

2006-2009 TECHNOLOGY STRATEGIC PLAN TEXAS WESLEYAN UNIVERSITY



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Preface

In this the first decade of the 21st century, human ingenuity is generating change at a rate never before seen in our history as a society. The technological advances resulting from these new, original ideas are forcing us to move at a tempo that is faster than our ability to fully control these changes.

New computing and information-sharing technologies have made it possible to send and receive massive amounts of information to and from any location. These new capabilities, coupled with innovative ideas and large stores of digital data, are changing the basic structures and functioning of educational institutions. These revolutionary advances are forcing significant rethinking of educational practices, administrative policies and structures, and the role of technology in fulfilling the mission of each institution.

As a community, higher education is recognizing the central role technology plays in building and maintaining a competitive position in today's higher education "open market." Institutions have come to realize that students are considering the state of an institution's technological integration in their application and acceptance decisions. Students want to know that they will develop information and communication literacy and have marketable skills when they graduate. Additionally, faculty coming into the profession now possess sophisticated research and teaching technological capabilities and wish to use these skills. In order to attract and retain the most talented of these groups, institutions are investing more in technology and its associated costs.

Each institution either has or will confront these new demands and expectations. Those that have been able to successfully transform are reaping the benefits of increased enrollments across programs, improved administrative functioning, and increased employee performance and retention. However, this transformation requires more than simply putting technology in the hands of users. It means asking people to change the way they perform their professional tasks. To maximize the investment in technology, institutions are rethinking their curriculum, modifying administrative operations, promoting communities of continuous learning, and moving toward complete collaboration among and between departments that have traditionally functioned autonomously. From the experiences of others, we have learned that success is contingent upon providing the support and nourishment necessary for people to adapt to the new, integrated environment.

Without a doubt, the landscape of higher education is changing. These changes are inevitable and will provide advantages to those institutions that strategically use technology to improve academic, administrative, and economic effectiveness. We hope this strategic plan for the use of technology will allow us to harness the power of technology and successfully move down this path of transformation.

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Executive Summary

As Texas Wesleyan University (TW) continues to progress through the modern era, knowledge assets, information technology, and information resources are key to the fulfillment of the University's mission, as well as its continued day-to-day operation. By providing the technology infrastructure, tools, training, and support necessary for success, TW will find itself ready to meet the technological demands of all its stakeholders.

In recent years, rapid growth in the use and demand for information technology and information resources at TW, the changing environment encompassing higher education and the world at large, and the pervasiveness of technology in academic life prompted the need for a systematic and wholly inclusive response to this technology imperative. Texas Wesleyan University prepared this Technology Strategic Plan to articulate a common vision for technology in the University and identify the strategies that will help TW use advanced technologies and communication tools to improve administrative functioning and academic achievement.

Broad participation, significant collaborative work, and extensive stakeholder input were the hallmarks of the planning process. In all, over 450 members of the university community participated in surveys, focus groups, on planning committees, or as reviewers of the planning document. Further data was gathered from a variety of reputable external sources and major accrediting agencies. These data gathering efforts assisted the committee in identifying the current situation within TW and brought to light trends occurring on campus, trends affecting higher education in general, and trends at the national and global levels that could affect the role that technology will play in fulfilling the mission of Texas Wesleyan University.

Based on the data collected and identified technology trends, a list of general technology issues was generated. The list of general technology issues was narrowed down to 12 strategic issues to be addressed in the current plan. For each strategic issue a three-year strategic goal was established. The interim, facilitating steps necessary to achieve each specified goal were developed as objectives. An action plan was then developed to achieve each identified objective.

This document lays out the overall strategic plan for Texas Wesleyan University to:

- Develop and maintain technology for student-centered instruction and services;
- Develop the information and communication skills necessary for students and employees to succeed in the 21st century;
- Provide access to appropriate technology for individual needs;
- Build and maintain a technology infrastructure that can support state-of-the-art instructional and administrative applications;
- Develop and maintain official procedures, technology standards, and timelines for technology-related requests and purchases in order to ensure that the "right" technology is purchased in a timely manner;
- Provide sufficient and comprehensive funds to support the acquisition, maintenance, personnel training, and use of technology to reach the goals stated in the University Technology Strategic Plan;
- Establish the expectation that academic and administrative personnel pursue professional growth in the use of technology to enhance professional practice;
- Develop and offer professional development opportunities for users of varying abilities in areas of identified interest/need;
- Provide professional growth opportunities in a variety of formats to accommodate different employee schedules and learning preferences;
- Develop a complete professional development program aligned with the Technology Competency Standards and Benchmarks to be developed as part of the University Technology Strategic Plan;
- Establish a mechanism for acquiring training on non-standard software and hardware through external means; and

- Provide continuing professional growth opportunities for training staff to ensure trainers knowledge and skills are kept current.

Texas Wesleyan University's 2006-2009 Technology Strategic Plan constitutes a blueprint for building a technologically competitive institution. All of the initiatives presented in this plan are designed to ensure that TW is operating effectively and efficiently and is providing the members of the university community the tools, training, and support needed to thrive, succeed, and excel in this new century.

Background

The Technology Strategic Planning (TSP) process was initiated by the Vice President of Finance and Administration, William Bleibdrey, in April 2004. The process was overseen by the University Technology Strategic Planning Committee, and directed by the Provost and Senior Vice President, Allen Henderson and Chief Information Officer, SW Hollingsworth.

The overall goal of the TSP process was to develop a comprehensive plan that combines high-level strategic planning with tactical planning to lead to action in three significant areas: technology and learning, infrastructure, hardware, software, and support, and professional growth. That action will ensure adequate resources and services in support of the University's mission.

Broad participation, significant collaborative work, and extensive stakeholder input are the hallmarks of the TSP process. In all, over 450 members of the university community participated in surveys, focus groups, on planning committees, or as reviewers of the planning document.

