Appendix G: Information Resources Strategic Plan

Table 1: Goals, Objectives and Strategies

Item	Description
Goal 1	The University of North Texas Health Science Center (UNTHSC) will use coordinated, well-integrated information resources appropriate to required business processes to improve and extend the services delivered to the people of the state of Texas. This goal supports Texas IR Goal 1 to provide coordinated, integrated services. It also supports the agency mission by facilitating the educational, research, clinical, and service activities, which form the basis for the agency goals.
Objective 1	The University of North Texas (UNT) and UNTHSC will collaborate in implementing a new software application that provides automated purchasing and accounts payable processes (APAP). Growth and Enhancement Project "Automated Purchasing and Accounts Payable". Supports Agency Objective A.5.
Strategy 1	UNTHSC will provide onsite server and software support for APAP as directed by the University of North Texas.
Strategy 2	UNTHSC will provide onsite testing and training opportunities for both support and functional personnel that will be using APAP.
Objective 2	UNTHSC will provide improved student and faculty access to academic content, records and other information online.
Strategy 1	UNTHSC will upgrade and maintain the Banner Student Information System, including the implementation of BannerWeb.
Strategy 2	The Gibson D. Lewis Library will provide student and public access to computers and current software. Training will be provided for students, faculty and staff.
Strategy 3	UNTHSC will encourage and facilitate faculty and staff participation in providing and maintaining online resources.
Strategy 4	UNTHSC will perform student and course evaluations online and supply the results online.
Strategy 5	The Gibson D. Lewis Library and the UNT library will cooperate to share the expense of providing access to a variety of full text electronic journals, reducing the cost of journal acquisitions.
Strategy 6	The Gibson D. Lewis Library will continue to upgrade it's server and computer laboratory infrastructure to support required services. This is Growth and Enhancement project in "Library Infrastructure". Supports Agency Strategy A.4.1.

Item	Description
Strategy 7	The department of Medical Education will provide internet access to an internally developed clinical instruction tool. This is Growth and Enhancement Project "Knowledge based inference tool". Supports Agency Strategy A.1.1.
Objective 3	UNTHSC will provide online student applications, registration and payment options.
Strategy 1	UNTHSC will collaborate with UNT to provide online student financial services through a combination of Banner and UNT mainframe services.
Strategy 2	All UNTHSC programs will provide online application opportunities either through the institutional website or through a licensed service provider.
Objective 4	UNTHSC will provide improved patient billing and scheduling services through their partnership with Shared Medical Systems. Supports Agency Strategy E.1.1
Strategy 1	UNTHSC will implement windows based clinical management software that uses a graphical interface to improve data availability.
Strategy 2	UNTHSC will improve billing services by adding claims manager software that checks patient billing for historical consistency and accuracy that is required by insurers.
Strategy 3	UNTHSC will automate billing to and receipt of electronic payments from non-Medicare insurance carriers. This will improve the timeliness of billing and protect patient benefits.
Goal 2	UNTHSC will enhance the performance of its mission by appropriate application and management of information resources. This goal supports Texas IR Goal 2, which emphasizes improved management of information resources to facilitate service delivery not just implement technology. Improved service delivery will support all agency goals for educational, clinical, research and service activities.
Objective 1	Improve delivery of services by using rigorous project development and implementation processes to improve on-time and on-budget performance.
Strategy 1	Develop management policies and procedures that facilitate rapid determination of information resource project scope, parameters and need for private sector skills and resources.
Strategy 2	Implement formal project management procedures that document and track project progress, problems encountered, and problem resolution. This process will facilitate time management of both managers and employees and help identify trouble areas within current processes that should be improved.

Item	Description
Strategy 3	Implement web development and management processes necessary to provide appropriate security and access to information while allowing rapid development by a wide range of individuals.
Objective 2	Use all opportunities to cooperate and share resources and expertise between UNTHSC operational units, with UNT operational units and with other business partners.
Strategy 1	Improve bandwidth of connectivity to UNT and the internet to support new technology solutions to existing service problems. This is being done as an extension of the existing project P-02, "Network Infrastructure Upgrade" and being funded by TIFB funds. Supports Agency Objective A.5.
Strategy 2	Improve connectivity to the most heavily used UNTHSC clinical teaching partner locations to facilitate student access to campus resources, provide clinical consultation opportunities, and provide new distance learning opportunities for continuing education of physicians. This is being done as an extension of the existing project P-02, "Network Infrastructure Upgrade" and being funded by TIFB funds. It will replace a portion of Growth and Enhancement project "Upgrade Video Hardware for Classrooms" that dealt with remote sites and router hardware. Supports Agency Objectives A.1, A.5, and Strategy F.1.1.
Strategy 3	Reorganize the information resource personnel and management structure on the UNTHSC campus to provide better coordination and use of resources. The introduction of a new President at the beginning of this planning period coincides with the culmination a two-year period of self-study that included several IR audits and a consultant evaluation. We expect that a strong new leader will facilitate the process of reorganization.
Strategy 4	Assign specific responsibility to personnel for developing and maintaining partner relationships that facilitate service delivery.
Objective 3	Use a Geologic Information System for the mapping of public health related data collected and used by the School of Public Health. Supports agency Strategy A.1.4
Strategy 1	The School of Public Health will implement the use of GIS technology to organize its epidemiological data.
Strategy 2	A representative of the School of Public Health will participate in the Texas Geographic Information Council.
Strategy 3	The School of Public Health will provide a specialized computer laboratory suitable to train students on the use of GIS technology. This is Growth and Enhancement project "Public Health Computer Laboratory".

