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CU*ANSWERS HIGH AVAILABILITY PROGRAM REVIEW

EVENT DATE: 02/19/2012 – 02/22/2012

SUMMARY

As part of a robust business continuity program, CU*Answers actively maintains a redundant core processing system at our Muskegon High Availability (HA) datacenter. To assess the system's capabilities and readiness, CU*Answers schedules and performs live (on-line) role-swap exercises at regular intervals. In addition to assessing our normal daily operational capabilities during a rollover situation, we test communications with third party vendors and perform any necessary or required system maintenance. A summary of recent activities is included in the following review.

This particular role-swap event included a full twenty-four hour shift rotation by the Operations Team from the Muskegon HA datacenter. As part of a cross-training effort, leadership during the role-swap event was performed by the Operations Assistant Manager. System (hardware) maintenance was performed on the primary production system during the rollover event. Even though a CU*BASE beta release was completed on the morning prior to role-swap, the recovery event moved right along, business as usual. In fact, the Client Services Team reported no rollover-related support calls received on the morning following the roll. All client connectivity to the Muskegon HA datacenter has been confirmed (no issues reported); meaning that all clients are configured properly for connection should an unplanned event occur requiring a system fail-over (a forced system rollover caused by a critical failure of some kind). Once again, the HA rollover exercise was highly successful.

EVENT REVIEW

The role-swap to the high availability (HA) system commenced on Sunday 02/19/2012 at 4:06 PM ET and we rolled back to our primary production system at 10:03 PM EST on Wednesday 02/22/2012.

In preparation for the event, CU*Answers made arrangements to have early Monday morning representation in the Client Services and Support Teams to address any issues that might occur as a result of the rollover.

This was the first role-swap event in which all operational processes for the twenty-four hour daily cycle were completed at the Muskegon HA datacenter. This allowed us to completely test all processing, including PGP encrypted FTP transmissions, IFS transmissions, Federal Reserve Bank ACH file processing over a complete business-day cycle.

A new tape drive was installed on the primary production system during the rollover window. Several issues experienced during the previous event were resolved and confirmed during this event. Through regular testing and procedural changes made from lessons learned, our performance continues to improve with increased effectiveness and efficiency.

CHALLENGES

1. While rolling from the primary system to the HA system, we identified an issue with an incorrect IP address trying to pass traffic due to an automated task. This was resolved with a manual IP address change. During the roll back to the primary system, the automated task was disabled and the manual process confirmed. The documented process to change the IP address will be performed manually during future rolls.

2. We were able to activate the ISOCOP subsystem after the roll but were not able to communicate with the vendor properly. The ISOCOP switch utilizes two SQL tables contained is files ISOCOPSTD1 and ISOCOPSTD2 and are built using SQL statements. The SQL tables obtained a corrupted identity column during replication prior to the roll. We have experienced this issue in prior role-swap events and have documented procedures to correct this post-roll. The Series-i Team is working with iTERA to identify a permanent fix for future rolls.

3. In the Mobile ItsMe247 application, the drop-down selection list was not populated after the roll. The web servers that host the application cache this information. The IIS application pool on each web server was refreshed to correct this issue. This process to refresh the web servers will be included in future rolls. The ASP Programming Team is working to determine if a change in the application code can automatically correct this or prevent it in the future.

4. Robot Alerts were generated by the primary production system during the rollover event after an IPL. This created a condition where both systems were generating Alerts. The Robot subsystem is configured to start automatically after the system is restarted. Changes have been made in Robot to identify the source system from which the messages are generated. We will also look into postponing Alerts on the target system during rollover exercises.

5. There was a timing issue (sequence of events) between pre-roll audits and the completion of the CU*BASE beta release. An audit was performed over objects on Saturday night previous to the rollover and matched across the systems. The CU*BASE beta release was completed on Sunday morning. Because of the timing on these two actions, we found UPDMBRA2A in CUBASEBETA on the HA system after the rollover when it should not have been there. The Series-I Team has added an additional audit as part of the pre role-swap checklist.

6. Support programmers were not able to start Debug or view Operator's job logs after the roll. To correct the job logs issue at the time of the rollover, permissions were manually granted in Operations Navigator by the Series-I Team. This process has been documented and added as an additional procedure for rollovers. We are researching the issue concerning the ability of support programmers to start Debug.

SUCCESSES

1. Issues with documents used by the Operations team missing from the IFS drive that had occurred during the prior role-swap were resolved.

2. In our previous roll, reports were unavailable to view in GOLD immediately after the rollover because an IP address needed to be redirected in the iTERA application to route requests to the CU*Spy server from the HA system. This was corrected at the last rollover and reports were now available as usual.

3. A few PCs at a single site (not open at the time of the last rollover) could not connect to the HA system on the morning of the 20th because they had static IP addresses configured in GOLD. All known connectivity issues are now resolved.

4. All routing, communications, and procedure issues identified in the August 2011 roll were corrected and processes were carried out without incident.
5. The remote Operations Center tested cleanly over a full daily cycle on newly deployed PCs.

CONTINUING EFFORTS AND RECOMMENDATIONS

1. It was learned that the library ARCRPT needs to be added to system replication in order to handle reports for clients transacting business on Sundays. This will be tested during the next scheduled exercise.
2. The backup Federal Reserve Bank VPN appliance will be relocated from our 28th Street facility to the Muskegon HA site prior to the next scheduled role-swap event. This will be tested during the next exercise.
3. Recovery team communication methods have been reviewed and are being streamlined for greater efficiency during rollover events. Also, the Operations Team will send an all-staff Alert posting the start and end point of each rollover action to keep all departments informed as far as timing goes.
4. The Operations Team is working with Sage Direct in an ongoing project regarding notice production in the event of a disaster.
5. Operations will provide a full checklist of post-roll verifications in advance of future rollovers for review.
6. We will revisit options for posting a splash-page for ItsMe247 and possibly adding an alert page with an advance warning.
7. Series-i Team to complete QINTER2 subsystem to isolate staff and allow shutdown of user. Operations will continue to coordinate with clients that are active close to time of role-swap activities.