

Office of Information Technology (OIT) Strategic Plan FY 2015 – 2020

Office of Information Technology - Vision, Mission, Pillars, and Values

Vision Statement

- We believe in the promise and capacity of information technology to improve and empower learning, teaching, and research at Boise State University.

Mission Statement

The Office of Information Technology (OIT) advances Boise State educational and research experiences through high quality, innovative technology solutions and services within a sustainable, effective, and efficient environment.

In support of this mission, we will:

- Provide specific projects and actions that meet both University objectives and organizational needs.
- Create a 3-5 year high-level plan for technology at Boise State in alignment with the vision and objectives of the [University Strategic Plan](#).
- Address OIT organizational needs and deficiencies.

Our Pillars

In our quest to provide exemplary customer service and innovation in technology solutions and processes, we use pillars to guide and ground us:

- **Keep Score:** We measure what we are doing, share those measurements, and fix what's not working.
- **Free the Data:** We make data accessible and usable to our staff and clientele.
- **Concept of One:** We align our IT services to reduce duplication of effort and function. *Do it once. Do it right. Use it everywhere.* We use one technology, not multiple, to accomplish the same thing. We need to stop doing stuff. This leads to the **Concept of Zero:** *Don't do it at all. Let someone bigger do it.*
- **IT Rationalization:** We evaluate proper sourcing of our technology. Sometimes we build, we buy, or we outsource or partner to focus on value-added IT services. (See Concept of One above.)
- **Amazonification:** Keep adding, keep improving. Our web and mobile experience needs to be a continuous cycle of improvement using a service-oriented architecture. Think iterative development – agile sprint methodology. This applies not just to our development but also to our operations, services, and processes in support of our Boise State community – students, faculty, and staff.
- What we do is a **Team Sport**. We stand on the shoulders of others. We learn from others. We borrow from others. We don't do everything ourselves.
- **Value the Human:** The human factor is important in the use of technology.
- **Change is Inevitable:** Technology change is a constant and creates opportunities.

Our Values

- We listen to and respect students, faculty and staff.
- We strive for operational excellence and provide efficient, sustainable, secure, and stable university operations through technology.
- We strive for exemplary customer service across all OIT departments.
- We encourage creative and critical thinking in our solutions, practices, and operations.
- We are dedicated to a team-oriented environment, gathering varied perspectives, sharing knowledge, and building relationships.
- We leverage open communication and thoughtful business processes for accountability in our interactions and work.

Introduction

Information Technology plays an ever-increasing role in teaching, learning, and research in today's higher education environment. Technology is pervasive on campus and throughout our world, and is no longer the exclusive domain of the IT department; Boise State students, faculty, staff and alumni use technology in progressively innovative and creative ways.

The Office of Information Technology is committed to the continuous evolution and improvement of our solutions, services and support for the University community. Our OIT Strategic Plan serves as a blueprint, intended for regular review to ensure alignment of technology initiatives with the broader [University Mission and Strategic Plan](#). The goals identified serve as long-term strategies achieved through implementation of supporting objectives and action items (see Appendix). These action items will be accomplished, adapted and modified as changes occur to the University's strategic priorities, and are meant to reflect the progress of Boise State University as well as progression of technology.

The OIT Strategic Plan is divided into these objectives:

- **Infrastructure** - Boise State University will build and maintain a sound, advanced, secure, and productive physical information technology infrastructure capable of supporting broad and effective use by students, faculty, and staff throughout the institution, including members of the University community operating from remote locations.
- **Customer Support** - Boise State University will develop and maintain a robust, multi-tiered support environment to meet the diverse levels and specific needs of the University, ensuring community members make effective use of technology resources. We must evaluate opportunities to reinvent our academic and business practices to improve service and efficiency.
- **Learning and Teaching** - Boise State University will cultivate excellent teaching and learning using appropriate and innovative technologies.
- **System Support** - Boise State will develop and maintain IT resources and acquire, develop and deploy information systems, applications, and tools enabling effective and efficient function of the University as an enterprise.
- **Quality Through Organizational Initiatives** - OIT will plan and implement specific organizational initiatives to improve quality and effectiveness.
- **Evolve IT Governance** - Boise State University will develop advisory and communication structures to ensure continued involvement of the University community in the

implementation of strategic recommendations and actions presented in this plan; support the ongoing operation of information technology resources delivered to the University community; and, improve flow of information between our central IT organization and the University community in all its forms (faculty, students, IT providers, staff, and administrators).

