



**McCOMBS SCHOOL
OF BUSINESS**

The University of Texas at Austin

The McCombs School of Business

Information Technology Vision Plan

Academic Year 2004/2005

April, 2004

The University of Texas at Austin

Austin, Texas

Table of Contents

1. Executive Summary.....	1
2. Business School Vision, Goals, Objectives and Progress.....	2
3. Facilities and Staffing – Infrastructure.....	4
4. Proposed Projects for AY 2004/2005.....	6
5. Business School IT Funding Overview and Lifecycle.....	12
Appendix A – Previous Projects and Progress.....	13
Appendix B – ITAC Expenditure Report.....	15

1. Executive Summary

This vision plan establishes the strategic goals for information technology improvements for the McCombs School of Business for Academic Year 2004/2005 and beyond.

In view of our recent history, changes in computer technologies have been so rapid that a strategy extending more than a year is certain to be obsolete before it can be brought to a level of quality necessary for production use. However, the anticipated technical operational framework over the next few years can be envisioned in general terms. Therefore, this document is intended to serve the McCombs School of Business as a planning framework to align our information technology with our administrative, teaching, and research needs.

As a general statement of policy, we will adopt the most relevant business-related hardware and software technologies for the McCombs School of Business as it becomes commercially available and meets our pre-deployment quality of service needs, through a series of pilot and pre-deployment testing phases. We will accomplish this through strategic alignments with a set of premier corporate information technology partners and judicious use of ITAC fees, the business school's information technology fees, course fees, state allocated funds, grants, and donations derived from selected industry and government entities.

Our past technology programs to:

- Convert our school network backbone from 100Mb switched Ethernet to 1Gb switched Ethernet
- Rapidly deploy high performance Windows 2000 Enterprise Servers
- Establish a new McCombs Windows 2000 Domain for our user and computer accounts
- Upgrade our Exchange email system to Exchange 2003
- Upgrade our computer lab facilities to new Pentium 4 technology
- Develop a comprehensive security strategy

have positioned the business school very favorably for making use of exciting new technologies and services as they become available.

The full migration of the McCombs School of Business computers from the old Bus Domain to the new McCombs Domain will be completed in early 2005 as faculty/staff computers are upgraded to Windows XP. With the completion of these projects, we are positioned to explore new technology and services and play a leadership role in IT infrastructure.

2. Business School Vision, Goals, Objectives and Progress

Overarching View

The operational reliability, as well as the defense of our enterprise information architectures and mission-critical systems has clearly impacted our thinking, assumptions, and operational planning relative to and following recent national events. Malicious activities in terms of email spam, network scans, and virus threats are increasing.

We now need to question and re-frame our assumptions for both our operational and strategic information technology planning in our professional and academic environments. The greatest strengths of our educational system include the right to free speech, easy access to information technology and multi-media content, and the global information resources inherent in the Internet. In these unique educational settings, the UT network continues to serve us well in providing email and web access for those desiring currency and ease-of-access to quickly evolving news stories.

During this past year we have thought long and hard about the assumptions under which we have been operating and have been proactively looking for ways to protect our IT systems while maintaining our relatively open and accessible environment. Security is no longer just the job of one security officer – it instead requires all individuals using technology and network resources to be aware of potential threats and take a proactive role in protecting these resources.

With operational reliability and safety in mind, we have solicited constructive input into the vision plan process from professional staff, students, and faculty members to produce the McCombs School of Business Vision Plan and Plan of Record for Academic Year 2004-2005.

Methodology

Our 1st process is to list, in ranked order, our fundamental requirements – each arrayed in a category (People – Processes – Tools – Measures). Relative to each of these requirements, we have three fundamental choices with each ongoing program:

1. Invest (Increase)
2. Sustain (Maintain)
3. Divest (Decrease)

For these enumerated programs, we are choosing Option 1. (Invest).

People

IT Professionalism Program – This program involves improved recruitment and retention of qualified IT professionals through the following initiatives:

- **Maintain a planned 3-6% salary pool for our IT staff** – This pool will be used to retain and reward top professional performers as well as fund additional positions as needed.
- **Offer high-quality, high-value training programs such as:**
 1. CERT (Computer Emergency Response Team) courses
 2. MCSD (Microsoft Certified Solutions Developer) and MCSE (Microsoft Certified System Engineer) intensive courses
 3. Security skills training – Incident Response and Security Analysis/Monitoring courses
- **IT work-life balance** – Offer a 4/3-work week where possible, to help sustain balance in our most valuable resource – our professional staff.
- **Outsource critical skills** – We will continue to explore and purchase outside consulting services to bridge gaps in our internal knowledge, skills, or availability needs.
- **Provide awareness training** – We need to plan and execute a wider range of awareness training in “best practices” for privacy, security, and virus control for our faculty, staff, and students.

