planning and Fiscal Responsibility	Security and Service Delivery	Records, Data, and Information
Goal 1: Build strategic customer partnerships	**Goal 2:** Enhance IT capabilities through innovation	**Goal 3:** Maintain a skilled, collaborative, and flexible IT workforce	**Goal 4:** Improve IT management and planning	**Goal 5:** Provide efficient, effective, and secure IT services	**Goal 6:** Manage records, data, and information as business assets

OBJECTIVES

1.1: Collaborate with BLM employees and other stakeholders to meet business challenges	**2.1:** Encourage innovation within mission programs	**3.1:** Encourage innovation and continuous learning in the IT workplace	**4.1:** Align IT resources and innovations with business priorities	**5.1:** Improve cost performance of IT services	**6.1:** Develop processes that effectively enable a digital records program
1.2: Communicate IT services to encourage BLM employee and stakeholder engagement	**2.2:** Proactively pursue innovation in IT services	**3.2:** Improve IT workforce retention	**4.2:** Provide mission-impact analysis for innovative ideas	**5.2:** Improve service delivery performance for customers	**6.2:** Establish standards for data and information, including collection, use, and sharing, through all levels of the BLM organization
1.3: Strengthen IT Shared Service Opportunities through Office of the Chief Information Officer Initiatives	**2.3:** Evaluate innovations for shared use and speed of delivery	**3.3:** Provide IT training and assistance opportunities to BLM employees	**4.3:** Improve transparency and accuracy of IT cost accounting and management	**5.3:** Improve performance of IT infrastructure	**6.3:** Improve accessibility and use of geospatial data through all levels of the BLM organization
			4.4: Align policy, oversight, and investments with business needs	**5.4:** Provide information assurance by maintaining confidentiality, integrity, and availability of IT assets and information	

Figure 1

GOAL 1: Build Strategic Customer Partnerships

The paramount goal of the BLM's IT strategy is to understand the needs and requirements of BLM employees and other stakeholders and to work proactively to develop appropriate services and solutions that address those needs. We can meet this goal by building and maintaining strong, collaborative partnerships with our BLM customers and any future customers. This approach includes ensuring that all interactions by IT personnel—project managers, help desk and desktop support staff, development teams, engineers, capital planners and policy analysts, acquisition specialists, and others—are positive and result in demonstrable benefits for the customer.

Internally, we will employ industry standard practices and frameworks to ensure that we base our partnerships on consistent, repeatable processes and meet department and government regulations. We will use the process standards defined for federal IT programs. Our sustained engagement in partnerships will ensure that we manage projects, issues, and requests through their respective life cycles and that we achieve and communicate results.

Objective 1.1: Collaborate with BLM Employees and Other Stakeholders to Meet Business Challenges

BLM's IT staff will foster a collaborative mindset and will work to develop strategic partnerships with BLM employees and other stakeholders. Together, we will research, develop, and design IT solutions to solve priority BLM business challenges. Such collaborative partnerships will help enable solutions and ensure that our financial and resource expenditures are effective and meet our targets.

Objective 1.2: Communicate IT Services to Encourage BLM Employee and Stakeholder Engagement

BLM's IT staff will create communication products and messages that explain in plain language the services we provide and how to request those services. These materials will address costs, timeframes for engagement, expectations, roles and responsibilities, and expected response cycles. We will communicate this information regularly to all BLM employees and other stakeholders and encourage feedback so there is a clear understanding of expectations for IT services.

Objective 1.3: Strengthen IT Shared Service Opportunities through Office of the Chief Information Officer Initiatives

The Office of the Chief Information Officer will pursue opportunities to share common services through partnership initiatives that improve the quality, timeliness, and cost of the BLM's mission services. Leveraging the effective use of BLM investments and expenditures, without developing standalone or separate services, will maximize the value of each BLM IT expenditure. Common processes, regardless of operational mission boundaries, states, regions, or bureaus, will expand the available support service workforce in BLM office locations.

