

INFORMATION RESOURCES STRATEGIC PLAN

FISCAL YEARS 2003 – 2007

**THE UNIVERSITY OF TEXAS
SOUTHWESTERN
MEDICAL CENTER AT DALLAS**

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IR Summary

As an academic health center, UT Southwestern Medical Center's primary mission is to educate health professionals whose lifelong career objectives will be to provide the best possible care, apply the most appropriate treatment modalities and continue to seek information fundamental to the treatment and prevention of disease.

The mission of Information Resources (IR) at UT Southwestern is to provide computing, networking, telecommunications and other support services that further the strategic goals of the university. In completing its strategic plan, IR invited ideas from university administration and key functional areas within the university, reviewed university planning documents and considered emerging technological trends. This process identified several major factors that affect the application and use of information technologies at UT Southwestern. These factors include:

- ?? Continued expansion of the university's basic science research programs
- ?? Dispersion of faculty, students and staff over wide geographical areas
- ?? Increased importance of the Internet as a critical resource.
- ?? Expansion of the university's clinical practice to North Campus and to remote sites
- ?? Awareness that regulations imposed by the Health Insurance Portability and Accountability Act (HIPAA) will have far reaching implications for security and confidentiality of patient data
- ?? Increased need for high speed data communication networking infrastructure

Information Resources remains committed to providing products and services that are flexible, responsive to user needs, affordable to users and cost effective to the university. Users of computer systems will be provided ready and secure access to a broad range of resources, internal and external to campus, and be encouraged to use technology based processes to improve their effectiveness and productivity and to stimulate innovation.

UT Southwestern is a premier health center by virtue of the excellence of its education, research and public service programs. Maintaining excellence requires functions that effectively support the university's programs. An Information Resources function that insures the availability, quality and flow of information is critical if faculty, students and staff are to perform their work effectively. This IR strategic plan positions Information Resources to support and enhance UT Southwestern's position of excellence.

Goals, Objectives and Strategies

Goal 1: Support UT Southwestern in meeting its mission of pursuing high standards of achievement in instruction, research, clinical activities and University administrative functions.

UT Southwestern IR staff will support the overall mission of the university by actively providing new technologies to its users and responding to specific requests for assistance. Relates to State DIR goals 1, 2 and 4. Relates to Agency goals 1, 2, 3, 5 and 6.

Objective 1.1 Provide information technology based solutions and support for education activities of UT Southwestern's Medical School, Graduate School and Allied Health Sciences School.

Strategies

1.1.1 Continue development of electronic curriculum for medical students, graduate students and allied health students. *Ongoing.*

1.1.2 Recommend, install and maintain equipment for presentation support in D1 lecture halls. *Ongoing.*

1.1.3 Provide networked question banking, test development and evaluation resources by instructors. *Target date: 2004.*

1.1.4 Investigate and define IR's role in distance learning opportunities for UT Southwestern students, faculty and staff. *Ongoing.*

Objective 1.2

Provide information technology based solutions and support for UT Southwestern's basic science research efforts.

Strategies

1.2.1 Establish regular, targeted IR communication with basic science departments. *Target date: 2003.*

1.2.2 Devise statistical tools to support future decisions in expanding Library electronic resources. *Target date: 2004.*

1.2.3 Expand use of full text and evidence based biomedical information resources. *Ongoing.*

1.2.4 Continue to provide and support campus-wide site licenses for statistical software used in biomedical research. *Ongoing.*

Objective 1.3

Provide information technology based solutions and support for UT Southwestern's clinical efforts.

Strategies

1.3.1 Implement a clinical documentation and order management system for Ambulatory Services. *Target date: 2004.*

1.3.2 Develop data integrity policies and procedures that define registration and admitting data standards to be used by affiliated institutions. *Target date: 2003.*

1.3.3 Work with affiliated hospitals, UT Southwestern Health Systems (UTSHS) and external partners to comply with HIPAA requirements. *Target date: 2003.*

Objective 1.4

Provide information technology based solutions and support for UT Southwestern's administrative units.

Strategies

1.4.1 Continue enhancements for Departmental Accounting System. *Ongoing.*

1.4.2 Implement comprehensive database management system for administration of grants. *Target date: 2003.*

Goal 2: Promote communication and collaboration within UT Southwestern and with community organizations, University partners and UT System; provide effective management of information technology resources.

IR staff must stay abreast of new technical developments and implement those that will improve functionality for university users. Cooperation and collaboration with UT Southwestern users and with other technology groups throughout the state provides an environment for sharing ideas and resources. Relates to DIR goals 1, 2, 3 and 4. Relates to agency goals 1, 2, 3, 5 and 6.

Objective 2.1

Collaborate with UT Southwestern affiliated hospitals and institutions sharing our campus environment to find functional solutions and alternatives for common issues and concerns.

Strategies

2.1.1 Continue to expand cooperative, co-funded clinical results repository and other joint clinical efforts. *Ongoing.*

2.1.2 Investigate feasibility of integrating clinical communication and support services across affiliated campus entities to increase quality of patient care. *Target date: 2003.*

2.1.3 Develop an integrated electronic patient record for ambulatory services. *Target date: 2005.*

2.1.4. Cooperate with HIPAA Steering Committee to devise workable solutions to HIPAA security and administrative simplification requirements. *Target date: 2003.*

Objective 2.2

Enhance services to the desktop for both local and remote users.

Strategies

2.2.1 Investigate, identify and provide alternatives to Rolm Phone System. *Target date: 2003.*

2.2.2 Develop a campus-wide Intranet solution. *Target date: 2005.*

2.2.3 Implement TIF grant to purchase and install new clinical workstations. *Target date: 2003.*

2.2.4 Design and implement secure remote access through use of intrusion detection and appropriate firewalls. *Target date: 2004.*

2.2.5 Expand wireless access on UT Southwestern's campus. *Ongoing.*

Objective 2.3

Maintain active and ongoing relationships with other UT System organizations.

Strategies

2.3.1 Participate in UT System's Information Technology Management Council, Strategic Leadership Council, TAC and TASSCC. *Ongoing.*

Objective 2.4

Cooperate with State of Texas requirements for E-Commerce.