Item	Description
Goal 3	UNTHSC will organize information resources and implement their supporting technology to ensure the privacy, security and historical integrity of information entrusted to it by faculty, staff, students, patients and business partners. This goal supports Texas IR Goal 3, which deals with privacy, security and integrity of information resources. All aspects of the UNTHSC Agency Strategic Plan are supported by this goal as reflected in Agency Objective A.5, Institutional Support.
Objective 1	To ensure that all data collected and transmitted through electronic means will remain intact, secure and private.
Strategy 1	Implement strong authentication processes for all access to on-campus information resources.
Strategy 2	Implement and fine-tune firewall and proxy services to protect information resources from attack via the internet. Part of Project P-02, "Network Infrastructure Upgrade".
Strategy 3	Provide anti-viral protection for all servers and workstations throughout the institution.
Strategy 4	Monitor network activity to assure that all systems are functioning within acceptable limits and have not been modified inappropriately. Growth and Enhancement project, "LAN Utilities Upgrade".
Strategy 5	Improve physical security for servers housed outside of the Information Technology Services department as recommended by an Internal Audit report on Security.
Objective 2	Assure that mission critical information resources will be continuously available.
Strategy 1	Assure that appropriate backup and archiving procedures are followed for information resources throughout the institution. Growth and Enhancement Project "LAN Utilities Upgrade".
Strategy 2	Provide adequate redundancy of major network components to minimize network downtime. Supported by P-02, "Network Infrastructure Upgrade" and TIFB grant.
Strategy 3	Develop rigorous disaster recovery plans and business continuity plans for information resources incorporating lessons learned from the Year 2000 project and according to the recent guidelines, published by DIR. This includes putting specific disaster recovery plan development and participation activities into personnel job descriptions and evaluations. In addition, each employee should be trained on his or her roles in pre- and post- disaster activities.
Strategy 4	Test the disaster recovery plans and business continuity plans yearly. Plans should be refined and updated to assure that they reflect current personnel and processes.
Objective 3	Assure long-term viability of electronic records through

Item	Description
	appropriate records management activities.
Strategy 1	The Records Management division of Information Technology Services department will develop and implement policies and procedures to meet Texas requirements for electronic records retention and viability standards.
Strategy 2	Patient medical records will be organized to facilitate electronic tracking, routing and record retention schedules. Electronic components will be appropriately referenced to paper records.
Strategy 3	A database entry Electronic Medical Record system will be selected and implemented to assure consistent high quality data collection and access. The selected system will incorporate appropriate security, records management and privacy standards. Project P-01, "Electronic Medical Records" currently on hold status. Supports Agency Strategy A.5.3.
Goal 4	Acquisition, use and management of information resources by UNTHSC will be driven by customer needs. This goal supports Texas IR Goal 4 that deals with making IR management more responsive to customer needs.
Objective 1	Web interfaces and other simple to use interfaces will be provided for access to all information resources by customers.
Strategy 1	The technology to organize, distribute and secure information using the web will be acquired as necessary to facilitate the provision of services by all elements of the institution.
Strategy 2	Faculty and staff whose job duties require the use of new technological tools will be trained on or off site in both the use of the technology and policies and procedures related to it's use.
Strategy 3	Selection of new faculty and staff should include consideration of required computer skills as a criterion for hiring. New employee orientation should include a job specific orientation by responsible supervisors to familiarize faculty and staff with policies and procedures related to technology used in their job. Required technology training should be done as early as possible to assure the highest quality customer service.
Objective 2	A policy for consistent organization and indexing of information will be used throughout the institution to facilitate access to information.
Strategy 1	Develop and implement a policy for organization and indexing of information consistent with new state standards.
Strategy 2	Processes should be implemented that provide as much information as possible to students, staff, faculty and interested parties without intervention by a state employee.
Strategy 3	Policies pertaining to data privacy and open records should be posted on the UNTHSC website.

Item	Description
Objective 3	Information Resource Management should be driven by customer needs.
Strategy 1	The President will charge the Information Resources Steering Committee and Working Group with establishing a planning process that includes input from faculty staff, students and other customers.
Strategy 2	The role of the UNTHSC Information Resource Manager (IRM) will be reviewed by the Information Resources Steering Committee and recommendations will be made to improve the responsiveness of IR management to customer needs.