Infrastructure

Boise State University will build and maintain a sound, advanced, secure, and productive physical information technology infrastructure capable of supporting broad and effective use by students, faculty, and staff throughout the institution, including members of the University community operating from remote locations.

Campus Data Centers

OIT will review and make recommendations to meet future University data center needs.

Networking

OIT will continue to expand and support the University network to meet campus and research needs for capacity, access, and security.

Cloud Services

The University will develop a strategy and approach to the deployment and support of cloud-based computing, including infrastructure and hosted third-party application solutions.

Integrated Identity Management System

OIT will design and implement a unified/federated University-wide identity management framework, allowing quick and efficient moves/adds/changes within the University, along with the ability to grant limited secure access to partners outside of Boise State.

Customer Support

Boise State University will develop and maintain a robust, multi-tiered support environment to meet the diverse levels and specific needs of the University, ensuring community members make effective use of technology resources. We must evaluate opportunities to reinvent our academic and business practices to improve service and efficiency.

Build a Community of Support

OIT will review past support needs; surveys of faculty, students and staff; and interview deans and chairs to identify how OIT can improve support focus. OIT will look to the University's Prioritization Plan to identify campus needs and centralize support services where possible.

Campus-Wide Support Model

To better leverage varied and diverse support resources, OIT will develop and communicate a well-articulated model defining roles that users of technology, departmentally-based IT support providers, and central IT play in collaboratively supporting the University's technology ecosystem.

Research Cyberinfrastructure

Boise State will develop and maintain plentiful information technology resources to enable and advance discovery, and support innovation, collaboration, and entrepreneurship when effectively and broadly used by faculty in research.

Learning and Teaching

Boise State University will cultivate excellent teaching and learning using appropriate and innovative technologies.

Classroom Technology

OIT will review the state of its classrooms, and develop a holistic plan to ensure learning spaces remain relevant, presentable and strategic. This plan will involve faculty, Facilities, IT, Office of the Registrar, and many others to address instructional need, capacity, scheduling, quality and presentation, technology, etc. OIT and the University will work to implement the plan as appropriate.

Blackboard/LMS

OIT will create a robust environment in support of Blackboard by improving tools and processes, engaging user communities, and growing the expertise of Blackboard support staff.

Media Management

OIT, in collaboration with the Technology for Learning and Teaching Group (TLTG) and the Center for Teaching and Learning (CTL), will develop and implement strategies to address University needs for equipment, infrastructure, support, and appropriate spaces for enhanced digital content (video, audio, graphics, etc.), including but not limited to video streaming, video capture and editing, and media storage.

Blended and Online Training

OIT will deliver classroom training, online training, one-on-one consultations, open labs, and workshops as appropriate in support of technology and tools.

Emerging Technology for Teaching and Learning

An initiative led by CTL and OIT on emerging technology in learning and teaching will seek to define and explore support models, professional development, and discipline-specific strategies for discovery, organization, presentation and research of emerging technologies for teaching and learning.

System Support

Boise State will develop and maintain IT resources and acquire, develop and deploy information systems, applications, and tools enabling effective and efficient function of the University as an enterprise.

Evolve the Enterprise, Web, and Mobile Application Environment

To position Boise State to take advantage of these new opportunities, OIT will look to expand the use of software-as-a-service options where appropriate via a University application architecture framework including myBoiseState, PeopleSoft, web, and mobile applications. myBoiseState will be the key delivery method for the integration/mashup of web and mobile online services.

Ensure Scalable Integration and System Architecture

An IT Architectural Council (ITAC) will be implemented to facilitate processes and governance to meet demand and need for thorough architecture review, design, and approval.

Data Warehouse and Business Intelligence

OIT, in collaboration with the Office of Institutional Research, large scale data consumers, and analyst constituents on campus, will consider current and future business intelligence needs to design and implement access to data and data analytic tools to best serve University and external needs.

Document Management and Workflow

OIT will work with campus departments to establish an Enterprise Document Management and Imaging Implementation project for a full campus-wide solution to reduce physical paper documents and improve workflow.

Project Management Office (PMO)

The PMO will continue to evolve to meet the growing needs for project management at Boise State.

Security and Policy

Boise State will deploy appropriate policies and effective enforcement to secure the integrity of IT resources, safeguard institutional information, protect the privacy of University community members, and ensure continuity of the institution's IT resources and information repositories in the face of possible disaster scenarios.