Further data was gleaned from a variety of sources, including:

- A review of the literature to identify current best practices,
 - Educause
 - Syllabus
 - University Business
 - Sys Admin
 - Gartner Group
 - Pricewaterhouse Coopers
- A survey of University site hardware, cabling and instructional media,
- A survey of University site telecommunications systems,
- A survey of faculty needs and technology plans, by school,
- A survey of administrative needs and technology plans, by department,
- Informal and formal interviews with administrators and other representatives from the university community,
- Review of external technology plans, and
- Collaboration and sharing experiences with other universities.

Purpose

Texas Wesleyan University has prepared this Technology Strategic Plan to articulate a common vision for technology in the University and identify the strategies that will help TW use advanced technologies and communication tools to improve administrative functioning and academic achievement.

Parameters

This Technology Strategic Plan is driven by Southern Association of Colleges and Schools (SACS) standards and supports the educational mission and instructional goals of Texas Wesleyan University. The plan is tempered by other criteria as well. Those being:

- Known technology best-practices in higher education,
- Educational predictions for higher education,
- Trends and forecasts for technology,
- Standards for Legal Education set by the American Bar Association, and
- Specific attention is given to SACS standards for technology as defined by the *Response to the Report of the Reaffirmation Committee* document submitted to SACS September 11, 2003.

The plan stresses the importance of ongoing and sustained employee development in the integration of technology into the curriculum for faculty, staff, administrators, and library media personnel to further the effective use of technology in the classroom and library media centers. It also is consistent with the

recommendations defined by SACS in the areas of Teaching and Learning, Faculty Preparation and Development, Administration and Support Services and Infrastructure for Technology, as well as guidelines and other industry and governmental standards.

Introduction

There are very few times in our lives that we can say with certainty that the world in which we live will change in dramatic ways. For all of us in higher education, the moment is at hand.

There is an ancient Chinese proverb saying, "May you live in interesting times." We do indeed live in interesting times. Advances in information and communications technology allow us to look at the familiar objects that occupy our academic landscape in a new light. New and unfamiliar technologies surround us and offer the opportunity to improve personal and professional effectiveness and efficiency. The restrictions of time and geography are becoming non-existent. The roles that define students, instructors, administrators, and even institutions of higher education are being revised. It is in this time of adjustment that we must also reexamine the role that technology plays in our individual lives and society at large and determine what our shared future will be.

We recognize that some concerns about the impact of new technologies on administrative practices and the teaching and learning process are legitimate and that barriers to the use of technology do exist. These issues and concerns are addressed in this document. Nevertheless, the need for modern skills taught in a modern context using modern tools is preeminent.

This technology strategic plan was not designed with the intent of stopping the described chain of events; rather this plan was developed on the assumption that because the impact of new technologies is pervasive, the response of our university must be systematic and wholly inclusive. With this understanding, we undertook the task of developing Texas Wesleyan University's 2006-2009 University Technology Strategic Plan.

Vision Statement

We, the members of the Texas Wesleyan University community, envision a university where technology is strategically used to advance our shared mission. We desire for every member of the university community to possess the knowledge and skills necessary to be successful in an information-driven, knowledge-based society. To accomplish this, we will provide members of the university community continuous access to the tools, support, and training necessary to be successful. We believe that appropriate access and use of technology enriches the learning experience, improves decision-making, increases efficiency, and empowers individuals. By expanding the availability and use of networked computing technology we will broaden, deepen and accelerate student learning, improve our ability to base instructional and institutional decisions on relevant data, facilitate professional growth, provide support, improve monitoring and evaluation, and modernize institutional management strategies. Technology will provide anytime, anyplace access to University resources, bring TW to the surrounding community and our alumni, and create a new passion for education at Texas Wesleyan University.

Technology Mission Statement

Texas Wesleyan University is committed to developing curriculum and applying instructional methods enriched with technology, providing the support, tools, and motivation necessary to ensure appropriate application of technology, and embracing the central role of technology in support of the University mission.

Current Situation and Trends

As part of the TSP process the University Technology Planning Committee (UTPC) commissioned a number of data gathering efforts. These included: a Hardware Inventory, a Software/Web Service Inventory, Student, Faculty, Staff, Chief Information Officer, and Alumni Technology Surveys, an audit of current technology policies and procedures, an external benchmarking exercise, and an analysis of technology trends. These efforts assisted the committee in identifying the current situation within the University and brought to light trends occurring on campus, trends affecting higher education in general, and trends at the national and global levels that could affect the role that technology will play in fulfilling the mission of TW. The results of these assessments focused the efforts of the UTPC for the current technology-planning endeavor.

The data presented here represents a “snapshot” of TW at the time of collection. University-Wide Technology, Technology Infrastructure, Hardware Ratios, and Benchmarking Data were collected September 2004. Software/Web Services and Survey Data were collected January 2005.

University-Wide Technology

The following technology is currently in place:

- Direct connection to the Internet via a DS3 leased line to an Internet Service Provider.
- Dorm high-speed Internet service provided by the university network with Cable TV service through a Charter contract.
- Campus web servers in place providing University information and student access.
- Written policies in place for acceptable use of the Internet, World Wide Web content, network management, printing, equipment standards, purchasing, and donations.
- One media studio available for University community members.
- Distance learning facilities available for University community members.
- Faculty Resource Center with training facilities and computers available for University faculty.
- Region XI T1 video conferencing connection to over 100 North Texas School Districts and beyond.
- Real-time instructional video conferencing to over 27 medical facilities across the United States.
- Steaming Video server allows around-the-clock student access to cataloged courses.
- Course management system and server allows 24/7 student access to on-line courses.
- One Gigabit Fiber-backbone on the historic campus (Four gigabit to GPNA) and 1 Gigabit Ethernet backbone at the law campus.
- 100-megabit/1-Gigabit Ethernet-to-the-desktop at both campuses.
- Instructional computer labs with internal file servers and programming software for advanced computer classes.
- Web mastering.
- Studio with digital graphics and animation, video technology and two internal television channels.
- In-house computer repair, installation and network support.
- “Eight-to-Five” helpdesk/call center support for staff, faculty and students with 24/7 messaging service.
- “Eight-to-Five” distance learning phone support for faculty and students with support via email available on Saturdays.
- Networked online card catalog, Internet access, Texas Library Connection, Color Printing, and automated checkout in the library.