Table 2: Information Resources Policies and Procedures

Category	Brief Summary / Overview
IR Priorities	Institutional information resources priorities are set through the agency strategic planning process and implemented through the annual budget process. One outcome of the 1998 Strategic Planning Retreat was the identification of the need for information resources to be integrated and coordinated more effectively at the UNT Health Science Center. The Strategic Directions Team on Information Resources issued its report to the interim president in January 2000. The report included several recommendations for changes in the decision making process. The interim president solicited additional input and is in the process of implementing changes (April 2000). Under the interim president, information resource priorities will be recommended by the Information Resources Working Group to the Information Resources Steering Committee.
IR Planning Methodology	Overall planning at UNTHSC starts at the executive level in a major strategic planning retreat. Planned activities that require major IR components are identified by managers and reported to the IR strategic planning group in response to a formal call for submissions. This group includes the IRM and ITS managers as assigned. IR planning centers around customer interaction with the Department of Information Technology Services (ITS) and interaction with the IR Steering committee. Customer IR needs are assessed by ITS management and recommendations are made for solutions. In addition, recommendations are made for network maintenance and upgrades to ensure a stable, high performance infrastructure. If significant funding is required for an individual project, the request is forwarded to the IR Steering Committee for action. In some cases, direct requests are made to the IR steering committee by non-IT departments.
Operating System	A variety of operating systems are being supported on our network at present. Servers: Novell Network Operating System 4.11 (5.1 in test phase) Windows NT 4.0 (Windows 2000 in test phase) Sun Solaris UNIX Linux Macintosh 8.x Workstations: Windows 9x Windows NT 4.0 (Windows 2000 in test phase) Macintosh 8.x Standards are published on the UNTHSC website,

Table 2: Information Resources Policies and Practices (continued))

Category	Brief Summary / Overview
	http://www.hsc.unt.edu/.
Development Methodology	The software development methodology used is object oriented systems development. This method is appropriate to the graphic interface environment of Windows 9x and Macintosh and the strategy upon which our major institutional packages rely. Analysis is done by a team of programmer/analysts and their manager. Software is developed using the basic structure of Banner and uses the objects and security of both the Oracle Database and the Banner system. No specific CASE tools are used beyond those available for Oracle and Banner.
Software Audit and Management	Institutional software licenses are maintained and inventoried by the department of ITS. Workstation operating system and productivity software license purchase and maintenance are the responsibilities of the user departments. However, ITS is now using Novell Zenworks 2.0 to register and inventory workstation hardware and operating system versions. During the next planning period, ITS will collect information about software installed on the workstations providing data to the internal auditor for use in software audit activities. The internal audit office includes a full-time IR auditor who will be doing periodic software audits.
Quality Assurance Practices	Planning project development. The current planning process includes analysis of project scope, definition of deliverables, time estimates, personnel estimates, special training needs for personnel, identification of potential risks that would impact on time, cost or success of delivery and development of formal project plan using MS Project. Determining projected benefits. Benefits are assessed in terms of facilitation of agency mission, simplification of processes, work hours saved, improved service delivery (volume and time), and cost / benefit ratio. Currently only projects as defined by DIR have received significant benefits analysis, while Growth and enhancement projects and smaller internal projects have been assessed primarily based on their importance to agency mission. Developing and Implementing Management Control Processes. The types of management control processes used are determined by the scope of the project. For large projects that have formal project plans, managers routine monitor personnel activities, obtain weekly progress reports and have regular team meetings to determine progress, identify problems or obstacles, and make adjustments to plan as necessary. At completion of each deliverable, the performance of the plan is compared to the original specifications and cost. For smaller projects monitoring and control processes may be

Table 2: Information Resources Policies and Practices (continued))

Category	Brief Summary / Overview
	simple interactions with supervisors or more formal reports at status meetings. Projecting the budget for a project. After initial analysis and determination of hardware, software and personnel needs, a budget is estimated including initial and ongoing costs for each element. This includes personnel and user training costs, maintenance costs, and potential costs related to loss of personnel (requiring some cross-training of personnel). Risks are assessed for items such as extended availability of funds, loss of key personnel, failure of business partners, etc. Planning is done for dealing with most critical risks. Establishing standards by which the effectiveness and efficiency of a project can be evaluated. Formal project planning, timeline development and tracking would aid in this process considerably and will be instituted more effectively over the next biennium. Evaluating and reporting on the project after implementation. Currently, we do customer surveys to determine satisfaction levels for service and deliverables. However, post-implementation analysis has been compromised by the rapid movement personnel from one project to the next and staff shortages. The IR management team will develop a plan for implementing quality assurance practices in accordance to DIR standards and will implement these practices fully by FY 2003.
E-Government	Over 90% of employees and all UNTHSC students now have email accounts and access to the internet. Email is routinely used for business communications and to transfer data files between units. The health science center posts major policy and procedure manuals on their website and is currently providing printable forms via the internet. The new intranet site to be implemented in May 2000 will allow internal business processes to be conducted online under strong authentication and data access will be limited according to the Novell NDS rights structure. Service departments are implementing software to allow web-based service requests and ITS has already implemented electronic billing via email. Tracking of purchase orders and delivery of goods is tracked via an online system. The health science center uses public key secure socket layer technology as needed and follows Federal EDI standards for data transfer. ColdFusion is used routinely to develop interactive forms using Microsoft SQL 7.0 as the database for data warehousing.

