2005-2006 :: Cross Applications Systems

1. Mission Statement:

The mission of Cross Applications Systems is to provide essential technology infrastructures for enterprise level and departmental level administrative information systems including systems support services, database support services, storage management services, systems backup services and hardware systems to enable the University and its students, faculty, and staff to achieve the goal of being an outstanding education and research institution.

2. Objectives:

2.1 Implement reliable IT infrastructures & services: Design & maintain infrastructure and environments by installing emergency electric power generation resources and by implementing virtual tape processing systems to improve systems backup services.

2.1.1 Related Strategic Plan Item(s): III-1 Dynamic Change Management

2.1.2 Related Institutional Priority Item(s): SP-8 Reduce Costs

2.2 Implement standardized database environments: Install, manage, and maintain production and test environments for DB2, Oracle, and MS SQL Servers dbms`s. Monitor, tune, and adjust database performance and space utilization parameters to optimize resource utilization and job throughput.

2.2.1 Related Strategic Plan Item(s): III-1 Dynamic Change Management

2.2.2 Related Institutional Priority Item(s):
SP-8 Reduce Costs; COM-2 Protect Enrollment Gains, Access and Student Quality as part of moving toward Tier One Status; CPT-1 Control enrollment expansion; CPT-4 Enhance student diversity

2.2.3 Standards and Associations:
The following Microsoft professional certifications are possessed by DBA staff: MSCA 2003, MCSE 2003, MCSA 2000, MCSE 2000, MCSA Security 2000, MCSE Security 2000, MCDBA, MCP 2000, Security +. Oracle DBA professional certification required for current position is OCP.

3. Measures & Findings:

3.1 Emergency Diesel Generator Analysis:

Analyze need/generate reports relative to emergency diesel generator implementation. (To be completed August 2006)

3.1.1 Success Criteria: Successful installation/implementation of an emergency diesel generator.

3.1.2 Related Objective(s): Implement reliable IT infrastructures & services

3.1.3 Results Related To Success Criteria:
Generator hookups and transfer switching with control systems and a temporary generator have been installed as of July 2006.

3.1.4 Achievement Level: Partially Met

3.1.5 Further Action: Yes

3.2 Tape Backup System Assessment: Assess computer tape inventory and tape backup system performance reports

3.2.1 Success Criteria:
Reduce tape inventory by 75% and reduce tape backup system to accomplish systems backup by 50%. (Accomplish by August 2006.)

3.2.2 Related Objective(s): Implement reliable IT infrastructures & services

3.2.3 Results Related To Success Criteria: Tape inventory was reduced by over 75%. Time to accomplish backup of systems has been reduced by approximately 50% overall.

3.2.4 Achievement Level: Met

3.2.5 Further Action: Yes

3.3 Assess database system performance:

Assess database system performance by reviewing and evaluating performance statistics and reports.

3.3.1 Success Criteria:
Implementation of fully functional database environments sand applications in a production status.

3.3.2 Related Objective(s): Implement standardized database environments

3.3.3 Results Related To Success Criteria:
Fully functional database environments--DB2, Oracle, and SQL Server--have been implemented.

3.3.4 Achievement Level: Met

3.3.5 Further Action: Yes

3.4 Review applications performance reports:
Review reports detailing execution times and throughput quantities for SIS,HR, and FRS applications.

3.4.1 Success Criteria:
Improve performance and execution times for SIS, HR, and FRS systems programs by 10-20%.

3.4.2 Related Objective(s): Implement standardized database environments

3.4.3 Results Related To Success Criteria:
Performance of selected significant SIS, HR, and FRS progams have been improved by a minimum of 20%.

3.4.4 Achievement Level: Met

3.4.5 Further Action: Yes

5. Closing the Loop:

5.1 Install permanent emergency diesel generator: With installation of a permanent generator (now targeted for 11/2006) a reliable emergency power source will be in place to assure continuous operation and availability of administrative computer systems.

5.1.1 Related Objective(s): Implement reliable IT infrastructures & services

5.1.2 Related Measure(s): Emergency Diesel Generator Analysis

5.1.3 Responsible Person: Facilities Management/IR Operations/Systems Manager

5.1.4 Target Date: November 2006

5.1.5 Priority: High Priority

5.2 Implement new tape backup system:
Tape inventory will be reduced further and backup times are expected to be significantly reduced with the implementation of a new current technology tape backup system.