Processes

IT Infrastructure Protection Program – This program involves upgrades and monitoring mechanisms for our network, servers, and storage systems via:

- Security policies and procedures
- SPAM controls
- Network monitoring
- Server survivability

Tools

IT System Hardware/Software Program – This program involves providing tools required to monitor, maintain, and upgrade these systems and services:

- Infrastructure (servers and network)
- Labs
- Client tech-support

Measures

Faculty, Staff, and Student Feedback Program – This program involves setting internal and external limits and expectations on how we, as a department, are perceived. Goals include:

- 99.9% critical systems uptime (Email and Web services)
- No virus/hack penetrations of high availability/high trust servers
- Two Town Hall Meetings per academic year
- User surveys with 75% of respondents Highly Satisfied or better
- Highly Satisfied IT Project evaluations

3. Facilities and Staffing – Infrastructure

Facilities:

The McCombs School of Business currently operates:

- **Five student computer laboratories.**
 - **The Millennium Lab**, our main general use facility, is comprised of 160 workstations, of which six are dedicated to student team use; these six stations have been configured with dual monitors to facilitate working in groups with large documents/spreadsheets. These workstations are 2.53GHz/1GB RAM/DVD-CDRW and 40GB hard drive units running on a 100Mb switched Ethernet network. This lab also has network connections for 166 notebook computers. This lab is open continuously from Sunday at 1pm until Friday at 5pm; it is also open on Saturday.
 - **The Mod Labs**, two modular classroom labs, are designed specifically for instructional use. These labs can be reserved for lectures, labs, presentations, and examinations. There are 40 seats in each lab with a removable partition so that the two rooms can be used independently or as one large 80-seat lab. When not reserved, these labs are available for general student use. The computers in these labs are 2.53GHz/1GB RAM/DVD-CDRW and 40GB hard drive units, also running on a 100Mb switched Ethernet network.
 - **The PhD Lab**, which contains eight 2.53GHz/1GB RAM/DVD-CDRW and 40GB hard drive workstations, runs extra software in addition to our normal Common Operating Environment (COE) and is reserved for PhD students only.
 - **Two Training Labs**, designed for software application training and other advanced classes. These training facilities are designed for easy customization of OS and software configurations, with typical classes ranging from a few hours to a couple of weeks in duration as needed.
- **Additional network & power enabled areas**
 - **Classroom 2000** is a classroom lab dedicated to the graduate Information Management (IM) program and contains power outlets and 100Mb switched Ethernet ports at each of the 48 seats.
 - **The four Cohort Rooms** are classrooms used by the MBA Program for MBA core classes. Each room has power and 100Mb switched Ethernet ports at each of the approximately 85 seats.
 - **The Reliant Productivity Center** is a 250-seat technology-enhanced study area. Each seat is equipped with a 100Mb switched Ethernet port and power outlet. This facility has been designed to provide both individual workspaces and group areas for students to work on team projects. This lab is open continuously from Sunday at 1pm until Friday at 5pm; it is also open on Saturday.
 - **The 3rd Floor Atrium** is an open lounge/work area with 50 power outlets and 100Mb switched Ethernet ports.

- **Wireless network access areas** covering the 3rd floor atrium, the Carpenter Center, the Ford Career Center interview rooms, the MBA Program Office, the Hall of Honors, and all of the floors in UTC are currently functional.

Staffing:

Area	FTE
Executive Management and Strategic Planning	2.00
Administrative Support	4.50
Administrative Computing Support (Support Dean's use of student records)	10.00
Computer Lab Operations	5.00
Enterprise Server & Network Operations	7.00
Technical Support	6.00
Database Support	2.00
Network/Computer Security	1.00
Training	2.00

The MSB Computer Services department emphasizes the importance of industry certifications. The current staff includes:

- 5 – Windows 2000 MCSE (Microsoft Certified Systems Engineer)
- 4 – Windows NT4 MCSE
- 1 – MCT (Microsoft Certified Trainer)
- 1 – CCNA (Cisco Certified Network Associate)
- 5 – Dell Corp Technician certifications
- 2 – CompTIA A+ certifications
- 1 – CompTIA Linux+ certification
- 1 – CompTIA CTT (Certified Technical Trainer)

The student employees on staff include 41 students that serve as computer lab proctors. Additionally, there are 9 students working in the SWAT (Students With Advanced Technology) shop, where they help support the hardware and software on the 1000+ student notebooks in use throughout the school.