- Minimum of eight network drops and wireless access in most classrooms.
- Computer projectors available on each campus for classroom checkout.

Technology Infrastructure

Cabling Plant

Since 2001, the cabling plant has undergone many improvements. However, there are still areas where the plant does not yet exist or is not adequate to support TW's direction. There are twenty-eight 28 viable structures on the historic campus and one at the law campus. No opinion is expressed as to the need to wire all structures, an assumption is made that it is desirable to have all University property connected to the backbone/network.

- Twelve structures (49%) do not have internal wiring to connect to TW's Gigabit network.
- Fifteen structures (52%) do not have terminated fiber from the historic campus backbone.
- There is not an equivalent backbone connection between the Historic Campus and the Law Campus.
- There are four separate phone switches being used by TW for voice service.
 - A NorStar switch in the administration building services only that building and does not have voice mail capability so relies on SBC supplemented Call Notes with digital phones and/or individual answering machines on analog (Plexar) lines.
 - A NorStar switch in Baker Martin services only that building and has voice mail.
 - A StarPlus Keyswitch in the School of Business services only a single telephone and does not have voice mail capability nor is it interoperable with other hand-sets in that building.
 - A Toshiba Strata switch at the law campus was recently updated to a Voice Over Internet Protocol (VoIP) system.
- All telephone switches and existing dorm connections are supplemented with SBC Plexar stations and essentially substitutes as a fifth switch for the whole University carrying with it the single-line cost overhead per each station. Currently, students must contract directly with SBC for service.
- None of the existing systems "talk" to each other or share common lines.
- Most switches on the Historic Campus are over capacity and past their life cycle. Switches at the Law Campus have recently been updated.
- There are no existing common voice routes from TW main telephone number. All in-bound calls must be manually transferred.
- Seventeen structures (59%) do not have coax (television) routes to them nor is there any shared video with the law campus.

The data collected indicates that TW's cabling structure and core is currently incomplete or in need of updating. In order to accommodate the increasing demands of modern equipment and users, these issues must be addressed and resolved. Current cabling is incapable of supporting Internet2.

Telecommunications Services

Currently, all students and staff members at TW have access to the Internet, through a direct connection. LANs are in place on every campus that houses 2,607 students.

Hardware Inventory

The ratio of users to computers at Texas Wesleyan University is reflected in the following charts. Student ratios for each lab were calculated on access and/or class size/assignment. Only current, non-obsolete (Pentium speed or better; at least 128MB RAM and network-capable) computers are listed. Faculty and administrative computers are listed separately.

Student to Computer Ratios (Labs)

Historic Campus	Students	Computers	Student To Computer Ratio
General Use Labs (Open Access) *			
Eunice James West Library Room B-24 (Public)	752	30	25.07:1
Eunice James West Library Room B-25 (Public)	656	25	26.24:1
Eunice James West Library Room B-26 (Public)	521	21	24.81:1
Dan Waggoner Hall Room 308	31	7	4.43:1
Nanetta Burton Carter Room 104	18	6	3.00:1
Departmental Teaching Labs (Classrooms) *			
Ann Waggoner Annex Room 101	30	10	3.00:1
Ann Waggoner Annex Room 102	39	13	3.00:1
Armstrong-Mabee Business Center – Room 214	224	26	8.62:1
Armstrong-Mabee Business Center – Room 217	132	16	8.25:1
Dan Waggoner Annex Room 101	12	16	0.75:1
Dan Waggoner Hall Room 208	9	3	3.00:1
Eunice James West Library Room B-17	30	24	1.25:1
McFadden Science Center (CSC Lab) Room 107	16	37	0.43:1
McFadden Science Center Room 205	54	5	10.80:1
McFadden Science Center Room 311b	7	10	0.70:1
Nanetta Burton Carter Room 102	76	27	2.81:1
Other *			
Rambler/ Stella Hall	6	6	1.00:1
Historic Campus Average**	1934	268	7.22:1
Law Campus	Students	Computers	Student To Computer Ratio
Lab Room 3	599	16	37.44:1
Library	599	12	49.92:1
Law Campus Average**	599	28	21.39:1
University Average**	2527	290	8.71:1

*Student ratios for each lab were calculated on access and/or class size/assignment. This data was primarily used to generate a ratio for each lab based on full utilization.

**The Historic Campus Average, Law Campus Average, and University Average allow for benchmarking against other similarly classified universities, as well as, national averages for all university classifications.

Faculty to Computer Ratios

Schools	Faculty	Computers	Faculty To Computer Ratio
School of Arts & Sciences	107	107	1.00:1
School of Business	30	37	0.81:1
School of Education	26	19	1.37:1
School of Law	57	110	0.52:1
Graduate Program Nurse Anesthesia	8	11	0.73:1
Academic Resource Center	228	14	16.3:1
Total	228	284	0.80:1

Staff to Computer Ratios

Departments	Staff	Computers	Staff To Computer Ratio
Admissions	11	12	0.91:1
Advancement	8	9	0.89:1
Athletics	12	8	1.50:1
Communication	3	6	0.50:1
Facilities	14	5	2.80:1
Finance	10	15	0.67:1
Financial Aid	6	8	0.75:1
Human Resources	4	5	0.80:1
Library	10	12	0.83:1
Mail Room	4	3	1.33:1
President	3	3	1.00:1
Provost	6	15	0.40:1
Purchasing	2	2	1.00:1
Registrar	7	10	0.70:1
Student Government	4	6	0.67:1
Student Life	6	9	0.67:1
Total	110	127	0.87:1

