

Office of Information Technology

2011 Annual Plan

Boise State University



Office of Information Technology Annual Plan for 2011 – Making IT Better

Vision

To advance learning and discovery at the University with innovative technology solutions and services in a sustainable, effective and efficient way.

Mission

The Mission of the Office of Information Technology (OIT) is to provide technology leadership, solutions, and services to transform Boise State University into a Metropolitan Research University of Distinction.

We will advance learning and discovery in the classroom, workplace and student experience. We will achieve our vision through innovation in our development, constant improvement in our operations, and outstanding customer service.

Values

- The human factor is important to the use of technology
- Learning and research takes place both in and out of the classroom
- Technology enhances and provides access, communication, engagement and collaboration
- Technology facilitates innovative solutions and services to meet University challenges
- Change in technology is inevitable and creates opportunities
- Boise State systems and process should model best practices across higher education

Objectives

- Promote student engagement
- Improve the quality of the educational experience
- Ensure efficient University operations through technology
- Advance research and creative activity
- Provide sustainable and stable technology infrastructure to accommodate growth and innovation
- Protect the information resources and privacy of the University community

Through its three divisions – Operations (OPS), Development (DEV) and Care - OIT helps Boise State create and maintain innovative technology solutions and services that advance learning and discovery at the University. In addition, OIT's Information Security Services, Printing and Graphic Communication Services, and OIT Business Services groups support OIT's three divisions, along with the entire University.

Guiding the Annual Plan

Technical and functional staffs spend a huge amount of time maintaining and supporting our technology systems. Technology drives much of our service model and supports growth and compliance; it is an important part of our students' educational experience, and an expectation from our customers. The use and need of technology are growing. The pace of innovation is increasing. Even though we need to achieve more with technology, ongoing budget pressure is telling us we need to do this with what we have, or with even less.

Every industry has its idiosyncrasies, and higher education is no exception. Higher education is not very hierarchical. Instead of "command and control" it is "convince and cooperate." Any planning process must be transparent, collaborative, and customer driven. Key factors that will guide our technology Annual Plan are:

- Achieving more with what we have
- Growing expectations
- Increasing pace of innovation.

All strategies and directions that are part of our plan need to keep these three elements in mind.

Achieving More with What We Have

This means we shift our energies from context activities to core activities. Context activities are those that are necessary but do not differentiate us from our competitors. Core activities are those that, when improved, provide us an advantage over our competitors. Core activities for Boise State are activities that improve teaching and learning, enhance research quality and growth, and help recruit and retain talented students, faculty, and staff.

A typical IT organization spends 80% to run the operation (context) and only 20% to improve it (core). We need to shift these percentages towards more balanced context and core activities. The key to making this shift is IT simplification. Strategy for IT simplification involves:

- 1) a service-oriented architecture (e.g., reusable development)
- 2) a customer service-oriented culture which improves customer service while actually reducing effort
- 3) IT staff alignment reducing duplication of effort and services
- 4) improve IT governance so we are focusing on core priorities
- 5) outsource or partner on commodity-like functions to be able to focus on value-added IT services, i.e., commonly called the "Concept of Zero".
- 6) integrate enterprise applications to improve business work flow
- 7) using one technology – not multiple – to do the same thing providing consistency and scalability as needed, i.e., commonly called the "Concept of One"

Growing Expectations

Students, faculty, and staff have continually increasing expectations of technology. Prospective students' first impressions of a university come from its website. Students, familiar with computers and the Internet since birth, expect services and information available any time of the day or night. Most students are bringing multiple devices (e.g., laptops, smart phones, tablets and other mobile devices) to school fully

expecting them to be integrated not only into the University's cyber infrastructure, but their classroom and curriculum as well.

Faculty technology expectations are also increasing rapidly. Technology is being used more and more in the curriculum both as a supplement to classroom instruction and by itself in on-line courses. Researchers are requiring increasing amounts of computing power, storage, bandwidth, and expertise to not only perform research but to even compete effectively for funding.

Increasing Pace of Innovation

The speed of technology advancement offers both challenges and opportunities. New technologies will enable better ways of creating, communicating, and using knowledge. The challenges are determining what rapidly changing technologies to pursue and take advantage of while managing the disruption these changes bring. Strategies must be developed for rapidly and continually integrating new technologies into every aspect of our operation.