Quality through Organizational Initiatives

OIT will plan and implement specific organizational initiatives to improve quality and effectiveness.

The Organizational Initiatives currently identified are:

- Service Catalog Review and Update
- Organizational Review and Recommendations
- Career Progression Paths for Technology Staff
- IT Staff Development
- Develop a Durable Funding Strategy for Technology at Boise State
- Consolidation of Space for OIT
- Succession Planning
- Review and Revise Risk Management, Business Continuity, and Disaster Recovery Efforts

Evolve IT Governance

Boise State University will develop advisory and communication structures to ensure continued involvement of the University community in the implementation of strategic recommendations and actions presented in this plan; support the ongoing operation of information technology resources delivered to the University community; and, improve flow of information between our central IT organization and the University community in all its forms (faculty, students, IT providers, staff, and administrators).

A revised governance model is proposed to meet the University's changing needs, and to better balance, strategic alignment, organizational planning, budget influence, and transparent sponsored decision-making. Charters will be reviewed and updated as appropriate for the following governance and advising groups:

- IT Governance Council (ITGC)
- IT Priority Council (ITPC)
- Technology for Teaching and Learning Group (TLTG)
- Research Advisory Council
- IT Architecture Council (ITAC) - (New)

Appendix
** Indicates an active action item or project as of June 2015*

Infrastructure Action Items
Campus Data Centers
OIT will review and make recommendations addressing the requirements for a data center appropriately sized, powered (including backup power), and cooled to meet university-wide demand. Onsite, offsite, co-location, and Virtualized Data Center (VDC) options will be considered.
Continue to monitor Research needs for computational equipment space, continue to monitor the University 6-Year Facility Plan, and provide updates on research data center needs to Capital Planning & Space Management.
Networking
Build appropriate research network infrastructure as needed supporting 10G, and eventually 40G, as research needs grow.
*Implement eduroam wireless network and services.
*Continue to expand wireless coverage and capacity as needed throughout the campus.
Cloud Services
Create a guide and standards for OIT to deliver Cloud Services.
*Develop a test cloud data storage platform.
Integrated Identity Management System
Create and implement a robust Identity Management Roadmap addressing provisioning processes to ensure resources - based on roles - have access to the services they need and, as an organization, reduces and simplifies our overhead in managing these processes.

Customer Support Action Items
Build a Community of Support
Survey customer (students) and co-worker (faculty/staff) needs.
Interview deans, chairs, directors, etc. to determine needs.
Using recommendations from Program Prioritization, identify possible duplication of efforts in centralized vs. decentralized support environments. Work with colleges, offices and departments to present plans for possible elimination of service and support duplication to benefit the campus community.
Campus-Wide Support Model
OIT and department-based IT staff will develop and implement a Campus-Wide Distributed Support Model defining the roles department-based and central IT staff play in collaboratively supporting the University community.
Using recommendations from Program Prioritization, identify possible duplication of efforts in centralized vs. decentralized support environments. Work with colleges, offices and departments to present plans for possible elimination of service and support duplication to benefit the campus community.

In partnership with all colleges and departments, a campus-wide standard for lifecycle replacement of IT elements (particularly personal computing devices) should be established, and a review of current funding policies and programs undertaken to ensure adequate lifecycle replacement occurs.
Research Cyberinfrastructure
*Implement and Support the cyberinfrastructure plan for Research. Progress against the plan and revisions as necessary will be made on an annual basis.
*Provide storage and virtual servers on demand to Boise State researchers and faculty.
Implement and support Boise State’s Cloud Space for Research.
*Expand and hire approved staff position to provide scientific programming support to researchers. Maintain a team of talented student programmers to assist research staff as needed.
*Establish a monthly open meeting with Researchers - “coffee & donuts.”
Working with IRON (Idaho Regional Optical Network) and INL (Idaho National Laboratory), plan for increased use of INL space for computational equipment. Consult with the Cyberinfrastructure Technical Advisory Committee, develop a Software-Defined Network (SDN), and pursue grant opportunities to fund its establishment.