Servers – Historic Campus

Device Name	Device Description	Location	Platform	Hardware	CPU	Speed	Memory
fw1-main	Firewall	MDF - EJW Basement	Linux	Equus PC	P4	1.6 GHz	1Gb
Vivaldi	PDC	MDF - EJW Basement	NT 4.0	Rackmount	PIII	900 MHz	512Mb
Offenbach	Internal DNS 2	Admin Bldg (Basement)	Linux RH 7.2	Dell Dimension V400c	PIII	400 MHz	128Mb
Beethoven	Logging Server	MDF - EJW Basement	Linux RH 7.1	Equus PC	P4	1.6 GHz	256Mb
Wagner	DNS/TIME/FTP Server	MDF - EJW Basement	Linux RH 7.2	Dell Dimension V400c	PIII	400 MHz	128Mb
Verdi	Exchange Server	MDF - EJW Basement	NT 4.0	Rackmount	PIII	900 MHz	512Mb
Chopin	Intranet Web Server	MDF - EJW Basement	NT 4.0	2300 RAID5	PIII	450 MHz	256Mb
Mendelssohn	DHCP2/WINS1	MDF - EJW Basement	NT 4.0	2300	PII	450 MHz	128Mb
Bellini	File Server (Samba)	Admin Bldg (Basement)	Linux RH 7.2	Fridge	PIII	1.2 GHz	512Mb
txwes-print1	Printer Spool Server 1	MDF - EJW Basement	NT 4.0	4100 RAID5	PII	300 MHz	128Mb
Backup	Unix Backup Server	MDF - EJW Basement	Linux RH 7.2	2300	PII	450 MHz	128Mb
artdepot	Database Server (SQL Web Backend)	B-19	Linux RH 9.1	Equus PC	P4	1.6 GHz	512Mb
Stravinsky	Main Web Server	MDF - EJW Basement	Linux RH 7.2	2300 RAID5	PIII	450 MHz	256Mb
Puccini	Organizational Web Server	MDF - EJW Basement	Linux RH 7.2	Mitsuba Tower	P1	250 MHz	128Mb
Bach	Payroll Server	MDF - EJW Basement	NT 4.0	2300 2x9GB	PII	450 MHz	128Mb
Mozart	Datatel System	MDF - EJW Basement	HP-UX 11.0	HP L2000	RISC 9000	450 MHz	1Gb
Brahms	Dept. Web Server	MDF - EJW Basement	Linux RH 7.2	2300 2x9GB	PII	450 MHz	128Mb
Barber	Enterprise Directory/LDAP	MDF - EJW Basement	Sun/Solaris 2.6	Rave	Ultra Sparc	400 MHz	512Mb
Janacek	Library Catalog (SIRSI)	MDF - EJW Basement	Sun/Solaris 2.6	Sun 450 Enterprise	Sparc	250 Mhz	1Gb
Bernstein	Real Video Server	MDF - EJW Basement	Solaris 5.8	Rave	Ultra Sparc	400 MHz	512Mb
EZ Proxy	Proxy Authentication	MDF - EJW Basement	Linux RH 6.2	Dell PowerEdge 1300	PIII	700 MHz	256Mb
Boccherini	Backup Server/	MDF - EJW	NT 4.0	2300	PIII	450	256Mb

	Printer Spool Backup	Basement				MHz	
Handel	Sniffer/ Monitor	B-28	MacOS 7.6.1	Mac	PPC 7200	150 MHz	96Mb
Guaraldi	Tomcat Application Server	MDF - EJW Basement	Linux RH 7.3	Mitsuba Tower	P1	250 MHz	128Mb
TWsys	VAX Student System	Admin Bldg (Basement)	OpenVMS V7.2	VAX 4000-300	Alpha	-	-
Engine2	Student Email/Calendar Server	MDF - EJW Basement	Linux RH Ent 3	Dell PowerEdge 2650	P4	3.2 GHz	1Gb
Cage	Software Server	MDF - EJW Basement	NT 4.0	2300	PII	450 MHz	128Mb
Facilities	Temp Track-It Server	B-28	W2000	Equus PC	P4	1.6 GHz	256Mb
web	Zeus Web Server	MDF - EJW Basement	Linux RH 7.1	Dell Optiplex GX110	PIII	450 MHz	128Mb
CD_Tower	CD_Tower	MDF - EJW Basement		N/A	N/A	N/A	N/A
Corelli	WebSense Server	B-19		Equus PC	P4	1.6 GHz	512Mb
Admin2_NT	Clearview System (AMS)	MDF - EJW Basement	NT 4.0	4100 RAID5	PII	300 MHz	128Mb
Holst	ImageNow Transcript System	MDF - EJW Basement	W2003	Dell PowerEdge 2650	P4	3.2 GHz	1Gb
Bartok	CT Production Web Server	MDF - EJW Basement	Solaris 5.8	ctweb	Ultra Sparc	400 MHz	512Mb
ns1	DNS Primary Server	MDF - EJW Basement	Linux RedHat 7.2	Dell Optiplex GX110	PIII	450 MHz	128Mb
ns2	Mail Server/DNS Secondary Server	MDF - EJW Basement	Linux RedHat 6.2	ns2.txwes.edu	PIII	700 MHz	256Mb
Honegger	WebAdvisor Testing	MDF - EJW Basement	Solaris 5.8		Ultra Sparc	800 MHz	512Mb
Schumann	WebAdvisor Production	MDF - EJW Basement	Solaris 5.8		Ultra Sparc	800 MHz	512Mb
engine1	Proxy Server to Verdi	MDF - EJW Basement	Linux RH 7.2	2300	PII	450 MHz	128Mb
wlgw	Wireless Gateway	MDF - EJW Basement	Linux RH 7.3	Dell Optiplex GX110	PIII	450 MHz	128Mb