Table 2: Information Resources Policies and Practices (continued))

Category	Brief Summary / Overview
	Interactive forms for employment applications are under development using a vendor-supplied product, Greentree (target FY 2001). Interactive forms for employment and academic program applications are under development. Some programs are using outsourced services (Physicians assistant program and graduate school) and some are using local programming through ITS to allow rapid deployment (target FY 2001). There are long-term plans to provide registration and payment options for students online using Banner and Oracle security models (target FY 2004). Automated Purchasing and Accounts Payable (APAP) is being developed by UNT. It will provide online forms entry for these functions, electronic vendor payments, purchase order tracking and access to vendor information (target for initial implementation late FY2000, complete by FY2002). Patient billing is done through an automated system outsourced to Shared Medical Systems, Malvern, PA. The system accepts electronic payments from Medicare and the federal prison system. New functionality is being added to accept electronic payment from insurance carriers in FY 2001.
Change Control	Change control processes for network resources currently include incident reports for each change made that are distributed to via email and archived on a network drive for detailed problem resolution information. Changes made to website data have included primarily date of last change information. However, under new state regulations a more thorough tracking process will be necessary, policies and procedures for this will be developed in accordance to State recommendations (target FY 2001).
Security	A security audit in FY 1999-2000 performed by the internal IR auditor provided a snapshot of security on the UNTHSC campus. A complete Security Risk Analysis is now underway by a team of five IT analysts and managers. The computer use and world wide web policies were updated during FY 2000 to provide compliance with the security policies and standards of the State of Texas. Network components were added during the first phase of our project P-02, "Network Infrastructure Upgrade", that provide a bastion firewall between the internet and the intranet. Access to the intranet requires strong authentication using Cisco Secure TACACS and the Novell NDS database. Dialup services are provided via a dedicated access server and VPN services are planned to be initiated as part of the TIFB grant recently awarded. Access to the Clinical Billing and Scheduling program uses

Table 2: Information Resources Policies and Practices (continued))

Category	Brief Summary / Overview
	strong authentication (NDS) and a second authentication at the mainframe system. Data is transmitted over dedicated lines. Major computer systems are physically secured in card key locked facilities with access limited to IR managers and support personnel only. In the recent security audit remote servers housed outside of ITS were found to have inadequate physical security. Several of these servers are being transferred to the central computer facility while others are being placed in rooms that will be fitted with card key locks, special UPS services and documented processes of backup and archiving of data to be provided for audit. Backup and archive of data for ITS managed servers have been in place for years, but the process will be significantly streamlined during the next biennium by moving to an enterprise process. Access is granted to data by owners via computer user account request forms that include a statement of computer use rights and responsibilities and an assurance that the user has received security training. New user security training is provided via an online training presentation. All UNTHSC computer resource users received this training during FY1999 and FY2000. Training about the importance of secure passwords, data integrity and physical security have already made a significant impact on user behavior and cooperation.
Geographic Information Systems	The first GIS based system will be introduced to the UNTHSC campus during the next biennium by the School of Public Health. The Information Resource Manager and the Information Resource Working Group will cooperate with the database manager from the School of Public Health to develop policies and standards for the health science center that are consistent with the Geographic Information Framework for Texas.
Disaster Recovery/ Business Continuity Planning	The priorities for IR Disaster Recovery Planning at the health science center are set by the IR security manager and institutional Risk Manager in cooperation with a subcommittee of the IRC (or the IR Working Group under the proposed structure). Prior to the Year 2000 project the IR Disaster Recovery Plan dealt exclusively with catastrophic destruction of the Central Computing Facility. This plan was last updated 1 year ago. However, during the Year 2000 project it became clear that there was a significant potential economic impact of losing systems that serve isolated functions (i.e., research processes, interdepartmental use, etc.) throughout the institution or as part of the wide area networks in which UNTHSC participates. Initial business continuity planning was done as part of the preparation for Year 2000.

Table 2: Information Resources Policies and Practices (continued))