Strategies

2.4.1 Investigate online ordering for office supplies UT Southwestern's vendors. *Target date: 2003.*

2.4.2 Participate in State of Texas and UT System efforts to increase the quality and quantity of electronic transactions. *Ongoing.*

Goal 3: Create a secure Information Technology environment.

IR staff will continue to protect the privacy of sensitive data, maintain a secure environment for IR activities and maintain high performance standards. Relates to DIR goals 1 and 3. Relates to Agency goals 1, 2, 3, 5 and 6.

Objective 3.1

Create usable procedures to accommodate potential disaster situations.

Strategies

3.1.1 Continue active rehearsal of complete disaster recovery scenario. *Ongoing.*

3.1.2 Provide a business continuity program consistent with UT System and State of Texas guidelines. *Target date: 2004.*

Objective 3.2

Establish a security system to authenticate users and provide for digital signatures

Strategies

3.2.1 Continue to roll out VeriSign PKI infrastructure for digital signature authentication and data encryption. *Ongoing.*

Objective 3.3

Devise additional secure access capabilities to UT Southwestern networks, systems and databases.

Strategies

3.3.1 Add secure Internet access sites with CWAN connections to Library, to include permitting access by PDAs. *Target date: 2004.*

Goal 4: Create an environment that fosters employee commitment, growth, and accomplishment.

Our IR department is judged by the work its employees perform. We encourage staff to pursue professional and personal growth opportunities. Relates to State DIR goals 1, 2 and 4. Relates to Agency goals 1, 2, 3, 5 and 6.

Objective 4.1

Establish a staff development program and provide for career development opportunities.

Strategies

4.1.1 Each IR department is expected to provide a structured program permitting time, resources and training to advance employee skills, based on employee and department needs. *Ongoing.*

4.1.2 Define career paths that may span divisions of IR and provide cross training within and across IR units. *Ongoing.*

4.1.3 Provide advancement opportunities when possible. *Ongoing.*

Objective 4.2

Review and evaluate organizational structure to achieve operational efficiencies and maximize employee effectiveness.

Strategies

4.2.1 Evaluate existing functions and staff responsibilities and make organizational changes if necessary. *Target date: 2003.*

4.2.2 Perform periodic job reevaluations for IR positions and reclassify as appropriate. *Ongoing.*

4.2.3 Continue to evaluate staff compensation to ensure salaries are commensurate with responsibilities and with market. *Ongoing.*

4.2.4 Establish management processes and models that lead to identification of appropriate staffing levels. *Target date: 2003.*

Objective 4.3

Document Information Resources policies and procedures.

Strategies

4.3.1 Use IR Directors as a Steering Committee to identify, define and document policies and procedures used within IR. *Ongoing.*

4.3.2 Develop an IR training and orientation program guided by documented policies and procedures. *Target date: 2003.*

Goal 5: Address emerging trends by investigating and recommending new processes and technologies.

An IR department must stay abreast of new technical developments and be able to implement those that will improve functionality for university users. Relates to State DIR goals 2 and 4. Relates to Agency goals 1, 2, 3, 5 and 6.

Objective 5.1

Identify and monitor new industry trends and evaluate impact on the University.

Strategies

5.1.1 Explore IR's role in the provision of Tele-medicine services. *Ongoing.*

5.1.2 Expand H.232 facilities and services on campus. *Ongoing.*

5.1.3 Evaluate and expand connectivity and use of PDA technology on campus. *Ongoing.*

Objective 5.2

Where feasible, partner with other institutions and vendors in research and development efforts.

Strategies

5.2.1 Identify opportunities to partner with vendors needing development test site for new technologies. *Ongoing.*

5.2.2 Establish mode of communication to inform vendors of potential opportunities for partnerships. *Ongoing.*

5.2.3 Identify and actively participate in national technology development initiatives. *Ongoing.*

Information Resources Databases

Database Name	Athena 1, 2, Outpatient, and Dialysis Modules
Database Description	Athena allows abstractors to review patient charts and enter charge records for their particular department. Internal Medicine and Pediatrics have implemented this system to improve their chart review process. Athena has built in Edits and Table Validation that helps to streamline the charge capture process. After the charges are entered they are electronically transmitted to the IDX billing system.
Database System	Microsoft Access version 97
Estimated Physical Storage Requirements	Currently using 1 GB.
GIS Data Classification	Not Applicable
Sharing	Used by the Department of Internal Medicine whose operations span UT Southwestern and Parkland. Demographics data are received from UT Southwestern; charge transactions are transferred to the IDX billing system.
Future	Will upgrade to Access 2000 in fiscal year 2002

Database Name	Case Manager
Database Description	This database provides the Department of Urology a paperless method of collecting professional fee charges, quality assurance for patient care, Residency Program certification information and acts as a teaching/research tool.
Database System	Microsoft SQL Server
Estimated Physical Storage Requirements	Currently using 100 MB.
GIS Data Classification	Not Applicable
Sharing	Used in the Department of Urology whose operations span UT Southwestern, Parkland and Children's Medical Center. Demographics data are received from Parkland, Zale Lipshy and UT Southwestern via the Clinical Repository; charge transactions are transferred to the IDX billing system.
Future	Continue to add new features based on user needs

Database Name	Cerner Laboratory and Radiology Information Systems
Database Description	This system provides the operational function for processing lab and radiology exams as well as provides patient results to the clinical community.
Database System	Proprietary
Estimated Physical Storage Requirements	Currently using 357,972,292 VMS Blocks or approximately 170.69 GB. Usage is fairly stable.
GIS Data Classification	Not Applicable
Sharing	Used by UT Southwestern clinical laboratory and Rogers MRI Center, Zale Lipshy University Hospital clinical laboratory and radiology departments, and Parkland Health & Hospital System (Meadows MRI Center). Demographics data are received from UT Southwestern and Zale Lipshy; charge transactions are transferred to the IDX billing system and SMS system at Zale Lipshy.
Future	Considering transition to a client-server based application solution that houses patient data in a true relational database such as Oracle.