Customers

GOAL 2: Enhance IT Capabilities through Innovation

Promoting technology innovation is critical to the BLM's future. Whether employees are using a mobile application for field data collection, radio over internet protocol in fighting fires, unmanned aircraft systems to monitor oil and gas wells, geospatial data, or big data analytics, the BLM's IT services are central to the success of these efforts. Understanding and managing the complexities of landscape-scale resource management issues requires handling vast amounts of information and creativity and adaptability in the IT products and support services the BLM provides. The discovery and adoption of new technologies are vital to improving business efficiency and effectiveness.

Aligning innovative technologies to the BLM's business needs is essential to improving capabilities and services. BLM's IT staff will continue to maintain knowledge of and analyze current and new technology trends. In collaboration with BLM employees and other stakeholders, the IT staff will align research efforts to identify transformational technologies and applications. To mitigate resistance to change, the IT staff will provide an environment that supports innovation and focuses on change management.

Objective 2.1: Encourage Innovation within Mission Programs

IT innovation is at the core of the BLM's IT strategy. IT innovation may include services or technologies that are program-specific or that cross all programs and that increase business efficiency. Identifying or developing innovations that we can reuse or expand to meet new requirements is critical to the success of BLM's IT strategy. Through collaboration with BLM employees and other stakeholders, we will recommend innovative applications of technologies to address BLM business challenges.

Objective 2.2: Proactively Pursue Innovation in IT Services

Using the Information Technology Infrastructure Library (ITIL) as the overall framework for IT service delivery requires a strong service-oriented strategy. Using automation technologies to improve service delivery at all levels of the IT spectrum is critical to improving operational efficiencies. BLM's IT staff will implement automated processing enhancements for IT services.

Objective 2.3: Evaluate Innovations for Shared Use and Speed of Delivery

In support of system and application development and maintenance efforts, BLM's IT staff can collaborate with employees and other stakeholders to identify beneficial industry, department, or BLM shareable services and shareable data. The BLM can reduce the total cost of ownership, which includes development, acquisition, support, and disposal costs over the life of the system, by targeting investments to make shared services and data available to multiple applications or to infrastructure services. Cost transparency is a natural byproduct of moving to a service-oriented strategy. We will provide services with costs accurately identified up front.

GOAL 3: Maintain a Skilled, Collaborative, and Flexible IT Workforce

Providing the right IT skills and expertise at the appropriate stages of a project— whether it's a local, state, regional, or national project—is imperative to ensure the efficiency of BLM field operations and to ensure the effectiveness of BLM IT investments. Rapid advances and inevitable changes in technology and development methods can make it difficult to maintain the skills required to support the BLM's programs. Challenges include investing in resources with the expertise needed to reengineer business practices, provide data analytics, or integrate new efforts with ongoing projects and systems development.

Objective 3.1: Encourage Innovation and Continuous Learning in the IT Workplace

BLM's IT managers will develop and refine strategies to create and sustain a workplace culture based on continuous learning and measured improvement. BLM's IT managers will proactively seek training opportunities that enable the IT staff to acquire skills and experience to support business initiatives. The skills needed include software development, quality assurance, account management, product management, project management, data and business analysis, systems analysis, policy analysis, capacity planning, and investment strategy development.

Objective 3.2: Improve IT Workforce Retention

In collaboration with the human resources staff, BLM's IT managers will develop strategies to attract new IT employees; retain our experienced, highly skilled IT workers; and create a career ladder for advancement in IT. They will also improve recruitment strategies for interns and entry-level staff. They will focus on attracting and retaining workers who are skilled at promoting innovation and working proactively to achieve BLM business objectives.

Objective 3.3: Provide IT Training and Assistance Opportunities to BLM Employees

BLM's IT staff will identify a broad range of training opportunities for BLM employees to better use software and application capabilities such as Google Mail, Microsoft, and geospatial tools. Multiple types of training options will be considered, such as self-development and public courses that can be taken in a classroom or online, on-the-job training, or formal onsite classroom training, each designed to maximize BLM employees' efficiency in using tools and technology to support organizational and business needs.

