State of Montana

Office Of Public Instruction
IT Strategic Plan 2016

1. Executive Summary

The IT Division experienced dramatic growth of its supported environment in the past five years. The time has now come to effectively leverage the investments made and streamline the IT operations in order to provide quicker, more cost effective services to the agency.

A major goal of IT over the next biennium is to replace the OPI's server infrastructure environment. The agency will review all alternatives with a focus on moving to the SITSD hosted environment. The only major IT development initiative that the OPI is currently planning is the replacement of the software used to support the Child Nutrition program.

The Every Student Succeeds Act (ESSA) was signed by President Obama on December 10, 2015, and represents good news for our nation's schools. This bipartisan measure reauthorizes the 50-year-old Elementary and Secondary Education Act (ESEA), the nation's national education law and longstanding commitment to equal opportunity for all students.

ESSA makes significant changes to the previous version of the law, No Child Left Behind (NCLB). These changes include modifying the OPI data collections and the reports that will need to be made publicly available.

As the OPI interprets the new law, there will be a variety of changes that will be required to the technology systems that support the agency. The extent of the changes will be determined in the first months of FY17.

The agency Strategic Directions do not specifically mention IT projects, but a stable, robust technology environment is required for all agency work including the work described in the Strategic Directives.

2. Environment, Success, and Capabilities

In order to meet the OPI's strategic goals and to perform the day to day activities of the agency the IT Division has the following goals:
- Develop a stable, robust information systems environment to support the activities of the agency;
- Devote development resources to the maintenance and enhancement of OPI information systems;
- Provide the environment, tools and processes needed to accurately analyze and report the data the agency collects; and
- Provide the tools needed to effectively communicate with employees and constituents across the state.

3. IT Contributions and Strategies

The OPI IT Division supports all divisions within the OPI. All OPI employees depend on stable, effective systems to perform their job functions. Most IT functions are seen as a service that always needs to be available and 'on'. The OPI has met this service level by managing their own hardware and a maintaining a Network Services Bureau dedicated to providing IT resources for the agency.

The OPI also maintains a large portfolio of in-house written applications including MAEFAIRS (school finance), AIM (the state student information system), TEAMS (accreditation) and GEMS (the data warehouse for the OPI) to support agency business functions including the distribution of state support to schools, licensing educators, and accrediting schools. The Systems Development Bureau is dedicated to maintaining these applications and modifying them as necessary to support the ever changing regulatory environment.

Finally, the OPI undertakes large IT projects from time to time. These projects tend to be grant funded and use third party resources or resources hired specifically for the project. The IT Division staffs these projects and typically provides oversight of the efforts.

All of these efforts tie to the OPI business goals by providing the tools needed to produce the reporting, manage the funding and provide other technical resources to accomplish the agency's mission.

4. IT Principles

The OPI adopts the IT principles as outlined in the State of Montana's Strategic Plan 2016:
- BE ACCOUNTABLE:
  - Resources and funding will be allocated to the IT projects that contribute the greatest net value and benefit to Montana stakeholders.
- MINIMIZE DUPLICATION:
  - Unwarranted duplication will be minimized by sharing data, IT infrastructure, systems, applications and IT services.
- SHARE OUR RESOURCES:
  - Montana will use shared inter-state systems to minimize IT expenditures, improve service delivery and accelerate service implementation.
- IMPROVE BUSINESS:
  - IT will be used to provide educational opportunities, create quality jobs, a favorable business climate, improve government, protect individual privacy and protect the privacy of IT information.
- USE RESOURCES WISELY:
  - IT resources will be used in an organized, deliberative and cost-effective manner.
- DELIVER SERVICES:
  - IT systems will provide delivery channels that allow citizens to determine when, where, and how they interact with state agencies.
- PROTECT PRIVACY, DATA AND SYSTEMS:
  - Mitigation of risks is a priority for protecting individual privacy, confidential data and IT Systems.

Additionally, the OPI follows the following principles:
- The security of student data is of primary importance and should be addressed prior to all other considerations.