Category	Brief Summary / Overview
	During the next biennium, the health science center will be participating in an iterative process of disaster recovery planning and testing using the recommendations published by DIR to extend planning to a much wider range of potential disasters. Many of the health science center's disaster recovery plans and continuation plans for business processes are dependent on UNT as the provider of data processing services. Disaster recovery planning for mainframe services provided to UNTHSC by UNT will be adopted using processes developed for their systems. At this time no plans have been made to use the West Texas Disaster Recovery Operations Center (WTDROC) for testing disaster plans, but it will be considered during the upcoming process.
Resource Use	Policies and procedures for the use of information resources are published on the health science center website, http://www.hsc.unt.edu/. Video resources are under the control of the department of Biomedical Communications. While this department has internal policies and procedures for the use of video resources, they are not yet published on the public website. Video conferencing is done through participation in a variety of telecommunications networks and is in accordance with standards set in TAC 210.16.
Contract/ Consultant	Under current policy, requests for contract or consultant services are prepared in cooperation with an appropriate purchasing agent to meet GSC requirements. For IR related contracts the specifications are forwarded to the IRM and / or Director of Information Technology Services for analysis and recommendations about how the proposed services can be integrated and coordinated within our current system. In many cases ITS management participates in vendor choice and assigns personnel to coordinate the activities of the contractor on the health science center campus. Consultant services are normally requested by administrative officials that work directly with purchasing to develop an appropriate statement of work setting the scope and expected outcomes. Approval for the use of consultant services from State authorities are coordinated by the Director of Purchasing or the Controller as assigned by the Vice President of Fiscal Affairs.
Information Sharing	Open record information is shared with other agencies upon written request by an agency official or by interested individuals. In addition, a wide range of information is available to agencies and individuals through the health science center internet site. Demographic and other institutional information is supplied upon request from the Office of Institutional Research.

Table 2: Information Resources Policies and Practices (continued))

Category	Brief Summary / Overview
Training and Continuing Education	Employee training and educational needs are assessed by management, taking into consideration the employee's previous education, technical training, work experience, work performance and the need for new technology related to the duties of the individual's job. Specific training is recommended by management and in some cases requested by personnel. Management is encouraged to document training recommendations in the official employee review process. Training requests are prioritized according to their relationship to departmental goals and training is arranged through the administrative office of the IR unit. A record of the training requests is kept in spreadsheet format. Approved off-campus training is documented in the employee's departmental file. On the job training is documented as part of the employee review process.
Data Center Operations	While we have no plans at present to use the services of the WTDROC, our disaster recovery process is under active change. Our mainframe services are housed and provided by UNT. We are bound by their decision to use WTDROC or not.

Table 3: Agency Platforms, Systems, and Telecommunications

Category	Type	Operating System	Database Management System	Capacity/ Size / Count	Comments / Descriptive Information
Mini-computer	Sun Solaris	UNIX	Oracle	5	Banner Student Sys production and dev, student email / websites, incoming email server
Network					Star topology, fig 1
LAN Servers (Central)	Pentium	Novell Netware 4.11 / Windows NT 4.0	NDS, Microsoft SQL	14 Novell 10 NT 4.0	GroupWise servers, intranet and internet servers, general file service, application and database services, gateway and print services, DHCP,DNS, WINS and authentication services
LAN Server (Remote)	Pentium	NT 4.0 / MAC / UNIX	Varied	4 MAC 4 NT 4.0 4 UNIX	Database and service department production, special interest Web servers, and library services.
LAN Client/ Work-stations (Central)	PC & MAC	Windows 9x MAC 8.X	Access Filemaker Pro	625 PC 200 MAC	Number of units regularly logged in to network from

Table 3: Agency Platforms, Systems, and Telecommunications (continued)

					main campus.
LAN Client/ Work-stations (Remote)	PC & MAC	Windows 9X MAC 8.x	NDS	47 dialup 60 users on dedicated lines	Access to on campus resources
WAN Server	PC	Novell Netware 4.12	NDS	1 Nov 4.12	GroupWise email PO and print services for remote site.
Stand alone PC Work-stations	PC & MAC	Windows, MAC< 8	Varies	200 PC & MAC	Used primarily for word processing or instrumental data collection.
Internet Service Provider Shared Network		UNT Computer Services and GSC			UNT provides mainframe access. Use UNT / GSC system for internet access and some video services.
Shared Network		Texas A&M system			Texas A&M for video services
Shared Network		Shared Medical Systems			MSRDP billing and scheduling services

