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## **SITE-FOUR HIGH AVAILABILITY PROGRAM REVIEW**

**EVENT DATE(S): 11.6.2022 - 11.13.2022**

### **SUMMARY:**

As part of an ongoing business continuity program, CU\*NorthWest, CU\*SOUTH and Site-Four actively maintain a high-availability (HA) core-processing environment with real-time CU\*Base/GOLD data replication between identical servers located at two geographically dispersed, state-of-the-art datacenters. Recurring, biannual, HA rollover events are scheduled in the Spring and Fall every year, where core-processing and Operations are redirected to our secondary/backup datacenter (located in Kentwood, MI) for seven business days as part of an active and constantly evolving business continuity program. At the completion of each event, core-processing is then redirected back to the primary datacenter, location in Yankton, SD. These rollover exercises are an invaluable part of our business continuity program, testing and confirming our recovery processing readiness and ensuring the ongoing availability of our CU\*Base/GOLD core processing environment.

These events are a vital component of the Site-Four value proposition, and Site-Four encourages that these results be shared with all stakeholders. This level of commitment and reliability is above par and should be shared in the board rooms for client credit unions.

This rollover to the Kentwood, MI system was performed on November 6<sup>th</sup>, 2022. Preparations began at 9:45PM CT and the system was brought down at 9:55PM in preparation for the roll. The actual rollover process began at 10:06PM CT and was completed at 11:16PM CT, with all post-rollover testing completed by 11:59PM CT. The roll back to the Yankton facility was performed on Sunday, November 13<sup>th</sup>, 2022. Preparations began at 9:15PM CT and the system was taken offline at 9:50PM CT. The roll began at 10:00 PM CT and was complete at 10:59 PM CT. Core processing of CU\*BASE/GOLD transferred back to the primary system in Yankton, SD and all post-roll checks complete by 11:49 PM CT.

This event was performed through the combined efforts of Site-Four, CU\*Northwest, CU\*SOUTH, and CU\*Answers as part of an ongoing reciprocal HA colocation agreement with CU\*Answers. This arrangement was originally created in 2014 as a proactive measure to minimize disruptions at credit union branch locations across the CU\* network. The Group Providers announce these planned events and firmly encourage credit unions to do network testing to assess their connectivity to the secondary data center in advance of the rollover. This allows us to minimize issues attendant to the role-swap exercise.

As highlighted in this report, the mutual colocation agreement between Site-Four and CU\*Answers not only includes shared facility space within a state-of-the-art data center, but also network and operations support throughout the rollover event. The end goal in this agreement is to provide seamless support and ensure a high and practiced level of readiness. This allows the party experiencing the disaster time to focus on recovery and resumption while the unaffected partner oversees daily operations from the high-availability data center site.

The following sections review details, challenges encountered, lessons learned, and recommendations for consideration following this rollover exercise event.

### **EVENT DETAILS:**

On the evening of Sunday, November 6<sup>th</sup>, 2022, at 9:45PM CT the event began and at 9:55PM the recovery team brought CU\*BASE/GOLD offline and began the role-swap process to redirect Site-Four core-processing from the production system in Yankton, SD to the high availability system in Kentwood, MI. The roll began at 10:06PM CT and during the rollover process, a "splash-page" for online mobile banking was displayed to alert members that system maintenance was being performed. After completion of the rollover, communications were brought back online, and all processes were verified. CU\*BASE/GOLD was back online by 11:16PM CT. Additional audits were performed afterwards with all post-rollover testing completed by 11:59PM CT.

The roll back to the Yankton facility was performed on Sunday, November 13<sup>th</sup>, 2022. Preparations began at 9:15PM CT and the system was taken offline at 9:50PM CT. The roll began at 10:00 PM CT and was complete at 10:59 PM CT. All processes were verified, communications were established, and CU\*BASE/GOLD was back online with all post-roll checks complete by 11:49PM CT.

## CHALLENGES:

As we continue to expand and improve our products and services to a growing client network, systems and environments experience an increased number of changes at a very rapid pace. Performing these rollover exercises in a planned, controlled setting during non-peak business hours is a deliberate investment to prepare for an actual crisis. It is the position of Site-Four that any role-swap event which does not reveal any issues is regarded as a missed opportunity to learn and improve.

Immediately following the rollover on 11.6.22, the ISOFISB switch (Transfund) would not come back online. Operations staff had to coordinate with the FIS monitoring center to cycle the FISB switch on both ends in order to bring this switch online.

On Monday evening, Site-Four began experiencing connection instability between the Yankton, SD and Kentwood Mi facilities. This was causing EFT communications to drop into Stand-In and GOLD sessions to disconnect. Site-Four immediately contacted the ISP and firewall support teams. It was eventually discovered that when the VPN was connected through the SDN Communications ISP, we were getting traffic corruption introduced on the Internet somewhere between CenturyLink in Michigan and the SDN in Yankton. This would cause the VPN to drop and renegotiate the connect, sometimes as often as every 30 minutes. Originally, we saw this as the connection bouncing back and forth between service providers in Yankton so we began the process of isolating the traffic to a single provider to test them individually. This issue was resolved on Wednesday morning when it was determined that locking the VPN to utilize our Midco Communications ISP eliminated the corruption and allowed the connection to stabilize.

Ongoing, residual issues continued as connectivity issues were not conveyed back to the Site-Four staff and assuming the original issue was still causing problems. Once this was discovered, we were able to manually cycle the switches affected and eliminate the ongoing issues.

After coming back up from the roll back on 11.13.22 there were no issues bringing communications back online, but due to DNS caching, the Yankton host was unable to start the DDM Server System. It would not update the IP address of the production host from the DNS servers but continued to pull the outdated data from the DNS cache. This caused the Integrated File System (IFS) to be unavailable. Once it was determined what was happening, the admin team was able to research the solution and bring the server fully online.

During the roll event, a couple of new tools were put to the test. The ISO Monitor which watches the EFT subsystems is being modified to use NETSTAT functionality to further enhance our ability to detect subsystem instability. The newly updated Subsystem Dashboard was also utilized for managing subsystems during the roll. Some issues were encountered, but the cause of these issues were identified and resolved, further improving our ability to streamline the rollover process.

## CONTINUING EFFORTS AND RECOMMENDATIONS:

Each recovery test and high-availability rollover exercise provides us the opportunity to improve the process, expand capabilities, and adjust procedures as the production environment changes. The best way to accomplish this is to execute, document, and improve in regular iterations. The best way to be ready for a disaster is to practice.

CU\*NorthWest staff assisted on all roll-over processing from start to finish, including making networking changes. Having multiple personnel with hands-on experience performing our roll-over processes provides an additional level of redundancy that furthers our efforts to show continual improvement.

Overall, this was an excellent rollover event despite the issues encountered. These rollover exercises continue to show improvement and validate the work being done to streamline the process. With each scheduled rollover event we perform, we ensure that even an unscheduled incident will run smooth and efficient.

Respectfully,



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