Database Name	Cardiology Information Management System (CIMS)
Database Description	This database provides the Department of Cardiology with a solution for recording and reporting the results of Cardiology patient procedures (i.e., Cardiac Catherization, Electrophysiology, and Cardiovascular testing, Nuclear Cardiology) and automatically capturing professional and technical fees for transmission to the appropriate billing systems. It also provides management and statistical reports.
Database System	Microsoft SQL Server
Estimated Physical Storage Requirements	Currently using 2.5 GB.
GIS Data Classification	Not Applicable
Sharing	Used throughout the Cardiology Department, which spans UT Southwestern, Zale Lipshy, and Parkland via the Clinical Repository. Demographics data are received from Parkland and UT Southwestern.
Future	Continue to add new features based on user needs

Database Name	Clinical Results Repository
Database Description	Provides longitudinal, patient centric view of clinical information for UT Southwestern, Zale Lipshy, and Parkland patient populations. The Repository receives and stores patient demographics, insurance information, patient problem lists, health maintenance forms for UT Southwestern, Zale Lipshy and Parkland patients. Clinical results stored for these patient populations include cytology, anatomic pathology, clinical laboratory and radiology. The Repository also stores ambulatory patient appointment schedules and some transcribed reports for UT Southwestern patients; and ECG reports and transcribed reports for Zale Lipshy and Parkland patients.
Database System	Sybase SQL database
Estimated Physical Storage Requirements	Currently using 125GB; system is growing about 30 GB per year.
GIS Data Classification	Not Applicable
Sharing	Used in UT Southwestern, Zale Lipshy University Hospital and Parkland Health & Hospital System. Data are received from affiliated campus institutions as well as UT Southwestern clinical departments.
Future	Periodic software upgrades will be applied as released by the vendor. Development is currently underway to include Parkland Community outpatient visit information. It is anticipated that St. Paul University Hospital will be added to the list of supported facilities. Other additions are being reviewed.

Database Name	Cloverleaf Interface Engine
Database Description	The Interface Engine facilitates the development and management of data interfaces and serves as a highly effective tool to integrate information from disparate systems. It eliminates the need to develop point-to-point interfaces in order to transmit information between systems. Outbound interfaces are developed from a source system and data are sent to the Engine. The Engine provides store and forward capabilities for the received data. The Engine then transmits the information to one or more target systems, typically in HL7 format.
Database System	Birdstep Raima
Estimated Physical Storage Requirements	Currently using 6 GB, expansion capacity is available.
GIS Data Classification	Not Applicable
Sharing	Not shared with other institutions. Data are received from and transferred to affiliated campus institutions as well as UT Southwestern clinical departments.
Future	Periodic software upgrades as released by the vendor. Continued development of new interfaces to integrate systems and populate the Repository, EpicCare and other UT patient care systems.

Database Name	Computerized Texas Medication Algorithm (Comp TMAP)
Database Description	This database provides the Department of Psychiatry with the ability to computerize treatment algorithms for the behavioral illness of major depression – psychotic; major depression – non-psychotic; schizophrenia; bipolar disorder – manic; and bipolar disorder – depressive. The computerized algorithms use a commercially available Rules Engine to facilitate the definition, management and maintenance of the rules that underlie clinical decisions involved in managing a patient placed on one of the treatment protocols.
Database System	Microsoft SQL Server
Estimated Physical Storage Requirements	Currently using 150 MB.
GIS Data Classification	Not Applicable
Sharing	Used by the Department of Psychiatry to assist in monitoring treatment protocols of patients that are seen in any facility on campus.
Future	Currently in Beta testing at the Houston MHMR. Production use is planned for Summer 2002.

Database Name	EpicCare
Database Description	The EpicCare database contains information to support the clinical documentation and order management activities of the Ambulatory Services clinics.
Database System	Intersystems Cache
Estimated Physical Storage Requirements	Currently Using 7GB
GIS Data Classification	Not Applicable
Sharing	Not shared with other institutions. Clinical document data and order information are transferred to the Repository.
Future	In pilot phase with 1 clinic. Rollout to all Ambulatory Services Clinics planned over the next 3-5 years.

Database Name	EpicWeb
Database Description	The EpicWeb uses the same database used by EpicCare. EpicWeb provides a web-based access tool for the clinical documentation and order management information obtained from the Ambulatory Services clinics.
Database System	Intersystems Cache
Estimated Physical Storage Requirements	Currently Using 7GB
GIS Data Classification	Not Applicable
Sharing	Not shared with other institutions. Clinical document data and order information are transferred to the Repository.
Future	In pilot phase with 1 clinic. Will be available as remote access solution to all Ambulatory Services Clinics as EpicCare is implemented in each clinic over the next 3-5 years.

Database Name	Epic Cadence
Database Description	Epic Cadence uses the same integrated database as EpicCare. Cadence is an application that supports the patient appointment scheduling functions of the Ambulatory Services clinics.
Database System	Intersystems Cache
Estimated Physical Storage Requirements	Unknown at this time; system not in production yet
GIS Data Classification	Not Applicable
Sharing	Not shared with other institutions. Scheduling information will be transferred to the Repository and to the IDX BAR system.
Future	Plan to have pilot clinics running in FY 02-03. Rollout to all Ambulatory Services Clinics planned over the next 3-5 years.

Database Name	Epic Prelude
Database Description	Epic Prelude uses the same integrated database as EpicCare. Prelude is an application that supports the patient registration functions of the Ambulatory Services clinics.
Database System	Intersystems Cache
Estimated Physical Storage Requirements	Unknown at this time; system not in production yet
GIS Data Classification	Not Applicable
Sharing	Not shared with other institutions. Registration information will be transferred to the Repository and to the IDX BAR system.
Future	Plan to have pilot clinics running in FY 02-03. Rollout to all Ambulatory Services Clinics planned over the next 3-5 years.

Database Name	IDX Appointment Scheduling
Database Description	Provides clinic appointment scheduling system for the physicians.
Database System	Intersystems CACHE
Estimated Physical Storage Requirements	Currently using 487,392,651 VMS Blocks or approximately 232.41GB. Storage requirements listed include all IDX applications.
GIS Data Classification	Not Applicable
Sharing	Not shared with other institutions. Patient scheduling data are transferred to the Repository.
Future	Periodic software upgrades as released by the vendor.