Teaching and Learning Action Items
Classroom Technology
OIT will review the state of its classrooms and develop a holistic plan to ensure learning spaces remain relevant, presentable and strategic. The plan will involve faculty, Facilities, IT, Registrar and many others to address issues of instructional need, capacity, scheduling, quality and presentation, technology, etc. An annual assessment and evaluation of progress will be submitted to the TLTG and ITGC.
Standardize technologies in standard University lecture classrooms.
Blackboard/LMS
*Upgrade to a current release of Blackboard on an annual basis.
*Complete Phase II of Blackboard LMS Middleware System.
*Work with campus partners such as eCampus and College of Health Sciences to extend Blackboard functionality to support the growth of online programs at Boise State.
Media Management
Develop a plan to address the University’s needs for equipment, infrastructure, support, and appropriate spaces for enhanced non-text-based-media (video, audio, graphics, etc.), including (but not limited to) video streaming, video capture and editing, and media storage.
Begin implementation of digital content plan.
Blended and Online Training
Develop orientation resources for faculty, staff and students on available OIT-supported tools and services.
Develop Boise State advanced training topics, utilizing both in-person and online classes.
Consolidate and improve access to self-help resources and documentation.
Emerging Technology for Teaching and Learning

*Form an advisory committee, Technology for Learning and Teaching Group (TLTG).
Launch initiatives, conduct testing/RFP, select platform, begin micro-grants, collect data, and publish results.
Formalize successful components, publish, propose and promote strategies for permanent support. An annual assessment and evaluation of progress will be submitted to the TLTG and ITGC.

System Support Action Items
Evolve the Enterprise and Administrative Application Environment
Develop Boise State’s Enterprise System Services in collaboration with key administrative areas for the next 3-5 years and beyond. Produce a Strategic Plan for those services for review and approval by ITPC and ITGC.
Implement the Enterprise System Strategic Plan as identified. An annual assessment and evaluation of progress will be submitted to the ITPC and ITGC.
*Upgrade myBoiseState with additional functionality and features utilizing a sustainable technology framework. Plan and implement an annual release cycle at a minimum.
Upgrade myBoiseState Mobile application with additional functionality and features utilizing a sustainable technology framework. Plan and implement an annual release cycle at a minimum.
Ensure Scalable Integration and System Architecture
Establish an IT Architecture Council (ITAC) that has a foundation in governance and policy.
OIT, in collaboration with campus IT staff, should review current integration and architecture standards and identify appropriate architectures and tools to integrate or scale OIT and departmentally-based systems in a secure and successful manner. Review, publish, communicate, and enforce negotiated standards.
To facilitate integration standards, a common data hub will be implemented for frequently-needed data such as LMS, PeopleSoft (academic, financial, and HR), and Hobsons.
Data Warehouse and Business Intelligence
Develop Boise State’s Data Warehouse and Business Intelligence services in collaboration with key administrative and academic areas for the next 3-5 years and beyond. Produce a Strategic Plan for those services for review and approval by ITPC and ITGC.
Implement a full Data Warehouse encompassing data from all of our core enterprise systems (CS, HR, and Finance), and place data in a simpler structure to facilitate exploration and reporting. Build out additional enriched tables to support missing subject areas (Student, HR, Financial, Budgeting, LMS, Hobson’s, etc.).
Deliver a reporting solution consisting of key reports, dashboards and dynamic data through an easy-to-access online environment. Users will interact with, and be able to drill into, data to aid in decisions and research.
Produce tool and content training, hold workshops, and identify and empower subject matter experts (SMEs) in data warehouse development.

Align Data Governance with current Institutional Research (IR) efforts. Current IR effort is mainly concerned with a subset of academic data. This effort needs to expand to a broader set of data and across systems, i.e., PeopleSoft, Data Warehouse, LMS, etc. Expand membership and scope of current data governance model.

Document Management and Workflow

Implementation of planning performed with participation from all University academic and administrative units to develop business cases for this critical and ubiquitous need.

Project Management Office (PMO)

Review and update Charter for the PMO. The Charter will define the scope of the PMO, common methodology, needed processes, tools and templates, and training for non-PMO staff.

Enhance the Project Management Request and planning process.

The PMO will extend its support role by providing technical expertise on project management tools and base-level support to those who want to manage projects independently of OIT's Project Management Office.

Security and Policy

*Develop Boise State's Security Services strategic plan in collaboration with key administrative areas for the next 3-5 years and beyond. Produce an annual report on progress against the plan, Information Security Compliance, detailing regulations and requirements calling for compliance. Submit to ITGC for review/acceptance.

*OIT will provide technical support and guidance for achieving reasonable attainment of 3.0 PCI compliance requirements.

*Deploy and manage the Security Incident and Event Management (SIEM) system.

