

CU*ANSWERS ITEM PROCESSING DISASTER RECOVERY TEST REVIEW

Event Date(s): 8/13/2018 – 8/14/2018

Report Revision Date: 8/17/2018

SUMMARY

CU*Answers actively tests its business continuity plans to ensure validation of procedures for restoring critical processes and to identify opportunities to improve recovery efforts and minimize the impact of disruptions to the organization and its stakeholders.

During the week of August 13, 2018, team members from the CU*Answers Item Processing department completed a disaster recovery test of the Electronic Check Processing environment by restoring the CheckLogic Manager application and database servers at the secondary data center located in Grand Rapids, MI while staff performed critical business functions from test workstations located at the Muskegon office site.

In previous recovery tests, data replication (for the CheckLogic application) between servers at the primary and secondary data centers was suspended to allow Item Processing staff to “replay” the events of a typical day to ensure the processes on the servers in the test environment performed as those in the production environment.

A different approach was used for the 2018 test. This time, a snapshot of the data volume on the SAN (Storage Area Network) at the secondary data center was “cloned” each morning and copied to a test volume so that recovered servers could perform their daily tasks without the need to disrupt data replication in the production environment.

This recovery test was performed parallel with the production environment with minimal impact to clients, by members of the Item Processing and Network Services (CNS) support teams. This report identifies the details of the test, challenges observed, lessons learned, and recommendations for consideration based on the results of this exercise.

EVENT REVIEW

The existing production CheckLogic environment includes data volumes hosted on a SAN located at the primary production data center in Kentwood, MI with data replicated to a redundant SAN at the secondary facility in Grand Rapids. For this test, the application servers were cloned (virtualized) in a sandboxed environment at the secondary facility with drives mapped to snapshots of the data volumes on the backup SAN. Servers were configured to communicate with other systems in the test environment by manually changing host lookup tables and application INI files.

Network Services participants restored the application servers and cloned the data volume required for the test on the morning of August 13th. Item Processing staff performed their testing on both the 13th and the 14th.

Item Processing staff participated in testing individual components of the CheckLogic application and performed the critical IP functions listed below. All identified functions were completed successfully with minimal challenges or issues.

The Item Processing business critical functions identified for this test included:

- Download Electronic Check Processing (ECP) files from FRB
- Import ECP files using Fed Admin
- Perform repairs on the rejected images
- Compare individual client totals and reports with FRB totals
- Generate and submit transmission files for online clients and each off-line client representing all delivery channels (CUAPROD, GoAnywhere/SFTP, etc.)
- Download chargeback files from FRB
- Process pay/no-pay decisions on chargebacks
- View and print Image Replacement Documents (IRD) created for chargebacks
- Receive, import and balance online return file
- Create and submit stacked return file
- Generate daily reports
- Deliver posting file to one offline client

Item Processing Team participants operated from the primary production datacenter while accessing workstations in the recovery test environment at the secondary datacenter using remote access tools.

CHALLENGES

Many of the documented challenges below are the result of efforts to perform a recovery test parallel with the production environment (no downtime for clients). In an actual disaster recovery effort (recovering the production environment), most of these challenges would not exist.

1. The week prior to performing the test, it was discovered that the remote test workstation at the Muskegon facility had been replaced as part of the IT assess lease renewal.
 - a. This required support personnel to install the appropriate applications and configurations for completion of the test.
 - b. Moving forward, a member of the Item Processing Team will confirm the ability to login on the remote test PC on a monthly basis to ensure access and configuration settings for use during a test or an actual disaster scenario.
2. Test users were not able to print the created Image Replacement Documents for chargebacks.
 - a. This was due to the printer not configured on the test PC (considered a non-issue since the credit union themselves print these documents in normal operations).
3. During the Chargeback Import process, email notifications were sent to the credit unions from the test environment. These notifications were duplicates of those generated by the production environment.

- a. Credit unions who received the duplicate notifications were informed of the reason and instructed to disregard.
 - b. For future testing, teams will look to disable or redirect notifications from the test environment to avoid any potential confusion.
4. On the second day of the test, users received a socket error message when attempting to connect to the server.
 - a. By default, the services are not enabled on the restored (test) server to avoid potential data crossover with the production environment. Once services were started, testing was performed successfully.

CONTINUING EFFORTS AND RECOMMENDATIONS

1. Key benefits of performing recovery tests are the experience gained and lessons learned when combined with previous exercises. That knowledge is rolled into updated documentation so that teams are even better prepared should an actual future disruption occur.
 - a. The knowledge gained benefits not only the application support teams but also the software development teams. This new information will be documented and disseminated among support teams.
2. By reconfiguring the individual components that make up the complex CheckLogic Manager environment to function parallel to the production environment, new insights into the process flow and system interdependencies is gained.
 - a. Teams will compare notes and seek areas to improve the design and use of the application for the benefit of all.
3. For the purpose of this recovery test, identified functions were limited to internal activities performed by Item Processing staff.
 - a. Future recovery tests will include processes that are normally performed by external clients who access the application through the CheckLogic web server pool. Due to access restrictions to the test environment, these client-facing tasks will be performed by internal staff.