Database Name	IDX Billing and Accounts Receivable
Database Description	Provides the professional fee billing, including statement and claim generation, for the UT Southwestern faculty.
Database System	Intersystems CACHE
Estimated Physical Storage Requirements	Currently using 487,392,651 VMS Blocks or approximately 232.41GB. Storage requirements listed include all IDX applications.
GIS Data Classification	Not Applicable
Sharing	Not shared with other institutions. Data are received from and transferred to affiliated campus institutions as well as UT Southwestern clinical departments.
Future	Periodic software upgrades as released by the vendor

Database Name	IDX Chart Tracking
Database Description	Provides a mechanism to track patient Medical Records throughout the clinics and academic offices.
Database System	Intersystems CACHE
Estimated Physical Storage Requirements	Currently using 487,392,651 VMS Blocks or approximately 232.41GB. Storage requirements listed include all IDX applications.
GIS Data Classification	Not Applicable
Sharing	Not shared with other institutions.
Future	

Database Name	IDX IDXtend
Database Description	A Windows based application that overlays other IDX character cell based applications and provides a graphical user interface for ease of application access and use.
Database System	Intersystems CACHE
Estimated Physical Storage Requirements	Currently using 487,392,651 VMS Blocks or approximately 232.41GB. Storage requirements listed include all IDX applications.
GIS Data Classification	Not Applicable
Sharing	Not shared with other institutions.
Future	Periodic software upgrades as released by the vendor.

Database Name	IDX Managed Care
Database Description	Managed Care module is used to identify subscribers enrolled under managed care plans and pertinent information about physician referrals. Used also to define managed care contracts and benefits plans and perform claims adjudication.
Database System	Intersystems CACHE
Estimated Physical Storage Requirements	Currently using 487,392,651 VMS Blocks or approximately 232.41GB. Storage requirements listed include all IDX applications.
GIS Data Classification	Not Applicable
Sharing	Not shared with other institutions. Enrollment data and updates are received from Nylcare and Anthem.
Future	Periodic software upgrades as released by the vendor.

Database Name	Internet Server
Database Description	This system acts as the main Internet application server, providing World Wide Web, USENET News, InfoSeek Indexing, RealAudio and other services. The ColdFusion Application Server provides connectivity to the SQL Server database. Users include the UT Southwestern community and general Internet clients. The Internet Specialist maintains the system's applications and hardware.
Database System	MS SQL Server
Estimated Physical Storage Requirements	Currently using 50 GB of storage spread over three systems.
GIS Data Classification	Not Applicable
Sharing	Worldwide availability for World Wide Web. Campus-only access for the USENET News server.
Future	Plans are under way to implement the next generation of Web services.

Database Name	On-line Administrative System
Database Description	An integrated interactive database containing all administrative data including: accounting, budget, payroll, purchasing, human resources management, electronic mail, and on-line forms.
Database System	ADABAS RDB, OS/390
Estimated Physical Storage Requirements	Resides on IBM mainframe
GIS Data Classification	Not Applicable
Sharing	None
Future	Enhancements as required

Database Name	OVID
Database Description	Bibliographic, biomedical data including MEDLINE
Database System	OVID Technologies proprietary
Estimated Physical Storage Requirements	91 GB
GIS Data Classification	Not Applicable
Sharing	Shared with primary campus affiliates
Future	Possible storage upgrade in 200092001

Database Name	Patient Tracker
Database Description	This database provides the Simmons Comprehensive Cancer Center and the Center for Breast Care with the ability to identify the location of patients as they move throughout the Cancer Center as may be required for their care.
Database System	Access version 97
Estimated Physical Storage Requirements	Currently using 100 GB.
GIS Data Classification	Not Applicable
Sharing	Used by all departments operating within the Simmons Cancer Center that includes Medical and Hematology Oncology, Pheresis Lab, Urology Oncology, Cancer Research Office, Breast Imaging, Breast Center and Clinical Laboratory to track the movement of patients throughout the new facility.
Future	Continue to add new features based on user needs

Database Name	Unicorn Collection Management System
Database Description	Integrated online library system
Database System	Sirsi Proprietary
Estimated Physical Storage Requirements	9 GB
GIS Data Classification	Not Applicable
Sharing	Available worldwide via the Internet
Future	Application update planned for summer of 2000

Database Name	Surgical Networked Information System (SNIPS)
Database Description	This database provides the Department of Surgery a paperless method of collecting professional fee charges, quality assurance for patient care, Residency Program certification information, and acts as a teaching/research tool.
Database System	Microsoft SQL Server
Estimated Physical Storage Requirements	Currently using 2 GB.
GIS Data Classification	Not Applicable
Sharing	Used in multiple specialties in the Department of Surgery whose operations span UT Southwestern and Parkland. Demographics data are received from Parkland, Zale Lipshy and UT Southwestern via the Clinical Repository; charge transactions are transferred to the IDX billing system.
Future	Continue to add new features based on user needs

Database Name	Trakbill
Database Description	This database tracks interlibrary loan orders and accounts
Database System	Access 97
Estimated Physical Storage Requirements	300MB
GIS Data Classification	Not Applicable
Sharing	With Library staff only
Future	Considering upgrade to SQL

Information Resources Major Applications

Application Name	Accounting System
Application Type	Mainframe Financial
Application Description	The Accounting system contains many subsystems including: General Ledger Accounting System with on-line and batch processes; Fiscal Services Reporting System; the Grants Accounting and Grants Accounts Receivable Systems; Accounts Payable; State Voucher Tracking system; Inventory System; and the 1099 system.
Database System	ADABAS RDB, OS/390
Development Language	NATURAL
Sharing	None
Future	Enhancements as required

Application Name	Athena 1, 2, Outpatient, Dialysis
Application Type	Client Server Financial
Application Description	Athena allows abstractors to review patient charts and enter charge records for their particular department. Internal Medicine and Pediatrics have implemented this system to improve their chart review process. Athena has built in Edits and Table Validation that helps to streamline the charge capture process. After the charges are entered they are electronically transmitted to the IDX billing system.
Database System	Microsoft Access version 97
Development Language	Microsoft Access version 97
Sharing	Used by the Departments of Internal Medicine and Pediatrics which span UT Southwestern, Parkland, and Children's Medical Center. Demographics data are received from UT Southwestern; charge transactions are transferred to the IDX billing system.
Future	Will upgrade to Access 2000 when approved by the department

Application Name	Budget
Application Type	Mainframe Financial
Application Description	The system provides on-line maintenance for operating and proposed budgets for all employees and departments at UT Southwestern. It also contains a subsystem of management and departmental reports.
Database System	ADABAS RDB, OS/390
Development Language	Natural
Sharing	None
Future	Enhancements as required