Workforce
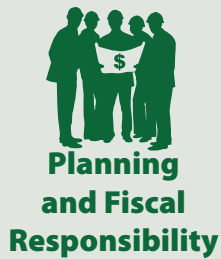
GOAL 4: Improve IT Management and Planning

Improving BLM's IT portfolio—including software systems and applications, infrastructure, and data assets—will yield positive outcomes in terms of achieving BLM business goals and increasing employee productivity. BLM's IT staff will acquire, operate, and maintain IT assets using a life-cycle approach that is value-based, driven by customer priorities, and committed to ensuring fiscal predictability over the life cycle. We will identify opportunities to maximize the reuse potential of IT assets and to find innovative technologies that meet business needs and add value for our customers. We will jointly evaluate and process innovative ideas presented by BLM employees in a timely manner to enable action. Rapidly evolving technology requires responsive processes and thoughtful, trusting partnerships.

Objective 4.1: Align IT Resources and Innovations with Business Priorities

The BLM IT organization will establish transparent processes that align with business priorities to improve responsiveness, identify innovations, build interdisciplinary project teams, enhance partnerships, and optimize use of internal resources and existing IT assets. In collaboration with key stakeholders and business partners, BLM's IT staff will evaluate requirements and requests, determine suitability of solutions, allocate the proper resources, and communicate the status of requests to our customers to manage expectations or provide alternative solutions.

Innovation in the use of technology will be driven by how it will benefit BLM employees and other stakeholders and meet business needs. The IT staff can support and enable innovation by working closely with BLM employees and other stakeholders to understand where the application of technology can solve program-specific issues.

Objective 4.2: Provide Mission-Impact Analysis for Innovative Ideas

BLM's IT staff will evaluate the potential value and costs for ideas generated by BLM employees and other stakeholders. They will evaluate the technical feasibility, life-cycle cost/benefit, and security. After employees and other stakeholders define their needs, BLM's IT staff will work with them to collaboratively identify solutions that represent the best value to the Bureau and ensure the most effective use of IT resources.

This evaluation effort includes reviewing data and functional services within the existing BLM IT portfolio and reviewing alternative service providers. Analysis of alternative shared service providers—such as other Department of the Interior (DOI) providers, commercial service providers, cloud services, and physical on-premise providers—will help establish the most efficient and effective means to deliver services within the enterprise.

Objective 4.3: Improve Transparency and Accuracy of IT Cost Accounting and Management

BLM's IT staff will improve cost accounting and budget transparency by focusing on aligning IT services with BLM business priorities. IT cost information in BLM's system of records must be complete, accurate, and free from material misstatement. IT cost data are critical to meet the requirements of the Federal IT Acquisition Reform Act. IT cost data also support Office of Management and Budget (OMB), DOI, and BLM goals of strong financial management and provide accurate and reliable information that is useful for assessing financial performance, allocating resources, and making decisions related to IT activities.

Objective 4.4: Align Policy, Oversight, and Investments with Business Needs

BLM IT governance will be clearly defined and the IT Investment Board will be accountable for the success and efficiency of IT policy and investments. All organizational levels participating in policy development or investment will know how to manage and communicate any change related to guidelines, policy, spend plans, asset costs, and investments. Governance decisions balance workforce efficiency against regulatory requirements, other investments, shareable technologies, shared services, or shared service components (such as reusable "building blocks" or shareable data). BLM IT investment decisions will foster reuse of IT assets and IT policy implications will be understood prior to implementation.

Planning and Fiscal Responsibility

GOAL 5: Provide Efficient, Effective, and Secure IT Services

Providing secure, cost-effective, and valuable IT services to BLM employees, partners, and the public is integral to successfully accomplishing the BLM's mission. The BLM's IT staff is commited to implementing Information Technology Infrastructure Library (ITIL) management processes to improve service delivery and align with OMB, technology business management, and Federal Information Security Management Act principles.

