

**UNIVERSITY OF
WISCONSIN
SYSTEM
ADMINISTRATION**

**1999
INFORMATION
TECHNOLOGY PLAN
COVERING
FISCAL YEARS
2000 and 2001**

UW SYSTEM ADMINISTRATION
1999
INFORMATION TECHNOLOGY PLAN
COVERING
FISCAL YEARS 2000 and 2001

TABLE OF CONTENTS

Page

3	Executive Summary
5	Introduction
5	UW System Administration Technology Vision
5	Information Technology Principles
6	The Planning Environment
6	Information Technology Strategic Directions, Goals, Projects

APPENDIX

11	1995 and 1997 UWSA Strategic IT Plan Completed Projects
12	1995 and 1997 UWSA Strategic IT Plan Projects Scheduled for Completion in Fiscal Year 2000
13	1995 and 1997 UWSA Strategic IT Plan Projects Scheduled for Completion in Fiscal Year 2001
14	1995 and 1997 UWSA Strategic IT Plan Suspended/Deleted Projects
15	UWSA Strategies, Standards, Guidelines for Information Technology

EXECUTIVE SUMMARY

The formation of the University of Wisconsin System Administration 1999 Information Technology Plan Covering Fiscal Years 2000 and 2001 centers around several problems identified through discussions with System Administration Vice Presidents and System Administration staff. These problems are:

1. System Administration staff can not easily access network services and applications from remote locations. For the purposes of this plan, a remote location is defined as any location outside System Administration offices at 780 Regent Street and Van Hise Hall, and from which System Administration staff need access to core network resources. "Core network resources" are defined as System Administration email account, group scheduling software, and network stored files.
2. System Administration developed applications are not accessible using web technology. Currently, an application version upgrade requires updating the developed software residing on every PC that accesses the application. Already, a significant number of PCs on campuses outside of Madison are used to access System Administration developed applications, as the CDR build and edit (CEUS) and the Tax Shelter Annuity System. The number of System Administration originated applications for use by a statewide constituency is projected to increase.
3. The System Administration web site is functionally conflicted. On the one hand, it has content intended for the general public and prospective students. On the other hand, it has a content of interest only to System Administration staff and UW System employees.

Achieving solutions to these problems is the focus of this IT Plan. The strategic directions in this IT Plan also introduce policy issues to be addressed by System Administration departments. These policy issues range from costs of supporting remote access for employees to management of department information.

The strategic directions, their goals and projects are summarized below. The plan explains each of them in more detail.

IT Strategic Direction #1

System Administration will transform the current network infrastructure to enable its staff to perform essential job functions anywhere and anytime.

Goal: Allow customers to remotely access core System Administration network resources using web technologies.

Projects:

1. Upgrade Email System
2. Replace Calendar System
3. Upgrade Network Operating System

IT Strategic Direction #2

By defining a new model for information collection, organization, transformation, and distribution, System Administration will make available any appropriate information needed by its constituents.

Goal 1: Develop a System Administration web services strategy.

Goal 2: Develop management policies for System Administration web content.

Goal 3: Establish an architecture that supports web client enterprise computing.

Projects:

1. Reconstitute System Administration Web Site
2. Implement Data Management Policies across System Administration to Support Web Site Functions
3. Implement an Application Development Architecture Using Web Technology

What are the questions?

There are several questions that this plan addresses. The questions are:

1. Can I efficiently access my email, calendar, and network files when I am away from the office?
2. Can we reorganize our web site to provide web services incorporating a variety of information to a variety of customers?
3. How can I effectively access the information I need at the System Administration web site?

INTRODUCTION

The University of Wisconsin System Administration, in partnership with system institutions, the Board of Regents, and state government, leads, plans, coordinates, evaluates, facilitates, and communicates the benefits of public higher education to further the interests of the people of Wisconsin and the greater society. Fulfilling this mission involves System Administration in a variety of activities, many of which are dependent to some extent on the use of data that are electronically gathered, analyzed, and produced for presentation, and in the use of technology as a vital tool for analysis and communication.

This is our fourth plan. This plan represents our continued effort to implement System Administration strategies through Information Technology (IT). It is also a tool to help manage IT solutions in support of System Administration business needs.

