



2012 High Availability Program Review

May 30, 2012

Event Details

Planned HA rollover event performed to move core CU*BASE processing from systems at the primary production data center in Kentwood to identical systems at the HA data center in Muskegon.

Event Start Date: May 16, 2012

Event End Date: May 20, 2012

This report identifies any challenges observed, lessons learned, and recommendations for future events.

For more information on the CU*Answers High Availability program, please visit the Business Continuity section of our website at <http://www.cuanswers.com/bcp/>

Overview

The opportunity to once again test our preparedness level and capability to roll primary core processing from our production facility in Kentwood, Michigan to our high availability (HA) facility in Muskegon, MI presented itself in the form of a data-center infrastructure upgrade. To accommodate future growth, a project was initiated to increase utility power at our primary production facility to 400-amp service. Even though redundancy and fault tolerance is built into each of our data centers, a precautionary step was taken to roll processing to our HA data center in an effort to reduce the impact should an unexpected outage have occurred. At the end of the day, the project could have been completed without the precautionary measure of rolling processing. It did however relieve some of the pressure of providing uninterrupted services to our clients throughout the process.

With less than a week to notify stakeholders and prepare recovery teams, the rollover event and utility-power upgrade was performed without incident. There were no roll-related support calls received by Client Service Representatives during the operation. Overall, it was a rather uneventful experience with no surprises, the way we like it.

Event Review

The production system was taken offline at 10:00 PM ET on 5/16 and brought back online at the HA data center in Muskegon at approximately 10:45 PM ET. Additional testing and auditing was performed until 11:55 PM ET.

On the morning of 5/20 at 9:00 AM, the utility power at the primary data center was upgraded using the secondary power source (natural gas generator) without interruption. This process was completed at 11:30 AM.

That same evening (5/20), the production system at the HA data center was taken offline at 6:00 PM ET and brought back online at the primary production data center in Kentwood at 6:40 PM

ET. Additional testing and auditing was performed until 7:00 PM ET.

Challenges

A potential issue was noted on the **It's Me 247** Mobile Web application, where under specific circumstances cached data on a drop-down box on the login screen could be empty or missing. Upon observation, this data was repopulated and corrected. This process was documented. Changes coming in a future application release will replace this field, negating the potential of reoccurrence.

While bringing the production system up at the HA data center, access to CU*SPY via the GOLD screen was impacted due to a temporary IP address that was enabled prior to the event. Disabling the IP addresses quickly corrected the issue. This address has been removed from the system.

A new beta project had been implemented to encrypt communication sessions between client and host. Upon rolling production to the HA data center, these sessions had difficulty establishing sessions. To correct this, client-encryption certificate authentication was restored to allow the project to continue. This impacted internal beta test users only. An application change has been made to ensure this does not repeat in future rollover events.

Successes

This event provided another opportunity to validate our operational processing from the HA data center, including altering our off-site media-retention procedures to ensure policy compliance.

This event confirmed the ability of alternate network-recovery-team personnel to perform the required steps in the event certain skilled personnel were unavailable. This was the first HA rollover exercise performed by the network-recovery team. This success is partly the result of an investment in proper cross training and processes documentation.

Detailed Gap Analysis

We will continue to improve and revise our HA rollover documentation to include methods to streamline the process with automation and perform concurrent procedures where typical sequential steps are typically taken.

Even though it had only been 90 days since the last HA rollover, we discovered new features (i.e. client-session encryption) that had been implemented (solidifying the need for regular multiple exercise per year) requiring an update to post-roll test/QC procedures.

We will continue to seek opportunities to expand our pool of skilled personnel for rollover and recovery efforts through continued cross training and preparedness education.

We continue to experience reoccurring errors through the rollover process that require corrective steps (like recycling subsystems post-roll while bringing services online). These are corrected quickly and might always be a part of our process (little if any impact results). As time permits, seek corrective measures to reduce or eliminate them.

The shortened lead time given in advance of this event suggests we seek effective ways to improve communications to all stakeholders, providing awareness of the event and education of the process.