- Existing solutions within the agency will be utilized prior to exploring new or competing solutions.
- When possible, the IT Division will cross train staff to ensure depth of knowledge on products used or developed by the OPI.
- The OPI will consolidate and where possible, integrate its product offerings and platforms to make most effective use of its IT resources.

5. IT Governance

The OPI maintains a Data Governance process to control what data the agency collects, how it stores this data and how the data is presented to the general public. The Data Governance Council does not directly control IT activities and projects, but has a direct impact on the scope of projects. The Data Governance Council is required to review any IT activity that involves the collection of new data.

All IT initiatives, including enhancement and maintenance efforts are maintained by the IT Division Administrator and are discussed with the Assistant Superintendent of Operations on a monthly basis. Key initiatives are discussed with an emphasis on efforts that require management decisions to move forward or are on hold due to resource constraints.

Large IT projects are controlled via a Project Leadership Team (PLT). The PLT typically involves the project manager, the senior management sponsor, the program owner and the IT Division Administrator. The PLT approves the scope of the project, provides official signoff on deliverables and serves as the escalation point for project decisions.

6. IT Financial Management

The OPI Information Technology Division is treated as a cost center of the OPI. The cost centers fund the personal services and operating expenses for in-house computer systems and network analysts or contractors responsible for the development and maintenance of OPI's applications. Cost centers are funded with state, federal or in some instances proprietary dollars (indirect costs).

The OPI maintains approximately 60 applications which are both used to collect data from school districts as a result of state mandates and federal reporting requirements and to provide support for agency operations. Applications are also used to distribute state and federal funding to K-12 school districts. When system development or modifications are identified as a result of a legislative mandate or reporting requirement, agency program managers and directors will meet to discuss potential IT expenditures and funding. If the request is a result of a state mandate, the OPI may seek funding through the legislative process to secure dollars and/or FTE for the cost of IT services. If the development is a result of a federal reporting requirement the cost is paid from the federal grant/s for which the reporting is required. Depending on the scope of the project, OPI management will determine whether the work can be handled in-house with agency IT staff or through a contract with a vendor.

7. IT Services and Processes

The OPI IT Division offers all IT services required by the Agency.
Services provided include:
- Network Services – including maintaining a complex server environment, application monitoring, data backup and disaster recovery
- Desktop Computer Services – including maintenance and upgrades of desktops, laptops
- Database Management – including the creation of new databases. Maintenance of existing environment and monitoring of database performance
- Security Management – provide management of access to agency applications and develop security policy and procedures
- Technical Help Desk – single source for assistance with all OPI IT solutions
- Vendor Coordination – provide assistance with vendors of IT services including SITSD
- Development Services – maintain 80+ OPI developed applications as well as oversight of development vendors
- Web Development Services – maintain the OPI web site
- Video Services – including producing videos for agency use and editing/maintaining video
- Project Management Services – provide project management for large IT efforts
- School Computer program – the OPI collects IT equipment that other state agencies no longer use and distribute the equipment to Montana schools including 2000 PCs a year as well as servers and peripherals

8. IT Infrastructure, Staffing and Resources

IT Infrastructure
The OPI has three primary solutions for IT infrastructure:
- OPI owned hardware housed at the state data center. All OPI developed applications run on this infrastructure as well as some vendor developed solutions. The OPI utilizes the Miles City Data Center (MCDC) to provide disaster recovery for mission critical applications in this environment.
- SITSD provided hardware is used to support the OPI eGrants system. SITSD provides disaster recovery capabilities.
- The state student information system (AIM) is hosted by Infinite Campus, the vendor for the solution. Infinite Campus provides disaster recovery for their product.

The MCDC houses both the OPI's nightly backup of data and enough hardware to run OPI's mission critical applications in the event of a disaster.

IT Staffing
The OPI maintains an IT staff of 23 individuals within the Operations Division. Staff includes an IT Division Administrator, one project manager, a Network Services Bureau Chief who manages eight individuals (network administrators, databases analysts, help desk and security), a Systems Development Bureau Chief who manages ten developers and an individual who manages the School Computer program.