The Appendix to this plan illustrates the status of the projects initiated in previous plans. There are tables for projects that were completed since the 1997 IT Plan was submitted, and projects that are scheduled for completion in fiscal year 2000, scheduled for completion by fiscal year 2001, and suspended/deleted.

UW SYSTEM ADMINISTRATION TECHNOLOGY VISION

The University of Wisconsin System Administration *takes advantage of the opportunities information technology presents* to:

- improve communication among System Administration staff and its constituents
- encourage close collaboration among System Administration staff
- facilitate decision making
- coordinate policy planning
- manage resources
- further our partnerships with the Department of Administration and other state agencies and organizations

INFORMATION TECHNOLOGY PRINCIPLES

The University of Wisconsin System Administration has a substantial and growing investment in information technology. Wise management of this investment is critical to meeting System Administration's business needs. Guiding this management are underlying principles that provide a framework for policy decisions.

Principles

- System Administration treats information and technology as strategic resources, supporting and safeguarding them as critical assets.
- System Administration has a common understanding of what constitutes ethical use of IT and is a role model for the appropriate use of IT.
- System Administration links its IT budget to its IT plan.
- System Administration staff associated with IT is competent and knowledgeable about current practices, methods, and technology. Staff is provided appropriate equipment and training to effect

maximum productivity and quality. Equipment and training selection is approached on the basis of maximizing System Administration's return on investment.

- System Administration has a clear delineation of roles and responsibilities in regard to data. This includes the access, use, acquisition, and validation of data.
 - Users are responsible for ensuring the appropriate use of data.
 - Data custodians are responsible for ensuring appropriate access to data.
- System Administration staff communicate transparently across application, platforms, and geographical locations.
- Where appropriate, System Administration applications have a common presentation format and are portable from platform to platform. System Administration applications are supported by pertinent design methods and tools, and a robust technical infrastructure.

THE PLANNING ENVIRONMENT

In speaking with the System Administration Vice Presidents and other System Administration staff, we have identified the following problems.

1. System Administration staff can not easily access network services and applications from remote locations. For the purposes of this plan, a remote location is defined as any location outside System Administration offices at 780 Regent Street or Van Hise Hall and from which System Administration staff need access to core network resources. "Core network resources" are defined as System Administration email account, group scheduling software, and network stored files.
2. System Administration developed applications are not accessible using web technology. Currently, an application version upgrade requires updating developed software residing on every PC that accesses the application. Already, a significant number of PCs on campuses outside of Madison are used to access System Administration developed applications. The number of System Administration originated applications for use by a statewide constituency is projected to increase.
3. The System Administration web site is functionally conflicted. On the one hand, it has content intended for the general public and prospective students. On the other hand, it has a content of interest only to System Administration staff and UW System employees.

The following Strategic Directions are conceived to direct System Administration Information Technology projects and activities to manifest solutions to these stated problems.

INFORMATION TECHNOLOGY STRATEGIC DIRECTIONS

IT Strategic Direction #1

System Administration will transform the current network infrastructure to enable its staff to perform essential job functions anywhere and anytime.

Goal: Allow customers to remotely access core System Administration network resources using web technologies.

This means allowing System Administration staff the ability to access their email, calendar, and network files via the Internet.

The steps necessary to achieve this goal are:

- replace or upgrade the current email system
- replace the current calendar system
- standardize the configuration of the web client for local and remote access
- establish a common directory service to allow one ID and password for file, email, calendar access
- identify compatible productivity applications needed on the remote PC
- identify appropriate viewers for browser plug-ins needed on the remote PC
- outline alternative methods and costs of dealing with long distance calling so departments can decide if they want to support remote access for their staff

To achieve this goal, we proposed the following **projects**:

Upgrade Email System - [FY99-FY00] The outcome of this project will be an email system supporting industry standard protocols, a variety of non-proprietary email clients, and common directory services.

Replace Calendar System - [FY99-FY00] - the outcome of this project will be an online calendar and schedule system supporting internet access and common directory services.

Upgrade Network Operating System - [FY00] - the outcome of this project will be a foundation for supporting secure remote access to LAN resources and create the basis for System Administration common directory services.

IT Strategic Direction #2

By defining a new model for information collection, organization, transformation, and distribution, System Administration will make available any appropriate information needed by its constituents.

Goal 1: Develop a System Administration web services strategy.