*Deploy Windows laptop/Surface data encryption through BitLocker for employees on university owned equipment.

Implement enterprise-wide database encryption.

3.0 PCI Gap analysis conducted by independent Qualified Security Assessor (QSA).

OIT Information Security Services will design and implement security awareness and education programs across campus starting with "Securing the Human" in FY 2015.

*The EDUCAUSE Information Security Program Assessment Tool and the SANS Institute 20 critical controls will be used in a campus-wide security assessment to evaluate and measure the maturity of our information security programs on an annual basis. This analysis will determine activities to protect IT systems and minimize cybersecurity risks for Boise State.

Quality through Organizational Initiatives Action Items
Service Catalog
*OIT Leadership will review OIT services for improvements, expansion, adding or retirement. Update the Catalog with definitions of each service and scope. Establish plan for retirement if appropriate. Establish standards for a service to be supported. Identify owners of each service and determine responsibilities of ownership.
Once the Service Catalog has been updated and published, the PMO will establish a procedure for updates and reviews. The PMO will be responsible for managing updates to the catalog.
Organization Review
*CIO will designate a Select Committee for organizational review and develop recommendations. <ul style="list-style-type: none"> a. The task is to review OIT organization structure from 2015 to 2025 (10 years) b. If reorganization is done within OIT, it will have to be cost and FTE neutral c. Examine the feasibility of the creation of a Deputy CIO position for day-to-day operations.
Implement reorganization, if recommended.
Career Progression Paths for Technology Staff
*Develop a multi-tiered career progression path for technical positions with clearly defined criteria for achieving all levels, including salary bands.
Evaluate and categorize existing staff as appropriate.
Request funding for FY16 budget to reflect tier and appropriate salary banding.
IT Staff Development
Establish an internal leadership academy for junior leaders.
Establish a mentorship program for senior leaders.
Establish budget for the internal training program or leadership academy.
Develop an internal assessment to allow all members of OIT to provide input on organizational priorities and goals.
Develop a cross-training plan and flexibility to move staff between teams for selected projects. Allow for temporary detail assignments for specified periods of time.
Develop a Durable Funding Strategy for Technology at Boise State
OIT leadership will engage with governance structures to determine which aspects of IT are better-delivered on a pay-per-use model, what cost and charge mechanisms should be, and which aspects should simply be a part of the expected centrally-funded infrastructure.
Space
In partnership with Facility planning, develop a long-term space plan to co-locate OIT staff to meet the requirements of an evolving and efficient technology organization.
Succession Planning
Short-term succession plans should be identified for each current director.
Managers should participate in OIT Leadership training as it is developed.

<p>Review and Revise Risk Management, Business Continuity, and Disaster Recovery Efforts</p>

<p>OIT should review and update the University Business Continuity Plan for OIT and the IT Disaster Recovery Plan with input from the University community and support from senior-level University leadership.</p>

<p>Evolve IT Governance Action Items</p>

<p>Proposed Governance Councils, Committees, and Groups</p>
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<p>It is recommended OIT work with the ITGC to updates its Charter:</p> <ul style="list-style-type: none"> a) ITGC governs the information technology resource for the entire University. b) ITGC will periodically review project priorities as determined by the ITPC. c) ITGC will review and approve quarterly calendars proposed by OIT for campus projects. d) Security and Policy will be included in the new ITGC charter.
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<p>Update the ITPC charter (vision, objectives, scope and deliverables), and present to ITGC for feedback and approval. Data Warehouse and Business Intelligence will be included in the new ITPC charter.</p>
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<p>Establish the Technology for Learning and Teaching Group (TLTG), write the group Charter (vision, objectives, scope and deliverables), and present to ITGC for comments/approval</p>

<p>With Division of Research, report progress against and update the Research Cyberinfrastructure Strategic Plan, and present to ITGC for comments/approval.</p>
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<p>Establish an IT Architecture Council, write the council charter (vision, objectives, scope and deliverables), and present to ITGC for comments/approval.</p>

<p>Review and Revise the Organization and Presentation of Projects</p>

<p>The CIO will facilitate advisory councils, committees and groups to coordinate what is being recommended and prioritized for ITGC.</p>

<p>The CIO will establish a portfolio scoring structure that will not burden ITGC with excessive review.</p>
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<p>The CIO will ensure projects are presented comprehensively with accurate cost estimates to assist in a normal and predictable budgetary process.</p>