9. Risks and Issues

Primary Risk	Probability	Impact	Mitigation Strategy
Security breach	Medium	High	Our agency has an active security program including, but not limited to, staff training and awareness, data encryption, security policies and information system security planning.
Difficulty of hiring and retaining qualified technical staff	High	High	Increase pay for positions most affected by this issue.

10.   IT Goals and Objectives

Goal 1   **Implement the Every Student Succeeds Act (ESSA)**

Description: The Every Student Succeeds Act (ESSA) was signed by President Obama on December 10, 2015, and represents good news for our nation's schools. This bipartisan measure reauthorizes the 50-year-old Elementary and Secondary Education Act (ESEA), the nation's national education law and longstanding commitment to equal opportunity for all students.

ESSA makes significant changes to the previous version of the law, No Child Left Behind (NCLB). These changes include modifying the data collected by the OPI and the reports that will need to be made publically available.

As the OPI interprets the new law, there will be a variety of changes that will be required to the technology systems that support the agency. The extent of the changes will be determined in the first months of FY17.

Benefits: The agency needs to complete this goal in order to stay compliant with new Federal regulations.

Goal 2   **Improve Information Technology Efficiencies and Capabilities**

Description: Improve efficiencies and capabilities by implementing new technologies when older technologies no longer serve their function or the mission of the agency and using existing software and hardware to their full potential by integrating solutions where appropriate.

Benefits: Reduced cost, improved employee and program efficiencies, as well as customer satisfaction with related information and availability of services.

Supporting Objectives

Objective 2-1 – Fully utilize the capabilities of existing software packages

Description: The OPI currently owns a number of software solutions that were purchased to solve a specific business requirement. Some of the software solutions may be leveraged throughout the agency at no additional cost. The OPI intends to analyze existing solutions and determine how they can be used throughout the agency.

Objective 2-2 – Review and consolidate the OPI server environment

Description: The OPI experienced dramatic growth in its infrastructure in the last four years. The rapid growth resulted in some operational inefficiencies. The OPI intends to review its hardware infrastructure and restructure the environment based on industry best practices.

Objective 2-3 – Refresh the OPI server environment

Description: The OPI's current network environment is nearing its end of life. The agency will research replacing the current environment including a focus on moving the environment to a SITSD hosted solution.

Objective 2-4 – Further integrate existing software solutions

Description: Continue to integrate existing data systems to minimize the data reporting burden on school districts and to effectively and efficiently meet state and federal reporting requirements.

Goal 3   New application development

Description: There are several upcoming projects that need applications developed. These efforts may require purchasing an off the shelf product, some may be developed in-house, and others may require the services of a contractor. Each application will be evaluated to determine the best use of existing tools, staff, and budget.

Benefits: The OPI utilizes many software solutions to complete its mission. New applications are required to stay current with changing regulations or to increase operational efficiencies.

Objective 3-1 – Replace the existing Child Nutrition Program solution

Description: The current software solution used to support Child Nutrition has reached its end of life. An RFP was issued in February 2016 for a new solution. The winning vendor will be selected in May 2016 and the implementation of the solution will occur in FY17 and FY18.

Goal 4   Records Management

Description: Work with the Department of Administration, eRIM committee and the Secretary of State Office to implement an enterprise solution for electronic records management.

Benefits: Effective records management enables the easier location of records, reduces storage requirements and allows the control of the destruction of records in compliance with state law.

Goal 5 **Project Management Development**

Description: Further develop the Project Management practice within the OPI including coordinating with the SITSD Project Management Office, supporting ongoing training, using standard methodologies for repeatable processes and facilitating IT project portfolio management. Ensure IT projects are being driven by business needs and effective contract management.

Benefits: Project management practices have been demonstrated to improve the probability of success of projects and help ensure that projects are completed on time, on budget and that they meet the needs of the agency.

Goal 6 **Improve the security environment for the agency**

Description: The OPI has many security policies and procedures in place and reviews them on a regular basis. With the recent adoption of the Information Security Program policy, the agency will have to take a fresh look at its security practices and implement additional process and procedures in order to comply with the new statewide policy.