Figure 1: UNTHSC Network Topology

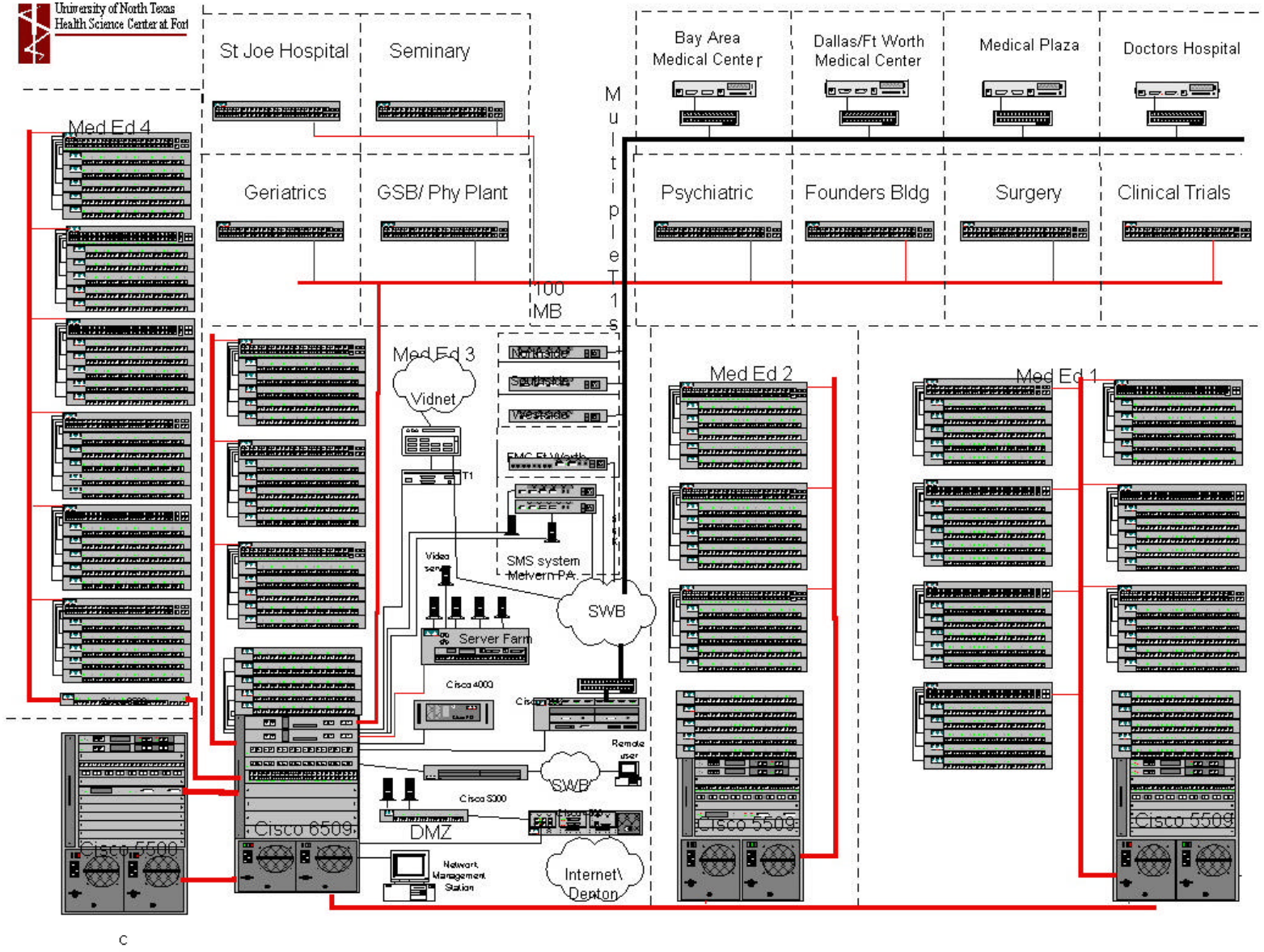

Table 4: Agency Databases

Database Name	**SCT Banner Integrated System Database**
Database Description	A comprehensive, integrated database to store student and financial aid data. Used by division of student affairs (including registrar and financial aid), Academic Information Service and the accounting department.
Database System	Data General Aviion 9500 / Sun Solaris UNIX Oracle 7.x plus development software.
Estimated Physical Storage Requirements	9 GB / 50 GB
GIS Data Class.	Not currently supported
Sharing	Texas Higher Educational Coordinating Board, US Department of Education data shared by FTP
Future	Database is currently being migrated from Data General Aviion 9500 to the Sun Solarix Unix machine and upgraded. Identified as Growth and Enhancement project, "Database Server Replacement Project".
Database Name	**Medical Services Research and Development Plan Database**
Database Description	Used to provide automated billing and tracking of collections for patient services rendered at UNTHSC clinic sites. Used by employees of MSRDP, clinical staff and faculty.
Database System	SMS Signature Database
Estimated Physical Storage Requirements	30 GB
GIS Data Class.	Does not support GIS
Sharing	Data is electronically transferred to Medicare. Will implement electronic transfers to Insurance carriers during next biennium.
Future	Growth and Enhancement project, "SMS WAN Upgrade" will be expanded less than 20% to include new functionality.
Database Name	**OMTNet Database**
Database Description	A national osteopathic literature citation database for the AOA and AACOM. Used by faculty, library patrons, and online to search Osteopathic literature.
Database System	STAR database system (Cuadra)
Estimated Physical Storage Requirements	4 GB
GIS Data Class.	No currently supporting GIS

Table 4: Agency Databases (continued)

