

## CU\*ANSWERS ITEM PROCESSING DISASTER RECOVERY TEST REVIEW

Event Date(s): 8/12/2019 – 8/15/2019

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### 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 12, 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 (remotely) from test workstations located at the Muskegon office site.

For the purpose of this test, 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.

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. Prior to each day of testing, data replication was suspended to allow participants time to perform the steps as outlined on the recovery checklist on the secondary servers and match the results with the production servers.

Servers were configured to communicate with other systems in the test environment by manually changing host lookup tables and application INI files. At the end of each day, replication was restarted to allow the secondary servers to resynchronize with live production data.

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. After running the FedImporter process in the test server, participants were able to see the In-Clearing and Chargeback Return files from the production server, and not the test server.
  - a. This was due to an improperly configured localhost entry on the test server (showing that of the production server). Once this was corrected, the process was run manually and completed successfully.
2. As a result of running the Chargeback Importer process manually, notifications were sent from the test server, duplicating the notifications that were sent earlier in the day from the production server.
  - a. Credit unions who received duplicate notifications were informed of the recovery testing that was underway.
3. During the recovery test, support staff monitored limited available disk space as the production environment has continued to grow in the amount of data stored.

- a. This would not be an issue during an actual recovery effort. It is due to the space required to create the temporary test environment parallel to production. For future tests, alternate options will be evaluated to accommodate the storage needs.

## 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 consider 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 are performed by internal staff.