Servers – Law Campus

Device Name	Device Description	Location	Platform	Hardware	CPU	Speed	Memory
Thomas	Doc. storage, print server, intranet	LAW - IDF	Win 2000	IBM 220	P-III	933 MHz	524 Mb
Ginsburg	PDC, faculty & Staff e-mail	LAW - IDF	NT 4.0	Dell PowerEdge 4400	P-III	733 MHz	524 Mb
Rehnquist	BDC, SQL server, print server	LAW - IDF	NT 4.0	Dell PowerEdge 4400	PIII	733 MHz	524 Mb
Burger	Access server	LAW - IDF	NT 4.0	Dell PowerEdge	P	166 MHz	196 Mb
Classes	Backup for student e-mail system	LAW - IDF	NT 4.0	Mitsuba	P-II	200 MHz	64 Mb
Ms Exchange	Backup faculty & staff e-mail system	LAW - IDF	NT 4.0	Mitsuba	P-II	300 MHz	232 Mb
Web 1	Site Server Admin, Website host	LAW - IDF	Win 2000	Dell PowerEdge 2600	P-III	3.2 GHz	512 Mb
Web 2	Backup Website host	LAW - IDF	Win 2000	Dell PowerEdge 2600	P-III	3.2 GHz	512 Mb
Mail	Student & Alumni e-mail system	LAW - IDF	Linux 7.3	Mitsuba	P-II	300 MHz	394 Mb
Oconner6	PC Lab security, file & print	LAW - IDF	Win 2000	IBM PC	P-II	450 MHz	256 Mb
Rover	Library file & print	LAW - IDF	NT 4.0	Computer Werks	P-II	300 MHz	256 Mb
Spot	Library CD server	LAW - IDF	NT 4.0	Computer Werks	P	100 MHz	128 Mb
CDVision	Library CD tower server	LAW - IDF	DOS	Computer Werks	P-II	266 MHz	128 Mb
CDV2	Library CD tower server	LAW - IDF	DOS	Computer Werks	P	100 MHz	128 Mb
Library ILL	Library ILL server	LAW - IDF	Win 2000	Dell PowerEdge 2600	P-III	3.2 GHz	512 Mb

The data indicates that technology hardware is readily available on campus and being used within the university. While the total numbers of computers is at an acceptable level, many of these computers are older and lack the ability to run newer versions of software and efficiently function within the network environment. Replacing the older machines (those that do not meet the minimum specifications to run Windows XP) is a necessary first step to improving the functioning of TW. Additionally, replacing the older machines in the server farm is critical to the continued success of TW.

Software/Web Services

Texas Wesleyan University's annual Campus Software Agreement currently covers Microsoft Windows operating systems, Microsoft Office Professional suite, Microsoft Outlook, Microsoft Internet Explorer, Microsoft Net Meeting, Microsoft Windows Media Player, Adobe Acrobat, RealPlayer, QuickTime Player, Macromedia Shockwave/Flash Player Norton AntiVirus Corporate Edition, Netscape, Cute PDF, and SSH/SFTP. My Surveys is the online survey development and delivery tool. Web CT is the course management system used by TW to deliver online courses. Datatel GUI Client is the information system software.

In analyzing the software inventory breakdown for TW, it is evident that software package programs can be categorized into three major groups: Baseline Software, Non-Baseline, Site-Licensed Software, and Discipline-Specific Software. Descriptions of each category and a listing of Baseline Software can be found below.

Baseline Software:

Baseline software is software commonly used by a majority of employees to perform the basic duties of their positions. The baseline software includes 1) standardized basic desktop productivity software and 2) communications software. This baseline software suite is installed on all university-owned machines upon arrival.

Below is the list of current (Spring 2005) baseline software.

- Microsoft Windows XP (Professional)
- Microsoft Office 2003 Pro (includes Access, Excel, PowerPoint, Publisher, & Word)
- Microsoft Outlook 2003
- Microsoft Internet Explorer
- Microsoft Windows Media Player
- Adobe Acrobat Reader
- Cute PDF
- Real Player
- QuickTime Player
- Symantec Anti-Virus
- Netscape 8.0
- WS-FTP LS
- SSH/SFTP
- Java2 RunTime Environment
- Flash Player

Non-Baseline, Site Licensed Software:

Non-baseline, site-licensed software is software that is less commonly used than baseline by university employees, however, the functioning of the software is cross-discipline and critical to the functioning of certain positions.

A limited number of approved non-baseline software licenses (SPSS, Contribute, etc.) are available for use and can be requested by individuals to be installed in offices, work areas, classrooms and computer labs.

Discipline-Specific Software:

Discipline-specific software is software that specifically supports the teaching or research activities of individual departments or individuals.

Discipline-specific software can be found installed in offices, work areas, classrooms, and computer labs across the campuses.

Software in all three categories appears to be readily available and procedures for acquiring this software are currently in place. However, a review of the data indicates that the established procedures are being poorly communicated to technology users and may be too complicated for some to follow; additionally, supervisors appear to be doing an inadequate job of requiring employees to follow the established procedures. The streamlining of processes and improved communication and adherence to procedures appears necessary to improve efficiency and reduce frustration.

Technology Planning Surveys

Five surveys were developed and administered to collect relevant data from University stakeholders (Student, Faculty, Staff, Chief Information Officer, and Alumni). The surveys provided data related to issues in three general areas: Technology and Teaching, Infrastructure, Hardware, Software, and Support, and Professional Growth. A summary of noteworthy results are listed here.

In the survey data collected, students identified the ability to complete administrative tasks via the Internet, online access to course notes and/or information, off-campus access to digital library resources, more online course offerings, and technology-enhanced classrooms as their top five technologies/services to which they desired greater access. This information would indicate that our top priorities should be increasing access to the university network, launching a thorough communication campaign to inform members of the university community of the resources currently available, increasing access to distance courses, increasing the instructional technology available on campus and increasing the appropriate use of instructional technology by instructors.