Objective 5.1: Improve Cost Performance of IT Services

Consistent with the principles of transparent IT cost-accounting measures and performance value, the BLM's IT staff will baseline the cost and value of IT services and continuously improve the cost performance of these services.

Objective 5.2: Improve Service Delivery Performance for Customers

For customer support services, such as desktop support, BLM's IT managers will review, improve, and refine the service delivery model, measures, communications, and performance in support of continuous business improvement efforts.

Objective 5.3: Improve Performance of IT Infrastructure

For infrastructure support services, such as network services, BLM's IT managers will review and improve the service delivery model, measures, communications, and performance consistent with ITIL continuous business improvement principles.

Objective 5.4: Provide Information Assurance by Maintaining Confidentiality, Integrity, and Availability of IT Assets and Information

Information assurance is the responsibility of everyone who uses IT assets and information. BLM's IT staff will work with BLM employees, contractors, volunteers, and partners to protect the agency's information and IT assets, including networks, infrastructure components, systems, applications, and computing devices from security threats. They will also ensure that IT security efforts comply with DOI and federal security requirements.

GOAL 6: Manage Records, Data, and Information as Business Assets

Managing data-related business processes, records management practices, application development techniques, and related business decisions to strategically take advantage of information assets reduces the cost of data acquisition, storage, and user access and shortens product delivery times. Developing a data life-cycle management methodology that optimizes data or records management also reduces costs.

Data and other information required by BLM programs should be authoritative, easily discoverable, accessible, and managed according to life-cycle principles and best practices. Management of authoritative data, which are data that provide trusted, timely, and secure information to support a business process, demands data quality in the measured form of precision, consistency, accuracy, completeness, timeliness, uniqueness, and validity. The BLM's enterprise data management practices encompass multiple types of data and records, including geographic information system data, imagery, mapping, databases, structured text, and analog records. Implementing improved data and records management practices will enhance data quality, facilitate reusability, and foster trust in program data. This approach will also contribute to improved decisionmaking within BLM programs.

Objective 6.1: Develop Processes that Effectively Enable a Digital Records Program

BLM's IT staff will establish a baseline and reduce the cost of managing BLM enterprise records with clear, objective differentiation between new records and historic digital records. They will reduce the time it takes BLM employees and their external partners and customers to research and discover the authoritative scanned, paper, or digital records (text, map, and geospatial data) necessary to perform land and resource management analysis or defend BLM management decisions.

Objective 6.2: Establish Standards for Data and Information, Including Collection, Use, and Sharing, through All Levels of the BLM Organization

In collaboration with other staffs, BLM's IT staff will develop a data framework and create a culture that ensures mission data needs are met within specified timeframes with the quality and operational integrity required throughout all levels of the decisionmaking process, from local needs through broad national landscape needs. Data and information stewards will be responsible for delivering quality products to the public and have clear lines of accountability for enterprise data management. Local, regional, and national resources will be aligned to

Records, Data, and Information

provide consistent, high-value information for BLM's priority decisions. Enterprise data frameworks and catalogs will provide authoritative data sources, systematic access to data holdings, and a structure for future data standards and schema creation and will eliminate the need to maintain data in multiple systems.

Objective 6.3: Improve Accessibility and Use of Geospatial Data through All Levels of the BLM Organization

BLM's IT staff will collaborate with other staffs to create a culture that will deliver geospatial capabilities and data that ensure mission data needs are met within specified timeframes with the quality and operational integrity required throughout all levels of the decisionmaking process, from local needs through broad national landscape needs. Geospatial stewards will be responsible for delivering quality products to the public and have clear lines of accountability for enterprise geospatial data management and technology support. Local, regional, and national resources, especially technology and geospatial processes, will be aligned to provide consistent, high-value information for BLM's priority decisions. Enterprise geospatial frameworks and catalogs will provide authoritative data sources, systematic access to geospatial data holdings, and a structure for future geospatial data standards and will eliminate the need to maintain redundant systems or strategies.