Why an Annual Plan?

We need an annual plan to not only transition us to a more sustainable and maintainable system state, but more importantly to gain more value and effectiveness of our systems, to focus on core objectives for the University, and to adapt best practices for systems operation, support, and development. This is a huge part of our IT simplification strategy. The ultimate goal is a shift of resources from sustaining and supporting systems to innovating and advancing systems.

OIT Customer Care

Customer Care is focused on providing excellent customer service every day.

The Care team works to create “raving fans” of Boise State’s technology services by providing in-person, online, and self-service aid to Boise State’s students, faculty, and staff. The Care team works closely with Operations, Development, and Security Services to make Boise State’s technology environment understandable and an enhancement to productivity.

Key Strategic Initiatives for Care:

- Boise State continues to improve, extend, and expand its existing support model. The Help Desk will support requests submitted by phone, web submission, email and online chat. Boise State will begin providing front line support for Blackboard and classroom support in 2011. The Care team will also expand Help Desk hours, increasing hours throughout the year. A hands-on Student Support Center will be established where students, faculty, and staff can bring their device to us for help. Facilitate computer desktop and mobile device management and support across the University.
- Redefine computer lab and classroom management across the University by consolidating existing labs into Computerized Learning and Information Centers. We will do this by standardizing lab and classroom technology images, building a virtualized model of distributing applications to all open access labs, and training lab proctors to a level of being able to support classrooms and other technologies.
- Establish ongoing technical training for the University community. Reorganize responsibilities within the customer care organization to establish a training and communications team. Establish guidelines of when in-person classes are taught, as opposed to communications, CBTs and videos. Establish coordination team with HRS Training and Development, Academic Technologies, Albertsons Library, and Center for Teaching and Learning to ensure synergies and to avoid duplication of effort.
- Improve transparency. Provide unified and robust communication and information about OIT processes, projects and services. Consolidate and republish all OIT websites into a unified services site. Establish a projects blog and coordinate regular submissions. Implement a flexible, self-subscribed, outage notification tool.
- Provide “concierge” technology support services for faculty, researchers, students and staff at Boise State. Concierge service is proactive – not reactive. Concierge service takes ownership of the problem. The technical experts on these teams help advance teaching, learning and research by providing a host of first-rate customer solutions ranging from routine troubleshooting to complex problem-solving.
- Increase the awareness of collaboration and conferencing tools at Boise State. Train, support, and evangelize about the power of Google Apps. Expand support for video and conferencing solutions as appropriate (e.g., Google Video, LifeSize Video Conference, and Wimba/Collaborate).

OIT Development Services

OIT Development Services (DEV) is focused on making tomorrow better than today.

The Development team is responsible for working with all of Boise State's administrative units as well as students and faculty to continually improve the information technology environment at Boise State in support of University priorities.

Key Strategic Initiatives for Development:

- Define and implement a clear path for our enterprise systems where we can achieve high value, high efficiency, ease of sustainability, and innovation for our investment in systems, staff, and process. This path includes the establishment of an Enterprise Systems Roadmap and ongoing governance against that Roadmap. The Roadmap implementation sets the core technology for the University for the next ten (10) years. We will do this by:
 - Leveraging what is delivered and what we own to meet the campus needs.
 - Reducing customizations to provide more time and resources to innovation and serving our students, faculty and staff.
 - Creating a substantial shift in culture, so that customization is absolutely necessary and only after other options have been considered.
 - Creating a shift in our development practices to support non-PeopleSoft options (e.g., web apps and services).
 - Meet Roadmap milestones as scheduled.
 - Creating University policies, practices, and governance to sustain and support the above.
- Define and implement a Business Intelligence/Data Warehouse. As the amount of data collected at the University continues to grow, the need for a comprehensive data warehouse continues to grow. The basis for a data warehouse has been started and needs to be built upon and completed. This will include the implementation of iStrategy data warehouse, MS Reporting services, MS Performance Point, and SharePoint analytics.
- Create and implement a Unified Web Experience (MyBoiseState). This is an individualized on-line service environment that would replace BroncoWeb. Through a process of data-driven analysis and continuous improvement (amazondotcomification), MyBoiseState will continue to evolve to incorporate new services and capabilities, provide more detailed, timely and personalized information, and increase the level of service to every member of the Boise State community.
- University-wide adoption of a common web development and content management system, WordPress. WordPress is easy to install, easy to use, contains a variety of features, widgets, categories and much more, and is flexible enough to meet evolving technology demands.
- Implementation of a new document imaging system. Milestones are met as scheduled.
- Identification of a research management solution. Develop and start the implementation plan. Meet milestones as scheduled.
- Create a project management office and University technology project management methodology.
- Provide standard development methodologies, frameworks and user experiences.

