

CU*ANSWERS ITEM PROCESSING DISASTER RECOVERY TEST REVIEW

Event Date(s): 4/22/2024 – 4/26/2024

Report Revision Date: 4/30/2024

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 minimize the impact of disruptions to the organization and to the credit unions it serves.

During the week of April 22, 2024, 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, ensuring the processes on the servers in the test environment performed as those in the production environment.

Recovery teams ran into an issue early on day one (4/22) where configurations on the standby servers at the secondary data center did not match the production servers. In the time since the previous recovery test, all servers received an operating system upgrade. Rather than a prolonged period without data replication, the decision was made to postpone the recovery test for 24 hours to allow teams to reconfigure the standby servers and start again on day two (4/23). This proved to be a successful move with all tests completing within the expected time period.

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 electronic check processing 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 electronic check processing process 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 files
- Create 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 faced during this recovery test:

1. Due to recent server operating system upgrades, configuration files essential to the process were missing on the standby servers at the secondary data center. The time it took to update/install the missing files did not meet the target start time of 11:30AM. Rather than expose the production system to a prolonged period without data replication, the decision was made to postpone the recover test until the following morning.
2. Recover test participants were not able to run the FedImporter tool due to a missing DLL file on the secondary APP server. Multiple teams worked to identify the error and correct the issue to enable completion of the test process.
 - a. The cause of the missing file was related to the recent server operating system upgrades. Yet another valid reason for conducting regular recovery tests.

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.

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 are 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 web server pool. Due to access restrictions to the test environment, these client-facing tasks are performed by internal staff.