This means determining appropriate functions and services for System Administration web resources, the primary customers for those functions and services, and how many separate web sites would be needed to provide those functions and services.

The steps necessary to implement this goal are:

- departments identify and characterize the functions and services the current System Administration web site offers
- departments identify the customers of the functions and services the current System Administration web site offers
- determine the number of discrete web sites needed to accommodate the current System Administration web site functions and services as identified by the departments
- departments establish the business functions and services that are suitable for a UW System intranet web site, e.g., set up a site exclusively for the use of UW System staff to carry out the business of UW System
- departments establish the business functions and services that are suitable for a System Administration intranet web site, e.g., set up a site exclusively for the use of System Administration staff to carry out the business of System Administration

- agree on security requirements for each site
- provide appropriate web software, storage capacity, connectivity, and security for identified web sites

Goal 2: Develop management policies for System Administration web content.

This means collecting and organizing System Administration data assets that are to be published or distributed via the world wide web.

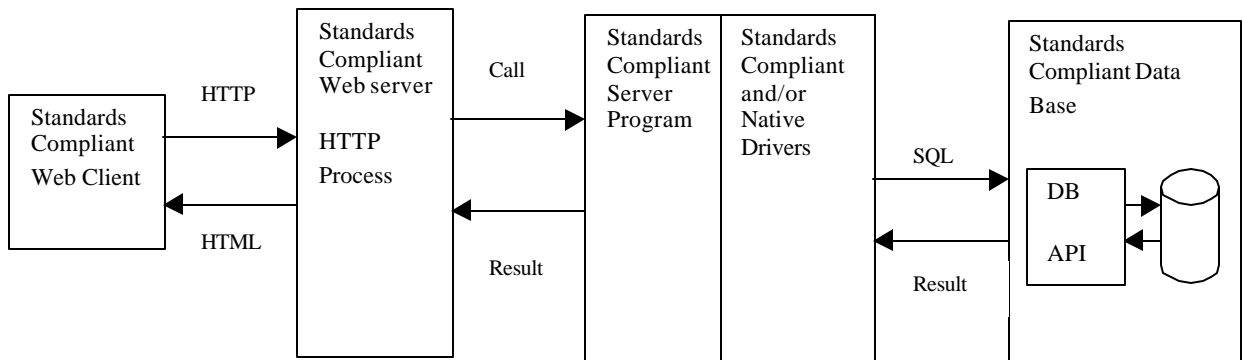
The steps necessary to implement this goal are:

- departments manage the organization and presentation of their web site content
- departments identify web data assets
- departments identify data custodians for their data assets
- departments identify appropriate web site/customers for data assets
- supply adequate storage

Goal 3: Establish an architecture that supports web client enterprise computing.

This means creating a software and hardware environment that enables data transformation and distribution on systems that provide application access using no more than a web client.

A generic logical pictorial version of this goal is below.



The steps we would take to implement this goal are:

- reorganize the current System Administration web site into two or more discrete web sites, one would be restricted to System Administration staff only and dedicated to the business of System Administration; another would be restricted to UW System staff only and dedicated to the business of UW System
- develop appropriate standards based web and application server environments
- develop standards, guidelines, and procedures for new applications consistent with data management policy

To achieve these **three** goals, we propose the following **projects**:

Reconstitute System Administration Web Site - [FY00-FY01] - the outcome of this project will be logically separated functional web sites with policies pertaining to the content of each site.

Implement Data Management Policies Across System Administration to Support Web Site Functions [FY00 – FY03] – the outcome of this project will be that departments will have custodial responsibilities for information from identification through distribution since it is at the department level where the information is created and customer needs are best understood.

Implement an Application Development Architecture Using Web Technology - [FY00-FY02] the outcome of this project will be an infrastructure that will allow System Administration developers incorporate web technologies with the System Administration business processes.