OIT Technology Operations

OIT Technology Operations (OPS) is focused on making today as good as yesterday.

The Operations team works to ensure Boise State technology services are continuously available and reliable. The Operations team also works to ensure those services are provided as efficiently as possible and changes to the operational environment are properly managed.

The Operations team ensures high quality and highly available communication networks. The Operations team is focused on providing infrastructure management of data centers and server rooms located across campuses. The Operations team is also responsible for system and application availability, data storage, disaster recovery and data security.

Key Strategic Initiatives for Operations:

- **Reliable Systems and Security.** Design, implement and manage all services and systems to produce predictable system behavior, reliable service delivery, competitive costs, data integrity, integrated security and legislative compliance.
- **Implement, maintain and operate the technical infrastructure necessary to sustain and support the University network and systems infrastructure.** Boise State has continually invested in and grown the network and system infrastructure to provide services to the campus constituency. Boise State continues to grow as a research institution and the technology continues to change and become more robust. We need to obtain funding to continually sustain and replace the infrastructure to support the technology needs of the campus; further refine the replacement cycles for the network infrastructure; and provide on-going support and resources to sustain the infrastructure and services. Create a responsive, forward-looking and flexible IT cyber-infrastructure through aggressive virtualization of servers.
- **Create and manage a cyber-infrastructure designed for the Boise State research community that meets computational and storage requirements for grant funded research.** Leverage partnerships with Idaho National Labs (INL) for computational computing and the Idaho Regional Optical Network (IRON) for connectivity with research partners and institutes.
- **Provide “concierge” technology support services for faculty, researchers, students and staff at Boise State.** The technical experts on these teams help advance teaching, learning and research by providing a host of first-rate customer solutions ranging from routine troubleshooting to complex problem-solving.
- **Expand monitoring and logging of University systems and networks.** Monitoring and logging of the University systems and networks provides benefits in two areas. Expanding monitoring and logging will provide notice to personnel when there is an issue with a system or the network. This expansion also assists in determining where an issue may be coming from and allows for fixing the issue.

OIT Information Security Services

Information Security is a team sport.

A university is a place where faculty and students come together to learn and share ideas in a free and open environment. This tradition of openness and access can sometimes seem at odds with the need to create an electronic information system that protects privacy and intellectual property and prevents the unauthorized or illicit use of University resources.

However, the need to secure intellectual property and personal data and protect high availability systems from downtime incurred from security breaches is a fiduciary duty of the University, and requires continual attention to information security be a strong part of the University's culture. In so doing, we must make sure to analyze the value of the resources Boise State is trying to secure before committing to a course where the cost of security grossly outweighs the benefit the University receives as a result.

Key Strategic Initiatives for Information Security Services:

- Support roles and responsibilities review and re-architecture that is part of the Enterprise System foundational projects.
- Review and re-architecture of accounts and access management process.
- Expand Payment Card Industry Data Security Standard compliance program with automated self-reporting by organizations taking credit card payments in collaboration with Treasury.
- Develop automated compliance program for Higher Education Opportunity Act regulations regarding peer-to-peer file sharing.
- Continue to work with UTAG, Internal Audit, and Policy and Compliance offices to reorganize and restructure Information Technology and Information Security policies as needed.
- Deploy online security awareness tutorials.
- Assess Social Security Number usage and other key demographic data and recommend improvements if needed.
- Research and make recommendation for secure sharing of confidential documents with external entities and use of digital signatures for internal and external documents.
- Coordinate Oracle/PeopleSoft web application security assessment.

Printing and Graphic Communication Services

Improving University Communications

Printing and Graphic Communication Services disseminates information; faster, at less cost, with less complexity by taking advantage of emerging cost-effective innovations in communication technologies. They do this by offering print, design, copy, signs, and web development services. Complete services are offered in all these areas.