Application Name	Campus Web Server
Application Type	Web-enabled
Application Description	Provides campus Web, InfoSeek Indexing, USENET News, Intranet and RealAudio services
Database System	Microsoft SQL Server
Development Language	Primarily HTML with ColdFusion and some CGI, Perl, ASP and Java[Script]
Sharing	Available worldwide (except USENET News and Intranet)
Future	Several software and hardware upgrades are planned

Application Name	Cardiology Information Management System (CIMS)
Application Type	Client Server Clinical
Application Description	This database provides the Department of Cardiology with a solution for recording and reporting the results of Cardiology patient procedures (i.e., Cardiac Catheterization, Electrophysiology, and Cardiovascular testing, Nuclear Cardiology) and automatically capturing professional and technical fees for transmission to the appropriate billing systems. It also provides management and statistical reports.
Database System	Microsoft SQL Server
Development Language	Sybase PowerBuilder
Sharing	Used throughout Cardiology, a division of the Department of Internal Medicine, whose operations span UT Southwestern, Zale Lipshy, and Parkland. Demographics data are received from Parkland, Zale Lipshy and UT Southwestern via the Clinical Repository.
Future	Continue to add new features based on user needs

Application Name	Cerner Laboratory and Radiology Information Systems
Application Type	Mainframe Clinical
Application Description	This system provides the operational function for processing lab and radiology exams as well as provides patient results to the clinical community.
Database System	Proprietary
Development Language	COBOL, C, CCL (Cerner's application SQL)
Sharing	Used by UT Southwestern clinical laboratory and Rogers MRI Center, Zale Lipshy University Hospital clinical laboratory and radiology departments, and Parkland Health & Hospital System (Meadows MRI Center). Demographics data are received from UT Southwestern and Zale Lipshy; charge transactions are transferred to the IDX billing system and SMS system at Zale Lipshy.
Future	Considering replacement application(s) that leverage the advantages of client-server technology and GUI end-user functionality.

Application Name	Clinical Results Repository
Application Type	Data Warehouse; Client Server Clinical
Application Description	Provides longitudinal, patient centric view of clinical information for UT Southwestern, Zale Lipshy, and Parkland patient populations. Information

	received and stored in the Repository includes patient demographics, insurance information, patient problem lists and health maintenance forms for UT Southwestern, Zale Lipshy and Parkland patients. Clinical results stored for these patient populations include cytology, anatomic pathology, clinical laboratory and radiology. The Repository stores ambulatory patient appointment schedules and some transcribed reports for UT Southwestern patients and ECG reports and transcribed reports for Zale Lipshy and Parkland patients.
Database System	Sybase SQL database
Development Language	Microsoft Visual Basic
Sharing	Used in UT Southwestern, Zale Lipshy University Hospital and Parkland Health & Hospital System. Data are received from affiliated campus institutions as well as UT Southwestern clinical departments.
Future	Periodic software upgrades will be applied as released by vendor. Development is currently underway to include Parkland Community outpatient visit information. It is anticipated that St. Paul University Hospital will be added to the list of supported facilities. Other additions are being reviewed.

Application Name	Cloverleaf Interface Engine
Application Type	
Application Description	The Interface Engine facilitates the development and management of data interfaces and serves as a highly effective tool to integrate information from disparate systems. It eliminates the need to develop point to point interfaces in order to transmit information between systems. Outbound interfaces are developed from a source system and data are sent to the Engine. The Engine provides store and forward capabilities for the received data. The Engine then transmits the information to one or more target systems, typically in HL7 format.
Database System	Birdstep Raima
Development Language	Tool Command Language (TCL)
Sharing	Not shared with other institutions. Data are received from and transferred to affiliated campus institutions as well as UT Southwestern clinical departments.
Future	Periodic software upgrades as released by the vendor. Continued development of new interfaces to integrate systems.

Application Name	Computerized Texas Medication Algorithm (Comp TMAP)
Application Type	Client Server Clinical
Application Description	This application provides the Department of Psychiatry with the ability to computerize treatment algorithms for the behavioral illness of major depression – psychotic; major depression – non-psychotic; schizophrenia; bipolar disorder – manic; and bipolar disorder – depressive. The computerized algorithms use a commercially available Rules Engine to facilitate the definition, management and maintenance of the rules that underlie clinical decisions involved in managing a patient placed on one of the treatment protocols.

Database System	Microsoft SQL Server
Development Language	Visual Basic and Blaze Software Rules Engine
Sharing	Used by the Department of Psychiatry to assist in monitoring treatment protocols of patients that are seen in any facility on campus.
Future	Currently in Beta testing. Anticipate moving the application into production in the summer of 2002.

Application Name	Departmental Inquiry System
Application Type	Mainframe Financial
Application Description	The Departmental Inquiry System provides user departments inquiry access to all data in administrative files that relates to their departments.
Database System	ADABAS RDB, OS/390
Development Language	Natural
Sharing	None
Future	Enhancements as necessary

Application Name	EpicCare
Application Type	Client Server Clinical
Application Description	EpicCare is an application that supports the clinical documentation and order management activities of the Ambulatory Services clinics.
Database System	Intersystems Cache
Development Language	Microsoft Visual Basic
Sharing	None
Future	In pilot phase with 1 clinic. Rollout to all Ambulatory Services Clinics planned over the next 3-5 years.

Application Name	EpicWeb
Application Type	Web-based front end for EpicCare application
Application Description	EpicWeb provides a web-based access tool for the clinical documentation and order management information obtained from the Ambulatory Services clinics.
Database System	Intersystems Cache
Development Language	Microsoft Visual Basic Script (IIS/ASP)
Sharing	None
Future	In pilot phase with 1 clinic. Will be available as remote access solution to all Ambulatory Services Clinics as EpicCare is implemented in each clinic over the next 3-5 years.

Application Name	Epic Cadence
Application Type	Client Server Clinical
Application Description	Epic Cadence is an application that supports the patient appointment scheduling functions of the Ambulatory Services clinics.
Database System	Intersystems Cache

Development Language	Microsoft Visual Basic
Sharing	None
Future	Plan to have pilot clinics running in FY 02-03. Rollout to all Ambulatory Services Clinics planned over the next 3-5 years.

