

**Drake University
Computer Information Systems
Database Backup and Recovery
Policy and Procedures**

This document describes how database backup policies and procedures are applied to the application environments.

Applications covered under this procedure are:

DUSIS which includes: SCT Banner including Self Service, Bookshelf and Online Help, SCT Banner Xtender Solutions, SCT Workflow, Eprint

Luminis which includes: SCT Luminis Content Management System, SCT Luminis Platform System

AdAstra Room Scheduling

RDBMS and Applications servers such as Oracle, Oracle Application Server, MicroSoft SQLServer.

Backups

Backups are performed to mitigate the risks associated with data loss and system downtime that could result from the corruption of data, programs or operating systems. Database backups to disk are the responsibility of the DBA.

Standby Mirror Database for DUSIS

The PROD database running on ODBS is mirrored by PRDS running on OBACKUP. PRDS is a Physical Standby database maintained by the Oracle Data Guard. Every time PROD writes an archived redo log it sends the log to PRDS which duplicates all changes. The maximum time between logs is set to 15 minutes.

DUSIS, Luminis Platform and Luminis CMS Database Disk Backups - ORACLE

The database production instances are backed up on disk every night. Three forms of disk backup are used:

1. RMAN backup to local disk
2. Full export backup (DUSIS PROD only) to local disk and OBACKUP
3. Avamar backup of local disk to Hubbell

Disk backups are scheduled through the Cron automated scheduler on the ODBS server. DBAs are responsible for ensuring that the backups are set to run each night and ensuring that the backup has run successfully on the following morning. Should the backup procedure fail, the DBA will take corrective action.

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Backups by Instance:

A Cron job runs between 12:30 and 2:00 AM seven days a week to backup production instances to disk. The previous night's copy is compressed and moved to a 'oneback' directory where the latest nine compressed copies are kept, and a new backup copy is created. The following is a list of the instances with their source and backup directories.

PROD (nightly):

server	odbs
database files	/udisk/u05/oradata/PROD
backup	/udisk/u05/oradata/PROD_backup
archivelogs	/udisk/u01/app/oracle/adminPROD/arch
initPROD.ora	/udisk/u01/app/oracle/adminPROD/pfile
prod_ora_NNNN.trc	/usr/u01/app/oracle/admin/PROD/udump
oraenv	/usr/local/bin/oraenv
listener init file	\$ORACLE_HOME/network/admin/listener.ora
oratab	/var/opt/oracle/oratab
tnsnames file	\$ORACLE_HOME/network/admin/tnsnames.ora

BLUE (nightly):

server	odbs
database files	/udisk/u05/oradata/BLUE
backup	/udisk/u05/oradata/BLUE_backup
archivelogs	/udisk/u01/app/oracle/adminBLUE/arch
initPROD.ora	/udisk/u01/app/oracle/adminBLUE/pfile
prod_ora_NNNN.trc	/usr/u01/app/oracle/admin/BLUE/udump
oraenv	/usr/local/bin/oraenv
listener init file	\$ORACLE_HOME/network/admin/listener.ora
oratab	/var/opt/oracle/oratab
tnsnames file	\$ORACLE_HOME/network/admin/tnsnames.ora

PCMS (nightly):

server	odbs
database files	/udisk/u05/oradata/PCMS
backup	/udisk/u05/oradata/PCMS_backup
archivelogs	/udisk/u01/app/oracle/adminPCMS/arch
initPROD.ora	/udisk/u01/app/oracle/adminPCMS/pfile
prod_ora_NNNN.trc	/usr/u01/app/oracle/admin/PCMS/udump
oraenv	/usr/local/bin/oraenv
listener init file	\$ORACLE_HOME/network/admin/listener.ora
oratab	/var/opt/oracle/oratab

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tnsnames file \$ORACLE_HOME/network/admin/tnsnames.ora

Retention Of DUSIS Backups

Type	Frequency	Retention Period
Disk - full export	Nightly	7 days
Disk – rman	Nightly	1 day

Astra Database Backups - SQLServer

An application specific backup is performed every nightly at 11:00 p.m. that exports the data to d:\AstraScheduleServer6\backtemp for the most recent backup and an .mdk file in the AstraScheduleServer6 director for the 7 days. This is in turn backed up by Avamar. Backups should be purged by the DBA on a regular basis so that 1 week is kept on the server.

Blackboard Database Backups - SQLServer

The Blackboard database is backed up to disk nightly at 3:00 a.m. and copied to the test server in jewt. This is in turn backed up by Avamar. 2 nights of backups are kept on the production server. Only the most recent backup is kept on the jewt server.

Recovery

Recovery of data is only performed in the event of corruption.

Backup and Recovery Testing

Regular testing will occur to demonstrate the ability to recover from disruption of normal operation. On a monthly basis, the DBA will emulate a complete restore of the production database by recreating the test environment database instances from a production disk backup.