Faculty and Staff both identified funds and time to learn, practice, and plan as their top two barriers to technology use. This is inline with data collected at the national level. We should consider developing a comprehensive funding strategy that includes both aggressively seeking non-renewable funding sources and increasing flow into renewable funds in order to increase technology availability. The national data indicates that the institutions that have the most success overcoming the issue of time to learn, practice, and plan developed motivational models to increase appropriate technology use by University employees. We should consider addressing the issue in a similar fashion.

Seventy-Five percent of students reported that they had interest in taking or have already taken a course delivered completely via the Web and 63% of alumni reported being likely or somewhat likely to take a course from Texas Wesleyan if it were delivered completely via the Web. This data would indicate that Schools should consider increasing the number of courses offered via the Web and conduct a feasibility study to determine whether complete programs should be delivered via the Web in order to meet the indicated demand.

In the area of professional growth, faculty, staff, and administration indicated that they would like to receive technology training through a variety of means. In order to maximize attendance and accommodate the preferences of all employees, it will be necessary to provide opportunities to attend workshops, seminars, and conferences, provide training online, and provide one-on-one, small group, and large group training sessions. This will require a substantial commitment of both funds and personnel to successfully provide training in all the requested formats.

Detailed information obtained through the surveys is in the appendices.

Procedures and Policies

The current technology policies and procedures appear to be comprehensive and current. The survey data indicated that there is a need to communicate the timeline for specific software and hardware requests, as well as the policies and procedures to the end user, and better reward those individuals who properly follow the timelines and policies and procedures.

The following procedures and policies appear in the appendices:

- Acceptable Use of Information Technology Resources Policy
- Acceptable Use of Network Resources Policy

- Budgeted Hardware Order Procedure
- Budgeted Software Order Procedure
- Computer Lab Software Installation Policy
- Computer Replacement Program Policy
- Employee Confidentiality Policy
- Hardware Standards Policy
- Individual Software Installation Policy
- Information Security Policy
- Inventory Control Policy
- Password Policy
- Privately-Owned Equipment Policy
- Software Standards Policy
- Software Upgrade and Support Policy
- Wireless Network Usage Policy

Benchmark Data

Five major areas of Information Technology were benchmarked against other similar Carnegie classified institutions and industry milestones over a three-year period. These areas examined include: IT Organization, Staffing and Planning; IT Financing and Management; Faculty and Student Computing; Networking and Security; and Information Systems.

According to the data, TW's Information & Communication Technology (ICT) organizational structure is consistent with about one-half of the benchmarked institutions. The Chief Information Officer is not a member of the president's cabinet; however, he is the primary security agent for TW. Eight of the top thirteen functional areas, identified by peer groups, report to the CIO at Texas Wesleyan University. The remaining five identified functional areas (Web Support Services, Instructional Technology, Multimedia Services, and Distance Education) report to the Office of the Provost. ICT is consistently understaffed, under trained and under funded in relation to peer groups.

ICT funding is at an inadequate level to meet the operational and basic capital plant needs of TW. Currently, the capital plant is incomplete and existing plant is near the end of its useable life cycle. Student technology fees have fallen short of supporting the expressed need. Additionally, our current technology fee structure is atypical as only 6.9 percent of peer institutions use the same fee structure and only about 16 percent charge a separate residence hall network fee. The lack of sufficient technology funding continues to inhibit a normal three-four year desktop replacement cycle and the five-six year server (core) replacement cycle. Texas Wesleyan University is classified as "Under Plan" in reported benchmarks while 99.7 percent of the Carnegie classified peer group are "Ahead of Plan".

The academic mission is primarily supported by ICT as a repair/replace center and is based on 40-hour week availability, as is the helpdesk/call center. Only recently has instructional design/integration support been offered. TW has a designated instructional technology center and a course management system to support technology integration and assist/support individual faculty members in skill improvement. Staff members do not have a formal facility but are occasionally allowed to fill any unused faculty training slots. Similar to 81.8% of the reporting MA classified institutions, the course management system is used selectively by University faculty. Student support is not available through a formally designated program; support is given on a case-by-case basis with the responsibility being shared between Academic Technology and ICT. Like 96 percent of our peer institutions, current employees and students are issued University email accounts.

The completed segment of the University's network system is a robust system using switched technology. The current available Internet bandwidth is 45 mbps (Equivalent of passing the data contained in 45 full diskettes every second). When active, the GPNA program utilizes over 50% of the available bandwidth. The network backbone (fiber interconnects between buildings) on the main campus is 1 gigabit (roughly 1,000 diskettes of data per second); the law campus is capable of 100 mbps between servers and users

and utilizes a Gigaman data line between the two campuses for sharing data and Internet access. About 90% of all University desktops are capable of desktop video conferencing but only two sites have the capability permanently installed – GPNA and the School of Business. Virus protection is installed at the server level and University-owned computers on the network automatically have the protection ‘pushed’ to them when logged on. To maintain security and protection, private and insufficiently protected machines are not allowed on the university network. Additionally, all University users have a unique login and password that allows them access to university information and also enables users to store private/protected information of their own server space. Safe and secure Web and wireless services are available and being expanded as budget allows. The West library has 100 percent wireless coverage while only 42.5% of peer institutions have 76% - 100% library coverage.

Texas Wesleyan University’s implementation dates for all information systems are fairly recent (2000 to 2001). However, in 2004 industry changes in software and hardware forced replacement/upgrade to both the library (SIRSI) and course management (WebCT) systems, and a major software release for the management system (Datatel) that encompassed student, financial, and HR functions. The alumni development system (Benefactor) was recently upgraded. A proposed ERP major release (R18) for the Colleague management system is supposed to combine Colleague and Benefactor thus integrating all the modules into one by 2006. The Datatel hardware is also scheduled to cycle in 2005. A grant management system has not yet been deployed at Texas Wesleyan University. Both of these systems span the network and both campuses. ICT developed a secure interface (RamLink/RamMail) to allow greater controlled/secure access to information by all levels of users through a Web portal.

Benchmark details are in appendices.