4. Proposed Projects for AY2004/2005

Projects continued from AY2003/2004

Windows XP/Office XP Rollout

Summary: This is a continuation of a project begun during the 2003-2004 Academic Year to include WindowsXP and OfficeXP as part of the Common Operating Environment (COE) to insure that our students are exposed to up-to-date corporate software. The student lab computers, student notebooks purchased as part of the Notebook Initiative, and many of the faculty and staff computers have already been updated. We still have some faculty and staff that need to be moved to the new COE and will need to hold transition classes to help them get the most out of the new software.

Target Audience: The primary audience of this project is the students; faculty and staff make up the secondary audience for this software upgrade.

Cost Analysis:

Item Description	Units	Cost Per Unit	Total Cost
Training	75 hours	\$60/hour	\$4,500.00
Total:			\$4,500.00

Windows.NET Server Deployment

Summary: The Servers that run the McCombs School of Business are currently using the Microsoft Windows 2000 operating system. We have completed the pilot phase of this project and are now ready to upgrade our remaining web server hardware and roll out Windows.Net to these servers, which include all of our student websites.

Target Audience: All McCombs students, faculty, and staff will benefit from this project.

Cost Analysis:

Item Description	Units	Cost Per Unit	Total Cost
College Web Server	1	\$6,791.66	\$6,791.66
Student Web Server	1	\$4,829.95	\$4,829.95
Development Server	1	\$4,829.95	\$4,829.95
Total:			\$16,451.56

New Projects for AY2004/2005

VPN Access to McCombs Services

Summary: In an effort to protect university systems from scans and hack attempts, the UT networking group has blocked NetBIOS ports at the campus border. This effectively stops many of the functions our students need to perform from off campus. We have a VPN server in place that is used by a few classes to gain access to student database servers. We need to expand this service to more students and classes, allowing access to additional servers.

Target Audience: Students needing to access file and database servers.

Cost Analysis:

Item Description	Units	Cost Per Unit	Total Cost
VPN Server	1	\$6,000.00	\$6,000.00
VPN Software & Licensing for 500 Concurrent Connections	1	\$64,000.00	\$64,000.00
Total:			\$70,000.00

SPAM Email Filtering

Summary: Spam has become much more of a productivity reducer and a serious annoyance to our users during the last couple of years. Our students, faculty, and staff have requested we put a Spam filter in place to help remove the distraction of these emails.

Target Audience: All McCombs students, faculty, and staff will benefit from this project.

Cost Analysis:

Item Description	Units	Cost Per Unit	Total Cost
Software Licenses	9000	\$7.00	\$63,000.00
Total:			\$63,000.00

Exchange Anti-Virus Filtering

Summary: We currently have anti-virus filtering happening at the gateway to our mail server. However, we have students, faculty, and staff who also check additional mail servers such as mail.utexas.edu, hotmail, etc. When checking multiple email servers using Outlook, viruses in emails associated with these outside email servers are able to bypass our email anti-virus gateway and can get virus infected emails into our internal mail system. This can also happen with new emails before a virus signature is available for our email anti-virus gateway. We need a way to either scan through our server's email database and clean out these viruses or prevent them from ever getting into the system to begin with.

Target Audience: All McCombs students, faculty, and staff will benefit from this project.

Cost Analysis:

Item Description	Units	Cost Per Unit	Total Cost
Software Licenses	9000	\$7.00	\$63,000.00
Total:			\$63,000.00

Security Patch Server

Summary: As more and more vulnerabilities are discovered in Microsoft software, we are seeing many more attempts by hackers and viruses to exploit these vulnerabilities. On numerous occasions, we have received critical update warnings and had to scramble to patch the computers on our network before they were hit with some virus, worm, or hack attempt. It is quite clear that in on a network with 1500 computers that this is not a practical use of time. We need a managed patching system that will allow us to quickly patch and protect our computer systems.

Target Audience: All McCombs students, faculty, and staff will benefit from this project.

Cost Analysis:

Item Description	Units	Cost Per Unit	Total Cost
Patch Server	1	\$6,000.00	\$6,000.00
Patch Software w/ Licenses	2000	\$6.50	\$13,000.00
Total:			\$19,000.00

Voice Over IP (VOIP) Rollout

Summary: Last year, we rolled out production Voice Over IP phones to all members of McCombs School of Business Computer Services Department. These phones provide many new capabilities and functions at a reduced cost to the department. We are now ready to roll out VOIP to the remaining departments within the McCombs School of Business. This will require upgrading to a new cluster arrangement for reliability and the purchase of more phones.