Key Strategic Initiatives for Printing and Graphic Communication Services:

- Support the objectives of Boise State University and enhance the institutional image through quality communication.
- Maintain a sound, self-sufficient fiscal structure by increasing and maintaining revenue, reducing and managing expenses, more effective use of equipment, and being cost-competitive in services provided. Actively market and educate the University on services that are provided.
- Increase customer demand and position University Printing Services, through technology and personal skills, to fulfill those needs with exceptional service. This will be done by providing quality services in a timely manner by being proactive in working with University entities to identify and respond to communication needs.
- Work with University customer groups to identify new communication service needs and develop solutions based on the identified needs.
- Continually update the business plan.
- Propose University print management cost-savings plan. Look at creative ways to consolidate printing creating more effective, less-expensive green printing solutions.

OIT Business Services

Making OIT Business Better

OIT Business Services is responsible for transactions and summary transaction analysis from the past, present and future and consists of three units -- Human Resources, Procurement and Budget Control. These three units are charged with hiring staff, purchasing technology, maintaining the budget and policy compliance.

Key Strategic Initiatives for OIT Business Services:

- Provide accurate, timely, and needed fiscal and business data and information to OIT management and the University. This will allow OIT and the University to make decision based on data.
- Update Call Manager to contain phone location information.
- Revise the Mobile Communications Agreement form to include revised guidelines in updated University Policy 8070. Update the form to include the change in Internet Reimbursement processing.
- Work with OIT areas to reposition the budget and department ID responsibilities due to the realignment of OIT.
- Work with department contacts on auditing their phone lines and equipment.
- Assure OIT Business Services project milestones are met.
- Streamline and facilitate the purchasing and recruiting/hiring process for OIT by providing all documents and information to purchasing and Human Resource Services as needed. Be able to provide current status of active processes including dates/timelines for completion of reviews and approvals.

OIT Project/Initiative Highlights for 2011

Help Desk/Service Center

Boise State continues to improve, extend, and expand its existing support model. The Help Desk will support requests submitted by phone, web submission, email, walk-in, and online chat. Boise State will begin providing front line support for Blackboard and classroom support in 2011. The Care team will also expand Help Desk hours, increasing hours throughout the year. A hands-on Support Center will be established where students, faculty, and staff can bring their device to us for help. Provide “concierge” technology support services for faculty, researchers, students and staff at Boise State. Facilitate computer desktop and mobile device management and support across the university.

Computer Labs and Classrooms Support

Redefine computer lab and classroom management across the University by consolidating existing labs into Computerized Learning and Information Centers. We will do this by standardizing lab and classroom technology images, building a virtualized model of distributing applications to all open access labs, and training lab proctors to a level of being able to support classrooms and other technologies. Extend hours of support for labs and classrooms.

Enterprise Systems Roadmap

The University is embarking on an Enterprise Systems Roadmap program over the next three years. The Roadmap implementation sets the core technology for the University for the next ten (10) years. The Roadmap will consist of:

Phase 1: Foundations – to be completed by March of 2012

- Financial Chart of Accounts (Requirements & Design)
- Roles and responsibilities review and re-architecture
- HR Core (Requirements & Configuration Design)
- SOA Infrastructure and Development
- Research Management System (Requirements & Identification)
- Campus Solutions (Student) Training & Process Assessment

Phase 2: Building – to begin in 2012 and be completed by the end of 2013

- PeopleSoft Finance 9.1 Project
- PeopleSoft HCM 9.1 & Separation from Student Project
- Campus Solutions Core (Process, Configuration & Requirements)

Phase 3: Implementing – to begin in 2012 and be completed by the end of 2013

- Research Management System Implementation
- Finance 9.1 Go-Live
- HCM 9.1 Go-Live
- Campus Solutions 9 Project & Go-Live

Business Intelligence/Data Warehouse

Build out and enhance Business Intelligence and the Data Warehouse at Boise State. As the amount of data collected at the University continues to increase, the need for a comprehensive data warehouse continues to grow. The basis for a data warehouse has been started and needs to be built upon and

completed. This will include the implementation of iStrategy data warehouse, MS Reporting services, MS Performance Point, and SharePoint analytics.