APPENDIX

1995 and 1997 UWSA Strategic IT Plan Completed Projects

Project	Deliverable	Stakeholders	Status
Desktop Computer Replacement (1997)	Systematic Plan for the Renewal/Replacement of System Administration Staff Desktop Computers every 3-5 Years	UW System Administration Staff	Completed Ongoing Renewal
Facility CDR/Insurance System (1995)	Re-engineer on-line Facility and Insurance System	UW System Administration Staff, UW System Staff, State of Wisconsin Department of Administration	Completed Ongoing Maintenance
Transfer Information System (TIS) (pre-1995)	Complete Phase 3 (Academic Courses and Programs)	UWSA Office of Academic Affairs, UW System Registrars, UW System Admissions Offices, UW System Advisors, Students	Completed Ongoing Maintenance
Transfer Information System (TIS) (pre-1995)	Change Phase 2 (Institutional Information) from a Gopher application to a WWW application	UWSA Office of Academic Affairs, UW System Registrars, UW System Admissions Offices, UW System Advisors, Students	Completed Ongoing Maintenance
Desktop Computer Applications	Query and maintain UWSA staff personnel information (1997)	UW System Administration Staff, UWSA Office of Personnel Services	Completed Ongoing Maintenance
Market Research Data Coordination (1997)	Service individual institutions and consortia of institutions looking at specific market niches or enrollment dilemmas	UW System Institutions, UWSA Market Research Unit	Completed Ongoing
Training (1997)	Training for OIS supported software to UWSA staff on a timely basis	UW System Administration Staff	Completed Ongoing
User Support Services (1997)	Support UWSA staff in information technology areas	UW System Administration Staff	Completed Ongoing
IT Planning and Budget Development Link (1995)	IT planning for System Administration occurs before OIS budget is developed	UW System Administration Staff	Completed Ongoing
Network Upgrades and Improvements (1995)	Upgrade portions of the network to support 100Mbps line speed	UW System Administration Staff	Completed

1995 and 1997 UWSA Strategic IT Plan Projects Scheduled for Completion in Fiscal Year 2000

Project	Deliverable	Stakeholders	Status
Network Component Replacement (1997)	Improved network infrastructure so it will support constantly changing and more demanding network based applications	UW System Administration Staff	In progress
Program Management Information System (PMIS) (1995)	Reengineer system which provides information essential for the general management, academic planning, and budget planning efforts Instructional Analysis Information System (IAIS) - new name	UW System Administration Staff, UW System Staff	Completed except for Cost Per Credit Expenditures
OPAR Data and Application Integration	Integrate Distance Education course offerings into curricular data warehouse (1997)	UW System Administration Staff, UW System Staff	In progress
Desktop Computer Applications	Compute MEA calculations for TSA participants (1997)	UW System Administration Staff, Enrolled UW System Staff	Scheduled to be completed in 1999
Year 2000 Implementation (1997)	UWSA hardware, software, etc. are Year 2000 compliant	UW System Administration Staff	In progress
Critical Business Process Disaster Recovery (1997)	Identification of and restoration solutions for System Administration critical business functions	UW System Administration Staff	In progress

1995 and 1997 UWSA Strategic IT Plan Projects Scheduled for Completion by Fiscal Year 2001

Project	Deliverable	Stakeholders	Status
OPAR Data and Application Integration	Re-engineer Student Retention, Degree Program Statistics, Financial Aid (1997)	UW System Administration Staff, UW System Staff	In progress
Transfer Information System (TIS) (pre-1995)	Develop Phase 4 (Degree Progress Review)	UWSA Office of Academic Affairs, UW System Registrars, UW System Admissions Offices, UW System Advisors, Students	In progress
Data Model (1995)	Ideal and Corporate models specifying how UWSA data is organized in support of UWSA business rules and requirements	UW System Administration Staff	In progress
Data Dictionary (1995)	Dictionary' of definitions of UWSA data (elements, calculations, algorithms, transformations; identification of data stewards and location of data), Public access to the Dictionary	UW System Administration Staff, UW System Staff	In progress
Data Management (1995)	Policies and Procedures supporting consistent, accurate, and secure UWSA data	UW System Administration Staff	In progress
Security (1997)	Guidelines for proper use of data, protection against unauthorized changes to data, open access to data where appropriate	UW System Administration Staff	In progress
World Wide Web Coordination (1997)	Guidelines delineating department, University Relations, and OIS responsibilities	UW System Administration Staff	In progress