General Technology Trends

There are several technology trends at the national and global level, as Identified by the University of Colorado at Boulder, that appear to have a potential for significantly impacting the demand for and use of technology by Texas Wesleyan University. These trends are listed here.

- Ubiquitous web presence: technology increasingly provides access from almost anywhere to the Internet, creating a virtual conduit for the individual to connect to a wide range of information as well as to different communities. Additionally, individuals expect access to high-quality, just-in-time information from expert sources.
- Rapid, mobile connectivity: high-speed networks, remote access, and wireless networks increasingly provide seamless anytime, anywhere access.
- Convergence: increasingly, people are choosing small, portable devices which provide greater capacity and functionality.
- 24/7/365 Service Expectations: individuals anticipate service and support assistance to be 24 hours a day, seven days a week, every day of the year.
- Electronic Commerce: consumers expect the convenience of numerous products and services to be available via secure online purchase and transaction systems.

Specific Higher Education Technology Concerns

In 2005, the sixth annual Educause *Current IT Issues Survey* identified issues affecting Information Technology in higher education. Participants of the survey were asked four key questions: 1) What is the most important IT issue to resolve for the institution’s strategic success; 2) What IT issue has the potential to become more significant; 3) What IT issue do IT leaders spend their time on; and 4) What IT issue represents the biggest expenditure of institutional resources?

The top IT concerns of similar-sized higher education IT institutions taken across all four questions include:

1. IT Funding
2. Administrative Systems/Enterprise Resource Planning (ERP)/Information Systems
3. (tie) Infrastructure
3. (tie) Security and Identity Management
3. (tie) Strategic Planning for IT
6. Faculty Development, Support, and Training for IT

These same issues of concern were identified, in similar order, by the leadership of the ICT department in October 2005. In addition to those concerns listed above, the leadership of the ICT department also has major concerns in the area of disaster recovery.

General Technology Issues

Based on the data collected and identified technology trends, a list of general technology issues was generated. This list of general issues is listed here by category.

Technology and Learning

- Developing and maintaining a commitment to student-centered instruction and services
- Developing the information and communication literacy skills necessary for students and employees to succeed in the 21st century
- Utilizing distance-learning technologies to provide extended learning opportunities and increase access to university courses and programs
- Acquiring proficiency in the use of modern technology in support of professional practice (faculty, staff, and administration)
- Improving instructional effectiveness by basing instructional practices on modern, research-supported learning theories and utilizing a formal model of instructional design

Infrastructure, Hardware, Software, and Support

- Establishing and maintaining a technical support team for student technology issues
- Developing and maintaining technology-enhanced learning environments that accommodate different student learning styles
- Ensuring equitable and convenient access to technology among students and faculty members
- Providing access to appropriate technology for individual needs - computers that are advanced enough to handle what faculty, staff, and students need to accomplish
- Providing adequate production support for the creation of effective technology-assisted courses and instructional materials
- Building and maintaining a current technology infrastructure that can support state-of-the-art instructional applications
- Maintaining compliance with hardware, software, and copyright agreements
- Ensuring that technical support and maintenance is timely and effective
- Planning for and establishing the support mechanism that needs to be in place for ongoing change to occur
- Ensuring that the "right" technology is purchased on time by developing and maintaining official procedures, technology standards, and timelines for technology-related requests and purchases
- Establishing administrative practices and policies that support the use of technology, recognize and reward effective and innovative uses of technology, motivate faculty to use appropriate technology, and remove barriers to technology use
- Utilizing technology resources to improve organizational and administrative efficiency
- Providing sufficient and comprehensive funds to support the acquisition, maintenance, personnel training, and use of technology to reach the goals stated in the University Technology Strategic Plan

Professional Growth

- Establishing the expectation that academic and administrative personnel pursue professional growth in the use of technology to enhance professional practice

- Developing and offering professional development opportunities for users of varying abilities (beginner, intermediate, and advanced) in areas of identified interest/need
- Providing professional growth opportunities in a variety of formats to accommodate different employee schedules and learning preferences.
- Developing a complete professional development program aligned with commonly accepted identified Technology Competency Standards and Benchmarks
- Establishing a mechanism for acquiring training on unsupported software and hardware through external means
- Providing continuing professional growth opportunities for training staff to ensure trainers' knowledge and skills are kept current

Strategic Issues

The list of general technology issues was narrowed down, using Kilfoil's (2003) *Questions for Determining Strategic Issues*, to 12 strategic issues that will be addressed in the current plan. They are listed here, by category, in unranked order.

Technology and Learning

- Developing and maintaining student-centered instruction and services
- Developing the information and communication literacy skills necessary for students and employees to succeed in the 21st century

Infrastructure, Hardware, Software, and Support

- Providing access to appropriate technology for individual needs - computers that are advanced enough to handle what faculty, staff, and students need to accomplish
- Building and maintaining a current technology infrastructure that can support state-of-the-art instructional applications
- Ensuring that the "right" technology is purchased on time by developing and maintaining official procedures, technology standards, and timelines for technology-related requests and purchases
- Providing sufficient and comprehensive funds to support the acquisition, maintenance, personnel training, and use of technology to reach the goals stated in the University Technology Strategic Plan

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Strategic Goals and Objectives

For each strategic issue a three-year strategic goal was established. The interim, facilitating steps necessary to achieve each specified goal were developed as objectives. The resulting strategic goals and their associated objectives are listed here.

Goal 1. To develop and maintain technology for student-centered instruction and services.

- 1.1. Develop an incentives/rewards program to encourage technologically based student-centered instruction and services by all faculty and staff.
- 1.2. Utilize a checklist during the development and design of courses reflected in the syllabi, to ensure that teaching practices are adhering to the principles of student-centered instruction.
- 1.3. Develop and offer new courses via the Web to meet the expressed demand for Web-based courses by students and alumni, with a goal of nine (9) courses per year strategically placed across levels and disciplines.