Application Name	Epic Prelude
Application Type	Client Server Clinical
Application Description	Epic Prelude is an application that supports the patient registration functions of the Ambulatory Services clinics.
Database System	Intersystems Cache
Development Language	Microsoft Visual Basic
Sharing	None
Future	Plan to have pilot clinics running in FY 02-03. Rollout to all Ambulatory Services Clinics planned over the next 3-5 years.

Application Name	Environmental Health and Safety System
Application Type	Web-based front end for EpicCare application
Application Description	
Database System	Intersystems Cache
Development Language	Intersystems Cache
Sharing	None
Future	In pilot phase with 1 clinic. Will be available as remote access solution to all Ambulatory Services Clinics as EpicCare is implemented in each clinic over the next 3-5 years.

Application Name	Human Resources Management System (HRMS)
Application Type	Human Resources
Application Description	This system provides on-line maintenance for personnel and budgetary data on all employees at UT Southwestern Medical Center.
Database System	ADABAS RDB, OS/390
Development Language	Natural
Sharing	None
Future	Continued enhancements as required

Application Name	IDX Appointment Scheduling
Application Type	Mainframe Clinical
Application Description	Provides clinic appointment scheduling system for the physicians.
Database System	Intersystems CACHE
Development Language	Intersystems CACHE
Sharing	Not shared with other institutions. Patient scheduling data are transferred to the Repository.
Future	Upgrading to Intersystems Cache in July 2002 and to new application version in 2003.

Application Name	IDX Billing and Accounts Receivable
Application Type	Mainframe Financial
Application Description	Provides the professional fee billing, including statement and claim generation, for the UT Southwestern faculty.
Database System	Intersystems CACHE
Development Language	Intersystems CACHE
Sharing	Not shared with other institutions. Data are received from and transferred to affiliated campus institutions as well as UT Southwestern clinical departments.
Future	Upgrading to Intersystems Cache in July 2002 and to new application version in 2003.

Application Name	IDX Chart Tracking
Application Type	Mainframe Clinical
Application Description	Provides a mechanism to track patient Medical Records throughout the clinics and academic offices.
Database System	Intersystems CACHE
Development Language	Intersystems CACHE
Sharing	Not shared with other institutions.
Future	Upgrading to Intersystems Cache in July 2002 and to new application version in 2003.

Application Name	IDX IDXtend
Application Type	Mainframe Data Management
Application Description	A Windows based application that overlays other IDX character cell based applications and provides a graphical user interface for ease of application access and use.
Database System	Intersystems CACHE
Development Language	Intersystems CACHE
Sharing	Not shared with other institutions.
Future	Upgrading to Intersystems Cache in July 2002 and to new application version in 2003.

Application Name	IDX Managed Care
Application Type	Mainframe Financial
Application Description	Managed Care module is used to identify subscribers enrolled under managed care plans and pertinent information about physician referrals. Used also to define managed care contracts and benefits plans and perform claims adjudication.
Database System	Intersystems CACHE
Development Language	Intersystems CACHE
Sharing	Not shared with other institutions. Enrollment data and updates are received from Nylcare and Anthem.
Future	Upgrading to Intersystems Cache in July 2002 and to new application version in 2003.

Application Name	IntelliDESK
Application Type	Client Server Data Management
Application Description	On line computer/telephony interfaced application that provides names, numbers and connections for the university telephone operators.
Database System	Access-97
Development Language	Access-97
Sharing	None
Future	Routine modifications and improvements

Application Name	Medical School Applications System (MedApp)
Application Type	Client Server Data Management
Application Description	This system received information from the Medical and Dental Applications Center and uses it to support the work of the Medical School Admissions Committee
Database System	Access 97
Development Language	Visual Basic for Applications
Sharing	None
Future	Routine modifications and improvements

Application Name	Online Form System
Application Type	Mainframe Financial
Application Description	The On-line FORM System provides an electronic method for requesting services from the University's Administrative Departments. It is one of the avenues toward a paperless environment.
Database System	ADABAS RDB, OS/390
Development Language	Natural
Sharing	None
Future	Additional forms being developed to replace all paper forms.

Application Name	OVID
Application Type	Web-enabled
Application Description	Bibliographic biomedical database searching
Database System	OVID Technologies proprietary system
Development Language	N/A
Sharing	Shared with primary campus affiliates
Future	Possible storage upgrade for 2000-2001

Application Name	Patient Tracker
Application Type	Client Server Clinical
Application Description	This application provides the Simmons Comprehensive Cancer Center and the Center for Breast Care with the ability to identify the location of patients as they move throughout the Cancer Center as may be required for their care.
Database System	Access version 97
Development Language	Access version 97
Sharing	Used by all departments operating within the Simmons Cancer Center that includes Medical and Heme Oncology, Pheresis Lab, Urology Oncology, Cancer Research Office, Breast Imaging, Breast Center and Clinical Laboratory to track the movement of patients throughout the new facility.
Future	Upgrades are made upon request by the departments.

Application Name	Payroll
Application Type	Mainframe Financial
Application Description	This system produces the budgetary, hourly, and supplemental payrolls each month; maintains all fringe benefit information, such as, insurance carriers, retirement packages, and annuities; and produces the yearly IRS reports.
Database System	ADABAS RDB, OS/390
Development Language	Natural
Sharing	None
Future	Newly developed application that will be implemented in 2001.

Application Name	Purchasing System
Application Type	Mainframe Financial
Application Description	This portion of the Online Administrative System contains all Purchase Requisitions and Purchase Orders.
Database System	ADABAS RDB, OS/390
Development Language	Natural
Sharing	None
Future	Enhancements as necessary

Application Name	Student Application Diskette
Application Type	Document Management
Application Description	Application to Graduate School/School of Allied Health via program on diskette mailed to applicant or retrieved from WEB
Database System	dBase
Development Language	Clipper
Sharing	None
Future	Make Web Application

Application Name	Student Information System (SIS)
Application Type	Document Management
Application Description	This system supports the work of the Registrar and Office of Student Financial Aid. It keeps information on applicants to the Southwestern Graduate School of Biomedical Sciences and the School of Allied Health Sciences and student records, student accounts, and financial aid for all students.
Database System	VAX RMS
Development Language	COBOL
Sharing	None
Future	Will upgrade to new versions as available.

