

CU*ANSWERS ITEM PROCESSING DISASTER RECOVERY TEST REVIEW

Event Date(s): 3/6/2023 – 3/7/2023

Report Revision Date: 3/14/2023

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 6, 2023, 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.)
- Balance in-clearings to FRB totals
- Generate comparison and in-clearing reports
- Receive, import, and balance online return file
- Create and submit stacked return file
- Generate daily reports
- Create posting files
- Deliver posting file to CU*Answer and Site-Four Operations (CU*NorthWest/ CU*SOUTH)

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.

Challenges during this recovery test included:

1. As noted above, planning recovery tests parallel to production is a time-consuming process. As the complexity of the environment and amount of data involved increases, so does the amount of time needed to create the environment.
 - a. Multiple teams were involved across two shifts for the setup and teardown of the test servers to accommodate a full production run of all critical business activities for the Item Processing Team.
2. On day one, test participants received an error when attempting to run the FedImporter utility on the application server prohibiting file imports.
 - a. The error was due to recent changes related to the positive pay feature on the production servers that were not implemented on the secondary servers. Copying over these changes from the DocLogic application folder corrected the problem.
3. On day two, test participants were required to manually send FedCore Response files (Returns) generated on the restored servers for both CU*Answers and Site-Four (CU*SOUTH and CU*NorthWest) platforms.

- a. As mentioned in previous recovery test reports, the service that monitors the appropriate folders for sending FRB returns is temporarily disabled during recovery exercises to mitigate the risk of test data blending in with production traffic.
 - i. Return results were correctly received from the vendor for all files submitted manually, assuring completion of the task.

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.