Target Audience: Faculty, staff, PhD students, and many student organizations will benefit from this project.

Cost Analysis:

Item Description	Units	Cost Per Unit	Total Cost
Voice Mail Servers	2	\$2,869.05	\$5,738.10
Shared Storage Unit	1	\$6,584.00	\$6,584.00
Call Manager & Unity	1	\$18,308.15	\$18,308.15
UPS	2	\$899.25	\$1,798.50
VOIP Phone	100	\$499.00	\$49,900.00
Total:			\$82,328.75

Re-Fixture Reliant Reading Room Ethernet Ports

Summary: During the construction of this technology enhanced student workroom, Ethernet ports were installed into each of the 250 individual workspaces. Many of these ports have been damaged due to normal wear, but the style of port used does not allow for easy replacement. Additionally, using the current port type, these ports can only be replaced a limited number of times before the wire becomes too short to work with. We need to replace these ports with a modular connection type that will allow us simply snap a new connector in place when the port is damaged.

Target Audience: Students using the Reliant Reading Room will benefit from this project.

Cost Analysis:

Item Description	Units	Cost Per Unit	Total Cost
Face Plates w/ Sockets	250	\$4.00	\$1,000.00
Labor	250	\$3.00	\$750.00
Total:			\$1,750.00

Re-wiring of faculty/staff office areas

Summary: We have had an ongoing project over the last few years to upgrade the entire McCombs School of Business network to Cat5 specifications. We are now down to just a few areas within the CBA South and GSB buildings that still need cabling upgrades.

Target Audience: The faculty and staff in the areas to be upgraded will benefit from this project.

Cost Analysis:

Item Description	Units	Cost Per Unit	Total Cost
Ethernet Cabling of CBA-S	101	\$148.72	\$15,022.74
Ethernet Cabling of GSB	104	\$182.42	\$18,971.68
Total:			\$33,994.42

Intrusion Detection System Improvements

Summary: At this point in time, we have a system that takes an aggregate of all traffic going through our router and splits it into multiple pieces for analysis by several network intrusion detection systems. However, this system is now outdated and no longer supported. We need to upgrade this unit to newer, supported hardware.

Target Audience: All McCombs students, faculty, and staff will benefit from this project through safer computing.

Cost Analysis:

Item Description	Units	Cost Per Unit	Total Cost
AppSwitch Hardware	1	\$24,451.00	\$24,451.00
Total:			\$24,451.00

Instant Messaging System

Summary: We have had requests by students to set up and manage an Instant Messaging (IM) server. This would allow the students to communicate and organize group projects more efficiently.

Target Audience: All McCombs students, faculty, and staff will benefit from this project.

Cost Analysis:

Item Description	Units	Cost Per Unit	Total Cost
IM Server	1	\$6,000.00	\$6,000.00
IM Software	1	\$549.95	\$549.95
Total:			\$6,549.95

Group Project Collaboration Software Evaluation

Summary: We have had requests by students to set up and manage a work collaboration system to help them when working on group projects. Currently, only one person can work on a document at a time. We would like to evaluate several software products to see if these software solutions would meet the needs of our students working in groups.

Target Audience: The primary audience for this project is the students. Faculty and staff are the secondary audience for this project.

Cost Analysis:

Item Description	Units	Cost Per Unit	Total Cost
Server	1	\$6,000.00	\$6,000.00
Total:			\$6,000.00

Infrastructure Survivability

Summary: We currently run a test area that mimics our production environment. This area is used to test patches or upgrades to ensure that the changes we are making will not cause problems when applied to our enterprise servers. We have recently upgraded many of our enterprise servers to new hardware and software and need to similarly equip our test area to maintain relevant testing.

Target Audience: All McCombs students, faculty, and staff will benefit from this project by experiencing a more stable computing environment.

Cost Analysis:

Item Description	Units	Cost Per Unit	Total Cost
Test Servers	3	\$6,000.00	\$18,000.00
Total:			\$18,000.00

Server Room Improvements

Summary: Some of the servers set up in the past were set up on desktop hardware for lack of true server hardware availability. We need to move the services provided by these desktop servers to true server hardware to improve performance. We also need to upgrade our server rack cabling system to provide easier and more flexible keyboard, mouse, and video access to servers for our administrators.

