# Incident Report - January 15, 2013
## Incident #2013-0002

## Summary

On Tuesday, January 15, 2013, at 7:36 AM, an Oracle database server failed to restart during the restoration of services following a scheduled morning change control to clear a reported motherboard fault.

The scheduled work was performed by an Oracle field engineer. When attempting to re-start the database after the motherboard fault was cleared, we received an error that a data file needed recovery.

The database server provides resources for the following services, which were then unavailable due to the fault:

➢ Queen's Events Calendar
➢ NetID Identity Management System
➢ Queen's Wiki
➢ QShare
➢ JIRA

Service was restored to all applications except QShare by 11:18 AM. QShare was restored at 3:26 PM.

## Root Cause

The data file was incorrectly configured as a backup. Historical log files did track a warning.

## Resolution

The database administrators (DBAs) performed a complete backup of the database in its existing state in case actions taken to repair the problem did not work. The data file in question was part of the QShare application schema. The file was isolated from the database, and all other application schemas except QShare were successfully restarted.

Application administrators tried to restore and recover the QShare schema but could not. Therefore, a secondary backup of the database (an export of all the data) was used to re-create the QShare schema as of 4:30 AM. With this resolution, any updates or changes made on the system between 4:30 and 6:30 AM were at risk of being lost. However, application logs and the file system were checked for "write" operations and none were found after 2:30 AM. Therefore, no data was in fact lost.

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## Communications (Internal)

➢ Change control processes were followed for the scheduled hardware replacement. All notifications were delivered.

➢ Paging notified other systems staff not involved in the resolution that there was a problem.

➢ Application administrators were notified when the services were restored.

➢ The CIO was updated verbally by the Infrastructure Manager.

## Communications (External)

Service notifications were posted as the problem was identified and the resolution progressed:

➢ 7:36 AM – Initial notification of problem – failure to restart within the estimated one hour work window

➢ 8:53 AM – Updated notice posted with a revised restoration ETA of 11:00 AM

➢ 11:18 AM – Notification that all services except QShare were available and issue closed

➢ 11:19 AM – QShare outage notification posted

➢ 3:26 PM – QShare restored notification posted

## Lessons Learned

Future shutdowns of critical databases (PeopleSoft, UIS-Oracle, QShare) should be done by a DBA. System administrators may not recognize the warnings produced at shutdown as something to be alarmed about. In this case, the shutdown procedure appeared to continue successfully and produced positive messages of processes working as designed.

## Recommendations

For scheduled maintenance that requires shutdown of Oracle databases, a DBA will be scheduled whenever possible.