SITE-FOUR HIGH AVAILABILITY PROGRAM REVIEW
EVENT DATE(S): 03/10/2019 – 03/18/2019

SUMMARY:

As part of an ongoing business continuity program, Site-Four, LLC actively maintains 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. Regular HA rollover events are scheduled to redirect core-processing and operations to the secondary/backup datacenter (located in Kentwood, MI) for up to seven business days. At the completion of each event, core-processing is redirected back to the primary location (located in Yankton, SD). These rollover exercises are an invaluable part of business continuity testing and recovery processing readiness and ensure the ongoing availability of CU*Base/GOLD core processing.

The initial role-swap to the Kentwood, MI HA system took place on the evening of Sunday, 03/10/19 and began at 10:00pm CT. The rollover itself was completed at 10:48pm CT. The rollover event was scheduled through Wednesday, March 13, but was extended and completed on Monday March 18 at which time the core processing of CU*BASE/GOLD was transferred back to the primary system in Yankton, SD.

This event was performed with the collaboration of recovery teams from Site-Four, CU*Northwest, CU*South, and CU*Answers as part of an ongoing reciprocal HA colocation agreement with CU*Answers begun in 2014. As a proactive measure and to minimize disruptions at credit union branch locations, the Group Providers announced this planned event and firmly encouraged credit unions to test their connectivity to the secondary data center in advance of the rollover.

Notable characteristics regarding this rollover event include:

- Inclement weather led to flooding conditions in Yankton which threatened extended localized power outages and potential interruptions to communications at the time scheduled for roll-back.

- The process of transferring third-party connections to redundant connections during the rollovers is being expanded.

- This was to be the last mid-week roll-back and became, in fact, the first full week-plus rollover.

- First rollover using new DNS provider.

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 a level of readiness that allows the party experiencing the disaster time to focus on recovery and resumption while the unaffected party oversees daily operations from the high-availability data center.

The following sections identify other details, challenges observed, lessons learned, and recommendations for consideration.

EVENT DETAILS:

On the evening of March 10 beginning at 10:00pm CT, 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. During the rollover process, a "splash-page" for online mobile banking was displayed to alert members that system maintenance was being performed. CU*BASE/GOLD was back online by 10:48pm CT. All communications issues with vendors resolved by 10:47pm CT.

The rollback was scheduled for Wednesday March 13 but because of inclement weather conditions and the potential for power outages in the Yankton area, the transfer was instead completed on Monday, March 18 beginning at 10:03pm CT to redirect core-processing back to the primary production server in Yankton, SD to complete the rollover event. CU*BASE/GOLD was back online at 10:58pm CT with all issues resolved by 11:10pm 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 small investment to better prepare for a situation that is less ideal. It is the position of Site-Four that any rollover which does not uncover any issues is a missed opportunity to learn and improve. In the case of this rollover, the preparation paid dividends in our capability to be flexible in timing and in consistently expanding business continuity capabilities.

The most significant aspect of this particular rollover event was the weather conditions at the scheduled time for the rollback. Yankton, at that time, was experiencing torrential rains resulting in local flooding. The afternoon prior to the rollback, Site-Four was cutting over to generator occasionally as there were occasional power outages and street flooding. Because of regular testing and confidence in our BCRS capabilities, the decision was made that afternoon to hold off on reverting back to the primary system in Yankton. While a Sunday rollback was then an option, it was felt that because the weather might continue to be an issue and because coordination for an unscheduled rollback on a weekend would be an unnecessary challenge, the roll-back was postponed until Monday night, March 18. The rollback was conducted quickly and cleanly on Monday night.

Due to the unexpected extension to the planned rollover event, it offered an opportunity to contact vendors supplying EFT services to Site-Four to verify the connections to the HA location. In doing so, it was determined that the CO-OP vendor offered a conversion to a multipath connection accepting traffic from either location. It was decided to take advantage of this opportunity to add the CO-OP EFT connection to the rollover event.
- Attempted connection with CO-OP on Wednesday night 3/13 failed because of routing issues. These were resolved and on the night 3/14, the connection was moved to the recovery connection at 10:18pm CT. The cutover operation took approximately twelve minutes. The transfer to the regular production connection on rollback went smoothly.
- Additional vendors will be included in all future rollover tests to confirm the ability to maintain communications in the event of a Site-Wide outage. With the extended rollover timeframes for future events, we will have adequate time and opportunity to work with the individual vendors to minimize interruptions and have access to vendor support staff.

All third parties recovered within 10 minutes on rollback without need for Site-Four to contact them.

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.

The following is a list of action items and projects that we are completing to improve our HA rollover capabilities:

- Future Rollover Events will be scheduled for 7 days
- Vendor testing will become a standard part of the event
- Additional documentation and contact lists are being developed to improve vendor communications
- Additional personnel are being trained to assist and manage Site-Four rollovers as an additional level of protection

Despite the threatening weather, both the rollover and rollback went exceptionally well and will provide a high bar to continue to improve on.

Respectfully,

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