Target Audience: All McCombs students, faculty, and staff will benefit from this project by experiencing a more stable computing environment.

Cost Analysis:

Item Description	Units	Cost Per Unit	Total Cost
Server	3	\$6,000.00	\$18,000.00
KVM Switches	2	\$2,500.00	\$5,000.00
UPS Replacement	4	\$750.00	\$3,000.00
Total:			\$26,000.00

Infrastructure Maintenance

Summary: We regularly have network switches, servers, and UPS units fail through normal use and we need to keep a few spare units and parts on hand to ensure better up time of our services.

Target Audience: All McCombs students, faculty, and staff will benefit from this project by experiencing a more stable computing environment.

Cost Analysis:

Item Description	Units	Cost Per Unit	Total Cost
Dell Power Edge Server	2	\$6,000.00	\$12,000.00
Cisco 2950 Switch	2	\$800.00	\$1,600.00
Cisco 3550 Switch	2	\$6,500.00	\$13,000.00
UPS Unit	4	\$750.00	\$3,000.00
Total:			\$29,600.00

5. Business School IT Funding Overview and Lifecycle

Constantly changing technologies as well as needs for course development have required continuous changes to our funding methods and sources. Opportunities provided by corporate alliances for grants and practicums have provided new software, hardware, and cash for our facilities and new improvements, as well as budget windfalls to use on projects of lesser initial priority that still require funding. While we have made continuous adjustments to our vision plans and priorities, we have remained focused on the McCombs School of Business goal of constantly providing leading-edge technology for our community.

We have funded our expenditures with information technology and course fees, allocations from the Information Technology Advisory Committee (ITAC), and when necessary, from loans from UT System. We are continually looking for ways to modify our fee structure so that we will be able to meet the needs of our technology evolution. We are aggressively working to pay off past loans from the UT System so that these funds are available to use on IT projects. However, it is becoming clear that we are rapidly approaching the point where we will need to freeze the level of student fees and acquire the necessary additional funds from other sources. Failure to acquire these necessary funds will leave us with no choice but to cut requirements for any increased services.

Appendix A: Past Project Status

This past year has seen significant progress made on our extensive list of projects. Below is an updated status report by project.

Migration from the Bus Domain to the McCombs Domain:

The new McCombs Domain has been created and all user and service accounts have been moved over. At this time, most of the computer accounts still exist in the old Bus Domain. We expect the remaining computers to be moved before the end of the 2004/2005 Academic Year.

Production Server Protection:

We have increased our anti-virus license coverage for our email gateway servers. However, we have still not found a suitable anti-virus product to run directly on our Exchange servers. We have also not found a suitable product to automate the security patching of our Windows clients. We will continue to search for solutions to these issues during the next year.

Digitally Signed and Encrypted Email Pilot

This project has not yet been implemented due to personnel reassignment to higher priority projects.

Student Computer Lab Hardware Upgrade

The primary labs have been upgraded leaving only one of the smaller labs to be completed before summer of 2004.

Windows .NET Server Pilot Testing and Deployment

The Pilot phase of this project has been completed as well as the deployment of a couple of servers. We are now ready to deploy the remaining servers as listed in the current projects plan for the 2004/2005 Academic Year.

Tablet PC Investigation/Experimentation

This project is ongoing.

Pilot/Rollout of Exchange Titanium

The majority of this project has been completed. The remainder will be finished before summer of 2004.

WindowsXP/OfficeXP Rollout

This project is still underway. At this time, we have all of our labs, student notebooks that are part of the notebook program, and many of our faculty and staff computers upgraded to Windows XP and Office XP. We intend to finish up the upgrade during the course of the 2004/2005 Academic Year.

Technology Orientation Sessions

This project has been completed.

IT Academy

This project failed to get off the ground due to the IT Academy program being cancelled by Microsoft.

Appendix B: Total ITAC Expenses Report

2003-2004 ITAC BUDGET SUMMARY	
Revenues	
2003-2004 ITAC Allocation	
Recurring Annual Infrastructure Allocation	\$247,025.00
One Time Project Allocation	\$355,258.00
Carried Forward from 2002-2003	\$67,617.44
Total Available	\$669,900.44
Expenditures (Actual w/Estimates)	
Salaries, Wages & Fringe	\$156,558.80
Maintenance & Operations	\$76,547.81
Capital Equipment	\$410,793.83
Total Expended	\$643,900.44
Carry Forward to FY 2004-2005	\$26,000.00