Application Name	Surgical Networked Information System (SNIPS)
Application Type	Client Server Clinical
Application Description	This application provides the Department of Surgery a paperless method of collecting professional fee charges, quality assurance for patient care, Residency Program certification information, and a teaching/research tool.
Database System	Microsoft SQL Server
Development Language	Powerbuilder
Sharing	Used in multiple specialties in the Department of Surgery whose operations span UT Southwestern, Zale Lipshy and Parkland. Demographics data are received from Parkland, Zale Lipshy and UT Southwestern; charge transactions are transferred to the IDX billing system.
Future	Continue to add new features based on user needs.

Application Name	Trakbill
Application Type	Client Server Financial
Application Description	Tracking of interlibrary loan orders and accounts
Database System	Access 97
Development Language	Visual Basic & Access 97
Sharing	With library staff only
Future	Plan to add Web integration

Application Name	Unicorn Collection Management System
Application Type	Web-enabled
Application Description	Integrated library online system
Database System	Sirsi proprietary
Development Language	Sirsi proprietary
Sharing	Available worldwide via the Internet
Future	Application update planned for summer of 2000

Setting Information Resources Priorities

The process for prioritizing Information Resources projects begins in the summer, when each Information Resources program unit submits its proposed projects and activities for the coming fiscal year. IR Directors convene as a committee to discuss submissions and determine a priority ranking for projects and activities. The ranking is generally achieved by consensus, with the IRM resolving any disputes the group cannot agree upon. The prioritized list is then submitted, along with a business plan, to the University Administration, through the appropriate Dean or Vice President, for approval and funding consideration.

System development projects and enhancement requests frequently come from users or from IR staff working with various user groups. Requests are evaluated by an appropriate standing committee, such as the Clinical Information Systems Steering Committee (CISSCO) for clinical projects; Committee for Information Systems Technical Review (CISTR) for administrative projects; or the Basic Science Information Resources Advisory Committee (BSIRAC) for research projects. These groups assist IR staff in setting priorities for resource allocation.

IR Planning Methodology

Information Resources' planning process considers UT Southwestern's Legislative Appropriations Request, as submitted to the Legislative Budget Board, and the university's Six Year Plan, an internal planning document. Information Resources planning effort is also designed to meet standards set by DIR and the LBB. At UT Southwestern, IR provides services to many and varied interest groups on campus and includes representatives from these groups in its planning efforts. Representatives from Academic Computing, the Library, Student Curriculum, Basic Science Faculty, Clinical Faculty, Ambulatory Care, the Medical Practice Plan and University Administration are invited to Information Resources planning sessions. The special needs of these varied user communities are considered and included in the IR planning process. IR plans are then reviewed by university administration and either approved or modified as needed. Following the group IR planning effort, each functional division within IR develops its own tactical or operating plan. The director of each division reviews his or her plan with the Vice President for Information Resources, and together, they agree upon appropriate performance measures.

Quality Assurance Procedures

In its Strategic Plan for Fiscal Years 2001 – 2005, UT Southwestern Information Resources stated it would establish a work group to guide creation of appropriate policies and procedures for Quality Assurance (QA) procedures. This effort was completed in fiscal 2001.

Quality assurance review is an integral part of all large Information Resources projects. Southwestern's QA review policy mirrors that created by the DIR and the State Auditor's Office

Many IR projects are driven by user demand. There may be a formal request for a project from an existing advisory group. An informal request may come from a group formed for some other purpose. In some cases, IR managers and directors identify need for a project based on resource utilization, concerns about resource capacity or a familiarity with new technology. Users requesting a project assist in defining its scope, though IR assumes most of that responsibility. IR staff also works with users to determine their requirements, expectations and objectives from the project. This is generally an iterative process. When project scope and objectives are clearly understood, the project manager establishes a tentative schedule and estimates resources necessary for the project.

Before starting a project, IR determines benefits of the project, taking into consideration alternative courses of action, including the "no action" alternative. The cost of each alternative is considered, but the lowest cost option is not always the one chosen. Other factors may have a great impact on the overall project benefit.

A project budget is planned when the scope of the effort has been clearly defined. If the project involves purchase of hardware, that portion of the budget is somewhat easier to estimate. For projects involving only application development or enhancements of existing applications, the budget is determined primarily by staff costs and estimating staff hours devoted to the project is critical. System life and maintenance costs for both hardware and software applications are considered. As the project planning progresses, the budget may be modified if needed.

For very large projects, IR may contract with a third party to assist in evaluating the project. A consultant may also be retained to guide the process after it has been approved.

The IR division director will prepare a business plan for review by the Vice President for Information Resources and university administration. This business plan raises additional business questions and is designed to demonstrate that the project is clearly thought out and has a well-identified payback.

UT Southwestern uses a committee review process to evaluate and approve large technology projects. The Information Systems Advisory Committee (ISAC) reviews projects involving hardware or software purchase. The Committee for Information Systems Technology Review (CISTR) reviews administrative development projects. The Clinical Information Systems Steering Committee (CISSCO) evaluates clinical IR projects. These committees require consideration be given to risks inherent in a project and to cost-benefit considerations.

Overall project evaluation includes participation from the project team and from users. The project team has met throughout the project and is aware of processes that have worked well and

those that haven't. Comparison of original estimates, such as budget, time, completion date, to actual data, highlights problem areas.

Personal Computer Replacement Schedule

Replacement of PCs is not centralized at UT Southwestern. Budget management is decentralized and handled by the various academic, administrative and service departments. Information Resources does not have the authority to mandate a schedule for either desktop or laptop replacement.

Information Resources administration also does not impose a replacement schedule for PCs and laptops within IR. User need for current technology varies widely. Highly technical users will require more frequent technology refreshing than will a user with administrative functions only.

In early spring of 2001, UT Southwestern brought in several vendors to discuss the regular replacement of both laptop and desktop computers, along with PC leasing. Although the vendors each had persuasive arguments for instituting a regular replacement schedule, Southwestern's IR management ultimately determined that it was not a practical action. The wide variance in user requirements was a key factor. But the cost of leasing vs. purchasing was also a consideration.

However, Southwestern does have two groups of computers on an internal lease program with a 36-month replacement schedule at its core. This effort was put together when the need for specific use desktops – in this case, clinical work-stations, used to access various clinical systems managed by IR; and student curriculum computers, used in student carrels by first and second year medical students – converged with information gleaned from vendors who had presented solutions for regular technology refreshing schedules.