Sharing	Data is shared over the internet, supplying search and download functionality.
Future	Currently in development. Growth and Enhancement Project , "OMTNet".
Database Name	**AIS Student and Course Performance Database**
Database Description	Student exam results and course evaluations are stored in this database and accessed from two major applications. Used by Student Affairs, academic administrative personnel, course directors, and Academic Information Service to provide reports.
Database System	Focus 7.x running on Windows 98, data stored on Novell 4.11 server platform.
Estimated Physical Storage Requirements	2 GB
GIS Data Class.	Not supported.
Sharing	Data is used to generate reports for Texas Higher Education Coordinating Board
Future	Being upgraded and functionality added to allow internet access to data. Identified as part of Growth and Enhancement project, "Quality and Assist Upgrade."
Database Name	**MSRDP Accounting System**
Database Description	Cost accounting / earnings distribution database. Used by MSRDP personnel, accounting personnel, MSRDP board members and clinic managers.
Database System	Microsoft SQL Server 7 database on NT 4.0
Estimated Physical Storage Requirements	20 GB
GIS Data Class.	Not supported.
Sharing	On system completion, data entered in this system will be uploaded by FTP to accounting database on UNT mainframe.
Future	Identified as Growth and Enhancement project, "MSRDP Accounting System". Needed to provide data integration for management decision making.
Database Name	**Library Information System (LIS)**
Database Description	Index of the Library Information Resources
Database System	MSQL on UNIX
Estimated Physical Storage Requirements	4 GB
GIS Data Class.	Not supported
Sharing	Shared over the internet.
Future	The infrastructure for this system is currently be upgraded.

Table 4: Agency Databases (continued)

	Growth and Enhancement project "Library Infrastructure".

Table 5: Agency Applications

Application Name	**Banner Small School Administration System (BANNER)**
Application Type	Data Warehouse, Client Server Financial System, Web-enabled
Application Description	A comprehensive administration system that stores student and alumni data, including financial aid and official transcript information.
Database System	Oracle 7.x
Development Language	Micro Cobol, Java, HTML and C++
Sharing	Not shared.
Future	Major application on servers in Growth and Enhancement project, "Database Server Replacement Project".
Application Name	**Greentree Application Tracking System**
Application Type	Human Resources, web-enabled
Application Description	Used to track applicants from application to hiring. Human resources uses to present openings online, to collect applicant information online, and to route applicant information to those offering jobs on campus. HR personnel, applicants and supervisors campus-wide are users.
Database System	Microsoft Access 97 and Greentree software
Development Language	Prepackaged - Visual Basic, Vbscript, HTML
Sharing	Not shared with other agencies.
Future	Security configuration currently being upgraded to allow internet access for application entry.
Application Name	**BlackBaud RaisersEdge software**
Application Type	Data Warehouse
Application Description	Used to track donors and donations made to program development activities of the health science center.
Database System	SQL database running on Novell 4.12 server.
Development Language	Prepackaged
Sharing	Not shared.
Future	No immediate plans to eliminate, but some functions redundant with Banner.
Application Name	**General Ledger Accounting System (GLAS)**
Application Type	Outsourced function, data warehouse
Application Description	Provides batch functions to support mass update and reporting, online functions available for individual account

Table 5: Agency Applications (continued)

	inquiries. Provides general ledger posting, claims processing for payments to vendors operating on a modified accrual basis, produces periodic accounting statements.
Database System	IBM ES 9000 Mainframe
Development Language	OS/VS Cobol, ADABAS, Natural, Complete, Clipper
Sharing	UNT system shared by UNTHSC via a dedicated portion of a T1 line and internet access.
Future	This system will be used as the backbone of a client server application being developed for shared use on the two campuses. That project is identified as Growth and Enhancement project, "Automated Purchasing and Accounts Payable" (APAP) and is a client server application using Oracle database software and Lotus notes for document routing. This application will upgrade the electronic payment and vendor components of our system.
Application Name	**Human Resources Management Information System (HRMIS)**
Application Type	Outsourced function, data warehouse, human resources
Application Description	Automated payroll processing (including record keeping and reporting), provides management data for critical decision making. System includes four subsystems: 1) Employee maintenance; 2) payroll detail; 3) budget including fiscal year budgets (personnel and non-personnel); and 4) position control. Batch functions support mass update and reporting, online functions available for individual update and entry.
Database System	IBM ES-9000 mainframe
Development Language	OS/VS Cobol, ADABAS, Natural, complete, PC-Dos, clipper, dbase
Sharing	UNT system shared by UNTHSC via dedicated T1 and internet.
Future	No immediate plans for changes in this system.
Application Name	**Capital Equipment Account tracking system (CEATS)**
Application Type	Outsourced function, data warehouse
Application Description	Online updating and individual inquiry. Large reports are produced using patch processing. Collects, maintains and reports detail information about individual items of capital equipment.
Database System	IBM ES-9000 mainframe
Development Language	Natural, ADABAS, Complete
Sharing	UNT system shared by UNTHSC via dedicated T1 and internet.
Future	No immediate plans for changes in this system.

