



City of Albuquerque

Office of Internal Audit

FOLLOW-UP OF DISASTER RECOVERY PLAN AUDIT
DEPARTMENT OF FINANCE AND ADMINISTRATIVE SERVICES
(DFAS)
AUDIT #13-101
April 22, 2014

INTRODUCTION

The Office of Internal Audit (OIA) performed a follow-up of Audit No. 13-101, Disaster Recovery Plan – Department of Finance and Administrative Services (DFAS). This follow-up is to report on the progress made by DFAS in addressing our findings and recommendations. Our follow-up procedures rely on the department providing the status of the audit recommendations.

We limited the scope of our follow-up procedures to actions taken to address the recommendations from February 20, 2013 through April 21, 2014. Follow-up procedures rely on the department providing the current status and supporting documentation for addressing the recommendations.

Follow-up procedures are not an audit and are substantially less in scope than an audit. The objective is to report on the status of corrective action in regard to the recommendations.

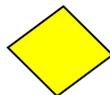
DFAS management was helpful and responsive to our request for status reports and supporting documentation.

SUMMARY

The recommendations are in the same order as they appeared in the audit report dated February 20, 2013. The status of the recommendations are identified by the symbols in the following legend:



Fully Implemented



In Process

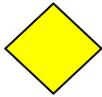


Not implemented

Four of the recommendations are fully implemented and the remaining three recommendations are in process as detailed below.

Recommendation #1: DFAS, ITSD should:

- Update the DR Plan documentation to include recovery instructions for all Tier 1 applications.
- Work with other City departments to obtain recovery steps for applications that failover to the main datacenter.
- Ensure that plan documentation contains current hardware requirements, physical locations of the underlying systems, and contact information for system administrators.



In Process

Status: DFAS stated that

- ITSD has updated the DR Plan for all but one of the Tier 1 applications. The excepted application is scheduled for an upgrade in August 2014, and a DR test is pending this update.
- ITSD is working on a consolidation project with outlying datacenters as the first step for other departments to achieve failover capabilities.
- ITSD now updates the physical locations monthly, publishes them internally, and displays them in ITSD's datacenter.

Recommendation #2: DFAS, ITSD should relocate servers supporting Tier 1 critical services, internal services and applications from the secondary to the primary hot site.



Fully Implemented

Status: ITSD has moved or retired Tier 1 servers from the secondary hot site. ITSD provided revised rack configuration lists indicating that no Tier 1 servers were in operation at the secondary hot site.

Recommendation #3: DFAS, ITSD should:

- Develop an emergency procurement procedure to expedite purchases of IT equipment in the event of a disaster declaration.
- Define conditions under which the procedure is activated.



Fully Implemented

Status: ITSD has added an emergency procurement procedure to the DR Plan. The procedure follows the City procurement code, and allows the department director or CIO to authorize purchases in case of an emergency.

Recommendation #4: DFAS, ITSD should implement a quarterly review of the ITSD Disaster Recovery Organization Chart and ITSD Contact Lists for Disaster Recovery. The review process should analyze recovery team responsibilities that may have changed as well as contacting recovery team members to verify accuracy of contact information.



Fully Implemented

Status: ITSD now reviews the DR organizational chart quarterly and when staff leave or are hired. The ITSD Contact Lists for Disaster Recovery are updated as staff leave or as they are hired.

Recommendation #5: DFAS, ITSD should periodically test the emergency management team's ability to adapt to unplanned situations by conducting tabletop exercises and/or recovery drills. Training sessions should present recovery personnel with previously unannounced hypothetical disasters and challenge the team to develop an appropriate recovery plan based on the current DR documentation and team knowledge.



In Process

Status: DFAS stated that ITSD has created table top testing scenarios. ITSD provided a sample scenario, which appeared suitable for a DR recovery exercise. However, at the time of this follow-up, an actual exercise has not yet been conducted.

Recommendation #6: DFAS, ITSD should schedule a recovery test from backup media annually. Testing should be formally documented and have a predetermined objective. The test should verify the integrity of backup media by restoring an entire server or entire application and related databases from archived backups. The restored media should be compared against the production system to ensure functionality and verify data integrity.

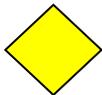


Fully Implemented

Status: DFAS stated that ITSD has created a test readiness review, and subsequently conducted a DR test on data backup. OIA was provided copies of the test readiness review and backup test. The backup test included data restoration and validation procedures and was conducted in November 2013 with a passing result.

Recommendation #7: DFAS, ITSD should:

- Review and update DR plan documentation on an annual basis.
- Updates should incorporate changes in underlying systems and recovery procedures.
- Include a reassessment of the critical applications list and recovery sequence in the annual review.
- State the maintenance interval standards in future versions of the DR Plan.



In Process

Status: ITSD has scheduled the fourth quarter (April through June) of each fiscal year for the review and update of all DR documentation. The new revision was in process, pending documentation for one Tier 1 application (noted in response to Recommendation #1, above).