Goal 2. To develop the information and communication skills necessary for students and employees to succeed in the 21st century.

- 2.1. Conduct annual environmental scans within one year to determine the industry standards for technology, current applications of technology within higher education, and technology-related developments affecting the industry.
- 2.2. Implement technology across academic programs and administrative departments in a planned, systematic manner.
- 2.3. Include the selection of appropriate media as a step in the design process for every course.

Goal 3. To provide access to appropriate technology for individual needs.

- 3.1. Establish and maintain minimum standards for all computers on campus.
- 3.2. Implement a computer replacement program to ensure that computing resources are adequate and able to function within the network environment.
- 3.3. Establish and implement appropriate technology-based environment models for teaching, learning and work.

Goal 4. To build and maintain a technology infrastructure that can support state-of-the-art instructional and administrative applications.

- 4.1. Develop a robust network model that includes network access in every necessary classroom and office.
- 4.2. Increase the network bandwidth to accommodate the growing use of network resources.
- 4.3. Acquire the hardware and software necessary to meet the growing demands of network users.
- 4.4. Develop a staffing structure that can support the current infrastructure and grow as the infrastructure grows.
- 4.5. Expand and consolidate voice and data communications.

Goal 5. To develop and maintain official procedures, technology standards, and timelines for technology-related requests and purchases in order to ensure that the "right" technology is purchased in a timely manner.

- 5.1. Develop and communicate official procedures related to: Privately Owned Equipment, Budgeted Hardware Orders, Budgeted Software Orders, Computer Lab Equipment, Acceptable Use Policy, Software License Compliance and Account Activation/Termination.
- 5.2. Establish and support standards for all newly purchased technology hardware.
- 5.3. Establish and support a suite of software that meets the general requirements of the University.
- 5.4. Develop and communicate official timelines for a Service Level Agreement, a Computer Replacement Program, Hardware Requests, Software Requests, and Budget Submissions

Goal 6. To provide sufficient and comprehensive funds to support the acquisition, maintenance, personnel training, and use of technology to reach the goals stated in the University Technology Strategic Plan

- 6.1. Establish a technology fee that is adequate to fund the costs of technology related to student services and teaching and learning.
- 6.2. Allocate internal funding to cover academic, administrative, and training costs not covered by the Student Technology Fee.
- 6.3. Identify and communicate the specific roles of Academic Technology and Information and Communication Technology to reduce costs associated with the duplication of services and to ensure that all requisite services are covered.
- 6.4. Utilize external grants and/or alternative funding sources for specific technology projects, specially those projects not central to the functioning of the University.
- 6.5. Develop partnerships with private organizations to reduce the costs of services to the University.
- 6.6. Decentralize funds once each school or academic department has a clearly defined plan for the use of technology aligned with the University's Technology Strategic Plan.

Goal 7. To establish the expectation that academic and administrative personnel pursue professional growth in the use of technology to enhance professional practice.

- 7.1 Establish minimum technology competency required of all University employees.
- 7.2 Develop and implement a motivational model that targets all groups of employees.

Goal 8. To develop and offer professional development opportunities for users of varying abilities in areas of identified interest/need.

- 8.1 Develop and implement a training program targeting Intermediate Technology Competency.
- 8.2 Develop and implement training programs targeting instructional technologies, distance learning technologies, and Web site development.

Goal 9. To provide professional growth opportunities in a variety of formats to accommodate different employee schedules and learning preferences.

- 9.1. Implement a series of technology demonstrations to showcase "innovative" uses of technology.
- 9.2. Develop and deliver online, small group, and large group training modules/sessions.

Goal 10. To develop a complete professional development program aligned with the Technology Competency Standards and Benchmarks to be developed as part of the University Technology Strategic Plan.

- 10.1 Develop and implement training sessions teaching Basic Technology Proficiency.
- 10.2 Develop and implement training sessions teaching proficiency in administrative technologies (WIN).

Goal 11. To establish a mechanism for acquiring training on non-standard software and hardware through external means.

- 11.1. Develop a policy and procedure for requesting technology-related off-campus training in non-standard software and hardware.
- 11.2. Establish funding for attending technology-related workshops and training courses that are offered off-campus.

Goal 12. To provide continuing professional growth opportunities for training staff to ensure trainers knowledge and skills are kept current.

- 12.1. Develop a policy and procedures for requesting technology-related off-campus training by training staff.
- 12.2. Establish funding for attending technology-related workshops and training courses that are offered off-campus.

Assessment and Plan Review

The University Technology Planning Committee will review this document bi-annually (each October and April); at that time any necessary modifications to the plan will be made. Additionally, the committee will solicit and receive bi-annual (each October and April) progress reports from the identified project managers. If a project is off-schedule or no longer being pursued, the project manager will be required to explain the delay and provide recommendations for reinitiating the project at that time.

The identified project managers are responsible for continually monitoring and evaluating the progress of the projects for which they are accountable. Monthly reviews of project plans and status updates should be conducted by each project manager for all active projects. The project managers will prepare a progress report and present it before the University Technology Planning Committee at each of the bi-annual meetings.

The specific means of assessment and criteria for success are described in the action plan.

Funding Statement

In order for technology to be used successfully, monetary support for acquiring, updating, and maintaining hardware, software, and professional development opportunities must be provided. While there is no one easily accessible source of funding for the wide range of technology tools needed to support professional practice in higher education, it is our hope that full funding can be acquired by utilizing a variety of private, state, federal, local, and university sources.

TW has established a Technology Operating Budget to serve as a funding source for hardware, software, and infrastructure items. The funds in this budget are specifically earmarked for the acquisition of new and replacement technology required for achieving goals three, four, five, and six in this University Technology Strategic Plan. These funds are in addition to those needed for the normal course of business and separate from those funds used for departmental operations.

If full funding is not acquired, some of the identified projects will not be completed in the described timeframe. Decisions on which projects to delay/abandon due to lack of funds will be made by the committee when deemed necessary.