1995 and 1997 UWSA Strategic IT Plan *Suspended/Deleted* Projects

Project	Deliverable	Stakeholders	Status
Desktop Computer Improvement (1995)	Video Conferences at the Desktop	UW System Administration Staff	Suspended
Server Upgrade (1997)	Increase capacity of System Administration World Wide Web and data warehouse servers	UW System Administration Staff, UW System Staff	Suspended - No equipment dollars allotted until 2001
Document Management (1995)	Improved access to needed documents	UW System Administration Staff	Suspended
Imaging Pilot (1995)	Pilot implementation of an electronic imaging system for ELFS forms and Trust Fund vouchers and ledgers	Staff Benefits and Payroll Policy and Trust Funds Operations	Suspended <i>May be resurrected</i>
Public Relations Data (1997)	Warehouse of easily accessible public relations data	UW System Administration Staff, UW System Staff	Suspended
Staff Research Support (1997)	Identify and understand UWSA staff future technology needs	UW System Administration Staff	Suspended

UWSA Strategies, Standards, and Guidelines for Information Technology

The following strategies for information technology have been adopted by System Administration. The n/a's indicate that it may not be appropriate and/or necessary to use software on that platform. The blanks mean that there may in the future be strategies or guidelines for that platform

Environment	Desktop Computing	Basic File Server Computing	Application Server Computing	Database Server Computing	Web Server Computing
Word Processing	Word97 v8.0	n/a	n/a	n/a	n/a
Spreadsheet	Excel97 v8.0	n/a	n/a	n/a	n/a
Presentation Graphics	PowerPoint97 v8.0	n/a	n/a	n/a	n/a
Electronic Mail	cc:Mail v6.03	cc:Mail v8.1 (database): cc:Mail's Link to SMTP	UCB Sendmail 8.8.8	UCB Sendmail 8.8.8	UCB Sendmail 8.8.8
Calendar	caLANdar for Windows v3.0	caLANdar v3.0 (database)	n/a	n/a	n/a
FTP Services	WSFTP-32; Netscape v3.0+	NFS V3	AIX FTP Server v4.1	AIX FTP Server v4.1	AIX FTP Server v4.1
Web Services	NetScape v3.0+	NFS Links W: drive to Server			Apache HTTP v 1.3.3
Gopher Services	NetScape v.3.0+	n/a	n/a	n/a	n/a
Viewers	Acrobat; QuickTime; Mpeg; Microsoft PhotoEditor; RealPlayer				
Electronic Forms					
Mainframe Access	QWS3270	n/a		n/a	
CASE Tool	PowerDesigner v7.3	n/a	n/a	n/a	n/a
Database Engine	Access97 v8.0	n/a	n/a	Oracle v8.0.4; ADABAS v3.1.1.12	n/a
Database Connectivity	SQL via Oracle Net8; ODBC	n/a	n/a	SQL via Oracle Net8	
Database Server Access Tools	PowerScript6.5 From PowerBuilder; InfoMaker v6.5; Natural; PLSQL v8.0.4.2.1; SQL*PLUSv8.0.4; Microsoft Query	n/a	Natural PL/SQL v8.0.4.2.1: SQL*PLUSv8.0.4	Natural v3.1.1.11 PL/SQL v8.0.4.2.1: SQL*PLUSv8.0.4	
Statistical Analysis	Excel07 v8.0; PC SAS v6.12	n/a	SAS v6.12	n/a	n/a
Operating System	Win95 OSR2	Novell v4.11	AIX v4.3.2; Novell v4.11	AIX v4.3.2	AIX v4.3.2
Hardware Platform	Compaq Pentium III; 128M RAM; 6+ G Disk; 17" Mon.; CD-ROM; sound card (for new acquisitions)	Compaq ProLiant 6500; 512 M RAM; RAID 5 - 24+ G Disk	IBM RS6000, S7A, 2 2 G RAM, 4 CPUs, 18.2. G Disk	IBM RS6000 J40, 640 Mb RAM, 8 CPUs, 40.5 G Disk	IBM RS/6000 F50, 512 Mb RAM, 2 CPUs, 27.3 G Disk
Basic File Server Access	Novell Client32	NDS			NFS Connectivity
Network Technology	Ethernet - Ethernet_II Framing	Ethernet - Ethernet_II Framing	Ethernet - Ethernet_II Framing	Ethernet - Ethernet_II Framing	Ethernet - Ethernet_II Framing
TCP/IP Access	Microsoft IP Stack 2	Novell 4.11	AIX v4.3.2	AIX v4.3.2	AIX v4.3.2
Virus Protection	Sophos Sweep v3.21	Sophos Sweep v3.21	n/a	n/a	n/a