

Detailed Assessment Report for 2005 - 2006 Cross Applications Systems

MISSION

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.

OUTCOMES/OBJECTIVES

Outcome/Objective 1:

Implement reliable IT infrastructures & services

Full Description:

Design & maintain infrastructure and environments by installing emergency electric power generation resources and by implementing virtual tape processing systems to improve systems backup services.

A Student Learning Outcome? No

Strategic Plan Initiatives:

- [III-1](#): Dynamic Change Management

Institutional Priorities:

- [SP-8](#): Reduce Costs

Related Measures:

- [M. 1](#): Emergency Diesel Generator Analysis
- [M. 2](#): Tape Backup System Assessment

Related Actions:

- [A. 1](#): Install permanent emergency diesel generator
- [A. 2](#): Implement new tape backup system

Outcome/Objective 2:

Implement standardized database environments

Full Description:

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.

A Student Learning Outcome? No

Strategic Plan Initiatives:

- [III-1](#): Dynamic Change Management

Institutional Priorities:

- [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
- [SP-8](#): Reduce Costs

Accreditation Standards:

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.

Related Measures:

- [M. 3](#): Assess database system performance
- [M. 4](#): Review applications performance reports

Related Actions:

- [A. 3](#): Optimize use of database resources
- [A. 4](#): Improve program execution times

MEASURES

Measure 1:

Emergency Diesel Generator Analysis

Measure Full Description:

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

Related Outcome(s)/Objective(s):

- [Obj. 1](#): Implement reliable IT infrastructures & services

Target Level:

Successful installation/implementation of an emergency diesel generator.

Findings:

Generator hookups and transfer switching with control systems and a temporary generator have been installed as of July 2006.

Target Level Achievement: Partially Met

Further Action Planned? Yes

Measure 2:

Tape Backup System Assessment

Measure Full Description:

Assess computer tape inventory and tape backup system performance reports

Related Outcome(s)/Objective(s):

- [Obj. 1:](#) Implement reliable IT infrastructures & services

Target Level:

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

Findings:

Tape inventory was reduced by over 75%. Time to accomplish backup of systems has been reduced by approximately 50% overall.

Target Level Achievement: Met

Further Action Planned? Yes

Measure 3:

Assess database system performance

Measure Full Description:

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

Related Outcome(s)/Objective(s):

- [Obj. 2:](#) Implement standardized database environments

Target Level:

Implementation of fully functional database environments and applications in a production status.

Findings:

Fully functional database environments--DB2, Oracle, and SQL Server--have been implemented.

Target Level Achievement: Met

Further Action Planned? Yes

Measure 4:

Review applications performance reports

Measure Full Description:

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

Related Outcome(s)/Objective(s):

- [Obj. 2:](#) Implement standardized database environments

Target Level:

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

Findings:

Performance of selected significant SIS, HR, and FRS programs have been improved by a minimum of 20%.

Target Level Achievement: Met

Further Action Planned? Yes

ACTIONS

Action 1:

Install permanent emergency diesel generator

Full Description

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.

Related Objectives:

- [Obj. 1:](#) Implement reliable IT infrastructures & services

Related Measures:

- [M. 1:](#) Emergency Diesel Generator Analysis

Person/group responsible for the action

Facilities Management/IR
Operations/Systems Manager

Target date to implement the action

November 2006

Priority

High

Additional resources

Additional funding required as identified in study conducted by Facilities Management.

Action 2:

Implement new tape backup system

Full Description

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.

Related Objectives:

- [Obj. 1:](#) Implement reliable IT infrastructures & services

Related Measures:

- [M. 2:](#) Tape Backup System Assessment

Person/group responsible for the action

IR/Cross Applications/Systems Manager

Target date to implement the action

August 2006

Priority

Med

Additional resources

Tape backup system implementation requires acquisition and installation of backup agents on each server that will be integrated into the backup environment.

Action 3:

Optimize use of database resources

Full Description

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

Related Objectives:

- [Obj. 2](#): Implement standardized database environments

Related Measures:

- [M. 3](#): Assess database system performance

Person/group responsible for the action

IR/Cross Applications unit/DBA staff/Systems Manager

Target date to implement the action

Perform monthly as required throughout the year

Priority

Med

Additional resources

Applications development staff resources may be required periodically in order to revise programs and systems to improve utilization of dbms resources.

Action 4:

Improve program execution times

Full Description

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

Related Objectives:

- [Obj. 2](#): Implement standardized database environments

Related Measures:

- [M. 4](#): Review applications performance reports

Person/group responsible for the action

IR/Cross Applications/DBA staff/Systems Manager

Target date to implement the action

Review reports monthly/modify programs.
Aug 2006

Priority

Med

Additional resources

Applications development staff resources will be required to accomplish program modifications to improve performance.

ANALYSIS

Strength

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.

Attention Needed

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.

ANNUAL REPORT

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.

Contributions to the Institution

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.

Highlights

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 --Physical 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

Teaching Activities

Nothing to report.

Research and Scholarly Activities

Nothing to report.

Public/Community 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.

International Activities

Nothing to report.

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