Benefits: This goal will result in a more secure environment for the data housed within the agency.

Supporting Objectives

Objective 6-1 – Implement the appropriate NIST guidelines within the agency

Description: In order to comply with the new statewide security policy, NIST guidelines must be interpreted and implemented within the agency.

Objective 6-2 – Institute an enterprise identity management system to control the provisioning and authentication of accounts with access to OPI data

Description: As the OPI collects and stores additional data about the student population, the effective control of access to this data is crucial to maintaining the required confidentiality.

Objective 6-3 – Update the disaster recovery plan and create a Continuity of Operations Plan.

Description: The OPI currently has a disaster recovery plan for an agency-specific failure, but does not have a complete Continuity of Operations Plan. The OPI will work with the Department of Administration to prepare and test such a plan.

11.   IT Projects

Item	Description
Project name	Direct Certification Enhancements
Project/program purpose and objectives	The OPI recently introduced a new system that uses DPHHS data to directly certify students for the schools nutrition program. The agency recently received a USDA grant to enhance the system to increase usability, add additional sources of data for use in certification and to build interfaces to school district systems
Estimated start date	January 21, 2014
Estimated cost	$984,000
Funding source - 1	USDA Grant - $971,000
Funding source - 2	General Fund – $13,000
Funding source - 3	
Annual Costs upon completion	N/A

Item	Description
Project name	ART II Grant
Project/program purpose and objectives	The project will replace existing school nutrition systems currently in use at the OPI and add additional automation to increase agency efficiencies.
Estimated start date	October 1, 2015
Estimated cost	$1,515,000
Funding source - 1	USDA Grant - $1,497,000
Funding source - 2	General Fund - $18,000

Item	Description
Funding source - 3	
Annual Costs upon completion	To Be Determined

Item	Description
Project name	
Project/program purpose and objectives	
Estimated start date	
Estimated cost	
Funding source - 1	
Funding source - 2	
Funding source - 3	
Annual Costs upon completion	

12.   Security and Business Continuity Programs

The OPI understands the importance of incorporating NIST security standards into its security framework, and has been taking action to align its security program with the NIST standards.

The OPI has volunteered to serve on the State's recently formed Information Security Advisory Council (MT-ISAC) and is an active participant in the workgroups formed by the MT-ISAC.

The OPI has recently established an additional position within its Information Security area to assist with the day to day activities. This will allow the OPI's Information Security Systems Analyst to focus on implementing the Information Systems Security Plan recently adopted by the agency.

The OPI continues to work with the Dept. of Administration's Continuity Office to create plans for restoring essential State services in the event of a serious incident, disaster or interruption that affects the state's infrastructure or people. We are using the state's continuity planning tool, LDRPS (Living Disaster Recovery Planning System) which has been configured based on Federal guidelines, the State's requirements and best practices.

All of the Phase 1 steps of the Business Continuity Plans are complete. Phase 1 steps include identifying Services/Processes (S/P) for all divisions and identifying owners, legal authorities and critical processing periods for each S/P. Each S/P has been ranked against the state essential functions and assigned a recovery time objective. Necessary information systems, applications and software have been assigned to each S/P. Key external contacts, including vendors and districts have been loaded into LDRPS which links to Notifind, our automated notifications system. Key personnel have identified two successors who are authorized to assume their duties. We are currently reviewing all plans to check for missing Phase 1 items and to ensure that succession plans include current employees. At the end of this review, the plan will be published and a decision will need to be made regarding on- and off-site locations for hard copies of the plan.

Phase 2 includes assigning recovery resources and managing documents. We will start Phase 2 in September 2016 with identifying Teams/members, Telecoms and Tasks for each S/P..

13. Planned IT Expenditures

	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021
IT personal services	1,926,504	2,090,954	2,117,575	2,132,028	2,132,028	2,132,028
IT operating expenses	561,867	588,941	590,000	600,000	600,000	600,000
IT initiatives	664,423	648,347	594,000	98,000	0	0
Other						
Total	3,152,794	3,328,242	3,301,575	2,830,028	2,732,028	2,732,028

14. Administrative Information

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