5.2.1 Related Objective(s): Implement reliable IT infrastructures & services

5.2.2 Related Measure(s): Tape Backup System Assessment

5.2.3 Responsible Person: IR/Cross Applications/Systems Manager

5.2.4 Target Date: August 2006

5.2.5 Priority: Medium Priority

5.3 Optimize use of database resources:
Modify systems and programs in order to optimize use of database resources and improve systems performance.

5.3.1 Related Objective(s): Implement standardized database environments

5.3.2 Related Measure(s): Assess database system performance

5.3.3 Responsible Person: IR/Cross Applications unit/DBA staff/Systems Manager

5.3.4 Target Date: Perform monthly as required throughout the year

5.3.5 Priority: Medium Priority

5.4 Improve program execution times:
Modify programs and jobs in order to improve execution times, throughput quantities, and resource utilization.

5.4.1 Related Objective(s): Implement standardized database environments

5.4.2 Related Measure(s): Review applications performance reports

5.4.3 Responsible Person: IR/Cross Applications/DBA staff/Systems Manager

5.4.4 Target Date: Review reports monthly/modify programs. Aug 2006

5.4.5 Priority: Medium Priority

6. Analysis:

6.1 Program/Unit Strengths:

6.1.1 Objectives/Outcomes Exceeded or Met: Significant progress was made over the year in improving the

infrastructure and environment supporting information technology services. Air conditioning systems were augmented. Necessary equipment supporting installation and implementation of an emergency generator was installed. Security and monitor systems were upgraded. A temporary electric generator was installed toward the end of the fiscal year. Planning and analysis for a permanent generator is underway.

Database environments have been continuously monitored and adjusted to optimize system performance. Existing and new programs have been evaluated to assure effective and efficient use of database resources.

6.2 Program / Unit Weakneses:

6.2.1 Objectives / Outcomes Partially or Not Met: Maintenance and improvement of infrastructure and environment is an ongoing process. Continued assessment must occur to assure that infrastructure can support necessary equipment installed to operate increasing numbers of systems and applications. Electric power infrastructure evolution will be a continuous process to improve emergency generation resources and to improve power distribution and uninterruptible power supplies.

Monitoring and management of database performance is a continuous process and new systems and programs will be assessed and modified as necessary to continue to support good systems performance. The evolutionary process includes upgrades of installed database management systems during FY 2007 and FY 2008.

7. Report:

7.1 Executive Summary:
The Cross Applications unit in Information Resources provides various services in support of University administrative functions. These services are fundamental to information technology systems and resources utilized to for business processes and indirectly in support of instructional processes.

7.2 Top 3 Program/Unit Accomplishments: Electric Power infrastructure was enhanced during FY2006:
--Isolation circuitry was updated
--Automatic transfer switch & control systems were installed
--Temporary electric generator was installed
Security and monitoring was improved:
--Security systems were upgraded
--Control management systems were upgraded
--Phyical access controls were improved
Air conditioning systems were upgraded:
--Monitor and control processes were improved
--Capacity was enhanced
Database systems environment was improved:
--DBAs actively reviewed program performance
--New indexing for DB tables was implemented

7.3 Research Activities or Publications: Nothing to report.

7.4 Instructional/Training Activities (presented or received): Nothing to report.

7.5 Public Service:
Staff perform volunteer services for Richardson ISD. Staff perform volunteer services in support of Texas Special Olympics in association with the Richardson Corporate Challenge.

7.6 Other External Activities: Nothing to report.

7.7 Contributions to UTD:
The Cross Applications unit within the Information Resources department provides hardware and software systems and support for the administrative functions of the University. The unit provides a variety of information technology services to the various offices that directly interact with the University constituencies. Specific contributions to the reliability and integrity of the functioning of administrative systems includes upgrading of backup systems and disaster recovery services during the fiscal year.

7.8 Top 3 Program / Unit Challenges:
Rapid changes in the information technology field present challenges to assure that information systems are maintained at a current state of technology in order to optimize systems reliability and redundancy and maximize service availability of the systems.

Primary challenges faced in the intermediate future include

1) Maintaining a reliable physical infrastructure that supports reliability, scalability, and security for systems

2) Providing systems backup services to facilitate disaster recovery efforts in case of emergencies

3) Maintaining current versions of systems software and database software to optimize performance and integrity of systems and related data

4) Providing full service operational support for administrative server systems

5) Maintaining competent staffing levels with appropriate training to meet the challenges of a very dynamic business environment