Table 5: Agency Applications (continued)

Application Name	**Quality**
Application Type	Data warehouse, research, web-enabled
Application Description	Test and course quality reporting is primarily designed to provide timely, online information to faculty and administrators regarding student course performance and student evaluation of course quality. Administered by the Academic Information Service division of Medical Education.
Database System	Focus 7.x database with web functionality Windows 9x
Development Language	Scripting within Focus, Perl, Java, HTML
Sharing	Not shared.
Future	Migrate internally written evaluation data collection, analysis, and reporting tools to the internet. Growth and enhancement project, "Quality and Assist Upgrade".
Application Name	**Assist**
Application Type	Data warehouse, research, web-enabled
Application Description	Provides student examination performance data to Student Affairs staff, Academic Assistance Office, and the academic departments. Administered by the Academic Information Service division of Medical Education.
Database System	Focus 7.x database with web-functionality. Windows 9x
Development Language	Scripting within Focus, Perl, Java, HTML
Sharing	Not shared.
Future	Migrate internally written evaluation data collection, analysis and reporting tools to the internet. Growth and enhancement project, "Quality and Assist Upgrade".
Application Name	**Evaluation**
Application Type	Data warehouse, research, web-enabled
Application Description	Produces grade reports for distribution to students and departments. Provides production engine for evaluation services. Used by staff of Medical Education as production system.
Database System	Focus 7.x, Windows 9x
Development Language	Scripting within Focus.
Sharing	Not shared.
Future	No changes planned.
Application Name	**Purchase Order Tracking System**
Application Type	Data Warehouse, Web-enabled
Application	Provides Purchasing / Central Services and purchasing

Table 5: Agency Applications (continued)

Description	coordinators with automated tools to aid in tracking and processing purchase order requests. Purchasing coordinator access is by web interface.
Database System	MS Access 97, core users on Windows 9x, others web browser not platform dependent
Development Language	Visual Basic for applications, Coldfusion for web database functionality.
Sharing	Core developed by UNT, web interface UNTHSC only.
Future	Eventually may be replaced by components within APAP system.
Application Name	**MSRDP Operations System**
Application Type	Data Warehouse, Client Server Financial System
Application Description	Provides tool for MSRDP to track income and expense in various departments, faculty benefits, money received by various UNTHSC clinics, and interfaces to SMS Signature system with the UNT Accounting System.
Database System	PC-Focus 6.1
Development Language	Scripting within Focus.
Sharing	Not shared
Future	Functionality will be replaced by new system being developed to include data from both SMS and UNT accounting systems. Identified as Growth and Enhancement project, "MSRDP Accounting System.
Application Name	**Clinical Rotation / Lottery**
Application Type	Methodology
Application Description	Used to perform clinical matches between students or fellows and training positions. Used by Director of Clinical Education and his staff.
Database System	Oracle 7.x on UNIX
Development Language	Micro Cobol using Oracle development tools and C++.
Sharing	Not shared.
Future	Being migrated to new Sun servers and newer version of Oracle as part of Growth and Enhancement project, "Database Server Replacement Project".
Application Name	**Health Science Center WWW Servers**
Application Type	Web-enabled, document management
Application Description	The institutional internet website provides information about the health science center programs, campus, general policies, employment opportunities and institutes to users worldwide. It also provides printable forms for application to various programs and links to online entry forms. The

Table 5: Agency Applications (continued)

	institutional intranet site provides internal policy documents, institutional forms, purchasing and receiving information, online employment applications, faculty / staff directory, course curriculum and other useful information for faculty, staff and students.
Database System	Uses Access 97 and 2000 databases.
Development Language	VB Script, Javascript, ColdFusion database connectivity modules, HTML. Uses Microsoft IIS running on Windows NT 4.0.
Sharing	Not shared.
Future	An enterprise Microsoft 7.0 database server with Internet connectivity modules will be added to support database delivered website development. This and other website improvements in security were included in project P-02, "Network Infrastructure Upgrade".
Application Name	**Financial Aid Tracking Program**
Application Type	Data Warehouse
Application Description	Application used to track Federal and In-house student loans.
Database System	Oracle 7.x
Development Language	Micro Cobol, C++, Developed using Banner security model
Sharing	Not shared.
Future	Modified yearly to meet changes required by Federal funding agencies.
Application Name	**General Access Information Network (GAIN)**
Application Type	Data Warehouse, web-enabled, document management, imaging
Application Description	Indexing application used to organize, index and cross-reference documents.
Database System	Microsoft SQL 7.0
Development Language	C++
Sharing	Not shared.
Future	Will be used to index active and inactive medical records, maintain retention schedules, and provide alerts for records for destruction. In addition, will be used to route and track active records use between departments.
Application Name	**TMA System**
Application Type	Data Warehouse, document management, web enabled
Application Description	Facilities service order tracking and request program
Database System	Omnis 7.0, Netware 4.11

Table 5: Agency Applications (continued)

Development Language	Script within database, JAVA, HTML
Sharing	Not shared.
Future	Website is being implemented late FY2000
Application Name	**PRIVPlus**
Application Type	Data Warehouse, document management.
Application Description	Maintains credentials for all faculty, preceptors, and licensed contract employees.
Database System	Proprietary
Development Language	Unknown
Sharing	Not shared
Future	No changes planned.

Table 6: Interagency Data Needs

List	No interagency data needs have been identified to date.
Obstacles	None
Needed Assistance	None