

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

Event Date(s): 3/7/2022 – 3/8/2022

Report Revision Date: 3/23/2022

### SUMMARY

CU\*Answers regularly tests its business continuity and contingency plans to ensure validation of procedures for restoring critical processes and to identify opportunities to improve recovery efforts. The goal of these exercises is to ultimately minimize the impact of disruptions to the organization and the credit unions it serves.

On the week of March 7, 2022, team members from the CU\*Answers Item Processing department participated in 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. Staff then performed critical business functions using remote virtual desktops to simulate the loss of the primary office workspace.

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. The test is spread among two days with a focus on in-clearing transactions on the first day and returns on those same transactions the second day.

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
- Balance in-clearings to FRB totals
- Generate comparison and in-clearing reports
- 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
- Create posting files
- Deliver posting file to CU\*NorthWest, Ops

Item Processing Team participants accessed the recovered servers in the test environment using virtual desktop technologies to simulate the loss of primary office workspace.

## CHALLENGES

Challenges can be expected when conducting any recovery test parallel with the production environment (with the goal of no disruptions for clients). More planning is involved with keeping the environments separated than in conducting the recovery itself. In an actual disaster recovery scenario (recovering the production environment), most of the challenges typically observed would likely not exist.

1. The 2022 Item Processing recovery test was originally scheduled for the week of February 14. The server restoration start time did not allow a large enough window for test participants to complete the lengthy list of critical function activities.
  - a. After the second day, teams from all parties involved regrouped to add clarity to the scope of the test and requirement for two full days of processing. The test was rescheduled for the week of March 7.
  - b. To accommodate this requirement, server restoration in the test environment was launched during the early morning hours so that participants could begin at the start of the normal shift.
  - c. Future Item Processing Recovery Tests will include a kick-off meeting to ensure all requirements and scope are understood by all parties. Each year, alternating team members are included for cross-training and succession planning purposes.

2. There was an error for one credit union that was involved in a merger during the time between the original February test and March test. The INI file configuration was not updated for the second test.
  - a. Would likely have not been an issue if the recovery test was conducted during the first attempt.
  - b. Documentation will be updated to double-check all INI file configurations in future tests.
3. A manual process was required to move the CU\*Answers and Site-Four FedCore return files from the GoAnywhere server to the restored CheckLogic server in the test environment. This is a safety precaution to mitigate the risk of test data blending with production traffic.

## 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.