MyBoiseState

Create and implement a Unified Web Experience (MyBoiseState). This is an individualized online service environment that will replace BroncoWeb. Through a process of data-driven analysis and continuous improvement (amazondotcomification), MyBoiseState will continue to evolve to incorporate new services and capabilities, provide more detailed, timely and personalized information, and increase the level of service to every member of the Boise State community.

Teaching and Learning Technology

Boise State is in the process of defining their vision of technology for teaching and learning. OIT will provide infrastructure, support, and development services to faculty, staff, and students as defined by the vision of technology for teaching and learning.

Improve Transparency

Boise State will continue to increase transparency in OIT services with improvements to web-enabled information that is current, relevant, and concise. Provide unified and robust communication and information about OIT processes, projects and services. Reorganize responsibilities within the customer care organization to establish a training and communications team. Consolidate and republish all OIT websites into a unified services site. Establish a projects blog and coordinate regular submissions. Implement a flexible, self-subscribed, outage notification tool.

Conferencing Tools

Increase the awareness of collaboration and conferencing tools at Boise State. Train, support, and evangelize about the power of Google Apps. Expand support for video and conferencing solutions as appropriate (e.g., Google Video, LifeSize Video Conference, and Wimba/Collaborate Web Conferencing). The University needs to think “concept of one” and one-stop shopping for video and conferencing support.

Virtual Desktop Infrastructure and Virtual Application Technology (VDI)

Boise State is exploring VDI technology. VDI is a server computing model enabling desktop and application virtualization, encompassing the hardware and software systems required to support the virtualized environment. The resulting “virtualized” desktop is stored on a remote central server instead of on the local storage of a remote client; thus, when users work from their remote desktop client, all of the programs, applications, processes, and data used are kept and run centrally, allowing users to access their desktops on any capable device, such as a traditional personal computer, notebook computer, smart phone or thin client. Overall hardware expenses may be reduced as resources can be shared and allocated to users on an as-needed basis. The integrity of user information is improved because all data can be maintained and backed up in the data center. Other potential advantages include reduced downtime in the event of server or client hardware failures, lower cost of new application deployment, and desktop image management capabilities. Boise State will roll this out to computing labs or classrooms at a yet-to-be-determined date.

Server Virtualization, Data Storage & Data Management

Boise State current server virtualization rate is 60%. Boise State will continue to increase the number

of servers that are virtualized to 80% or greater. This will include the PeopleSoft and Blackboard environments. Virtualization reduces costs, improves scalability and increases server utilization and reliability. Boise State will improve data storage and data management cohesion across the University. Data requirements are doubling every 18 months and costs are increasing. Plus, research funding agencies are requiring lifetime storage and archiving of research generated data. Boise State will develop strategies and solutions to improve efficiencies and performance in storage and data management.

Research Computing

Create and manage a cyber-infrastructure designed for the Boise State research community that meets computational and storage requirements for grant funded research. Identify and implement a research administration management solution.

Technology Training

Establish ongoing technology training for the University community. Offer reoccurring in-person classes for the University community. Sample classes offered would include, “Using Google Apps,” “Using WordPress,” “Using Google Sites,” etc. Develop online tutorials and resources as appropriate. Offer workshops/open lab hours to provide hands-on assistance for WordPress, etc. Establish coordination team with HRS Training and Development, Academic Technologies, Albertsons Library and Center for Teaching and Learning to ensure synergies and to avoid duplication of effort.

WordPress

The University-wide common web development and content management system is WordPress. Boise State will continue to implement this technology throughout campus.

High Performance Computing (HPC)

Create and manage a HPC cluster designed for the Boise State research community that meets computational requirements for grant funded research. Leverage partnerships with Idaho National Labs (INL) where the cluster will be located and the Idaho Regional Optical Network (IRON) for connectivity.

Improve OIT Collaboration and Communication

Provide unified and robust communication and information about OIT processes and projects internally to OIT. Provide standard methodologies and frameworks for communication between OIT groups, teams, and departments – building stronger teams. Use technology to collaborate and communicate more effectively and efficiently due to OIT’s diverse geographic locations.

Matterhorn

The goal of this project is to develop and implement an enterprise open source lecture capture service that is cost-effective, scalable and student-centric. A pilot/prototype is being run in Spring 2011. Matterhorn will be expanded in Fall 2011 to additional classrooms, and integration with existing Boise State systems and operations will be implemented.