Both clinical workstations and student computers have a specific suite of applications loaded to them and include a restriction against loading other software. New software is loaded to the clinical workstations as new applications are introduced to the campus clinical practice. Typically, older workstations cannot handle a continuous series of software upgrades. Thus was born the notion of operating an internal leasing program.

IR's Client Services now buys quantities of PCs from Dell, loads the selected suite of clinical or student applications, deploys the PC to clinical and student areas and maintains the hardware and software under terms of its internal lease agreement. Many clinical departments, but not all, prefer a stream of regular lease payments to a spike in costs when workstations are needed. The program, still in its first year, has been popular and successful. Client Services now leases some administrative PCs, though the bulk of its business is clinical workstations and student computers.

Procurement

As described in the Personal Computer Replacement Schedule above, in early spring of 2001, Southwestern's IR management did consider leasing hardware, specifically PC and laptops, rather than purchasing it.

Vendors who came to discuss their leasing programs included IBM, Comdisco and Dell. The cost of leasing, with its various possibilities for penalties, always resulted in costs higher than the cost of buying.

UT Southwestern has users with wide variance in the level of technology required to perform their daily work. It is not possible to have a single technology refresh program that meets the need of all university computer users.

UT Southwestern technicians have been designated Apple and Dell maintenance sites for years, so maintaining hardware has not been difficult.

Disaster Recovery

Priorities for disaster recovery were determined after assessing the University's critical missions and the associated information resources needed to sustain these missions during a disaster or business disruption. Critical systems include clinical and administrative systems and telecommunications.

In April 2001, UT Southwestern entered a three-year contract with Comdisco Inc. for hot-site services. UT Southwestern also contracted with El Camino for "drop shipment" services, which entails shipping the necessary hardware to the Service "X" building, a building located some distance from the Data Center. This location will be outfitted as the data center in the event the current data center is no longer inhabitable or under reconstruction. UT Southwestern has identified the Service building as its cold-site location.

In November of 2001, SunGard purchased Comdisco's hot-site and recovery contract following that company's bankruptcy. Until that time, UT Southwestern operated under a waiver from the Legislative Budget Board excepting the university from contracting with WTDROC. Since SunGard is the provider of services for WTDROC, UT Southwestern is no longer required to obtain a waiver. Even though services at WTDROC are ultimately outsourced to SunGard (via Northrop-Grumman), the facility does not house the appropriate hardware to process UT Southwestern's critical systems. Therefore, while the university does use disaster recovery services from WTDROC's provider, we do not use the facilities at WTDROC. Due to the depth and complexity of the hardware and software utilized in our Dallas location, we believe that it is necessary to continue our data center operations in Dallas and not move them to WTDROC.

Disaster recovery plans exist for all critical systems and they are tested on an annual, if not more frequent, basis.

Data Center Operations

UT Southwestern houses its computing resources in a data center that is removed from the main university campus. The university's clinical, administrative, networking and telecommunications operations are handled at the data center on a variety of hardware platforms using an even wider variety of software applications. With the exception of some technical representatives of Client Services and Medical Television and Media Services employees, all other Information Resources staff is located at the data center.

Due to the depth and complexity of the hardware and software utilized in our Dallas location, we believe that it is necessary to continue our data center operations in Dallas and not move them to WTDROC.

Compliance With Statewide Information Resources Standards

It is UT Southwestern's policy to comply with DIR statewide IR standards. Below is a summary of our compliance efforts.

SRRPUB01 – Statewide Network Standards – UT Southwestern adheres to TCP/IP standards as listing in the Request for Comments promulgated by the Internet Society.

SRRPUB02 – Building and Campus Wiring Recommendations – All new wiring at UT Southwestern adheres to the ANDI/EIA/TIA standards cited. Existing wiring in some older campus buildings does not now comply with these standards, but is being brought into compliance as we upgrade our existing infrastructure.

SRRPUB03 – IP Address Assignment – The University complies with this standard.

SRRPUB04 – Personal Use of E-Mail & Internet Services – UT Southwestern's policies for personal use of e-mail and Internet services as stated in its Information Security Policy and Procedures Manual are consistent with the policies suggested by DIR.

SRRPUB05 – Video Conferencing Standards – UT Southwestern's videoconferencing does comply with NTSC and ITU standards as recommended by DIR and also with standards regarding the perceptibility of audio and video signals.

SRRPUB06 – Sale or Transfer of Computers and Software – Before a computer is sold or transferred to another department, it is transferred to UT Southwestern's warehouse. The Director of Inventory Control checks each computer that comes into the warehouse. If the computer is bootable, all data files except the operating system are removed in a non-recoverable state. If the computer is not bootable the hard drive are removed and destroyed. The old hard drives are not sold.

SRRPUB07 – Internet Domain Names for Government Entities in Texas – UT Southwestern, as a higher education agency, does use the .edu domain.

SRRPUB08 – Directory and Locator Services – UT Southwestern follows X.500 standards and complies with DIR's recommendations.

SRRPUB09 – The Year 2000 – UT Southwestern participated in and complied with DIR's remediation recommendations and successfully entered the twenty-first century.

SRRPUB10 – Personal Naming Convention – UT Southwestern's employees are assigned an alias from the Human Resources system and comply with the DIR recommendations. There are a few non-employees from affiliated institutions whose names do not comply with this standard because appropriate information is not available, but those users are very small in number.

SRRPUB11 – World Wide Web Design and Coding Guidelines – UT Southwestern Web design does comply with DIR recommendations. The university is rolling out a new site over the next few months and it, too, will be in compliance.

SRRPUB12 – E-Mail and Document Interchange Guidelines – The University does have an SMTP backbone, fully supports MIME encoding of attachments, supports POP3 and IMAP4 delivery, as well as several other delivery methods.

SRRPUB13 – Digital Signatures and Certificate Authority – UT Southwestern’s use of digital signatures and signature authority is very limited. However, the University does comply with DIR recommendations.

SRRPUB14 – Addressing the Problems of Unsolicited Bulk E-Mail/SPAM – UT Southwestern does block unsolicited e-mail and is in compliance with DIR recommendations for handling these types of messages.