

CU*ANSWERS REVIEW OF SAGE DIRECT, INC.'S DISASTER RECOVERY TEST

EVENT DATE: 5/8/2013

Revision: 8/05/2013

SUMMARY

As part of a robust business continuity program, CU*Answers seeks to actively review the disaster recovery preparedness of those vendors who provide business critical services and supplies. This includes the audit and review of vendor disaster recovery plans.

According to the five year 'Statement Processing Agreement' with Sage Direct, Inc. (SAGE) dated November 10, 2010, a recovery test is to be performed every 18 months (or as otherwise requested by CU*Answers).

On May 8, 2013, the test was performed at the SAGE disaster recovery site, witnessed and reviewed by Jim Lawrence (CU*Answers Business Resumption Manager). At stake was SAGE's ability to fulfill their obligations in the event of a disruption at their primary production facility.

To build on the success of the last SAGE recovery test, we sought to increase the scope by scheduling the event during the CU*Answers annual disaster recovery test that occurred May 7-9, 2013. For the purpose of this test, statement files were generated and transmitted by the recovered CUAPROD host at the IBM BCRS facility in Sterling Forest, NY, to the SAGE recovery location in Kentwood for processing. Also new to this test was the processing and printing by SAGE's alternate service provider (Presort Services) at the new Presort production facility in Grand Rapids.

The disaster recovery test was performed and completed to our satisfaction. We are pleased with the results as this review will show and have provided recommendations for future test improvements.

EVENT REVIEW

SAGE's disaster recovery plan includes three facilities:

SAGE primary production facility (IT and Printing):
3400 Raleigh Ave. SE
Kentwood, MI 49512

SAGE leases a single office suite for disaster recovery purposes. The suite is part of a professional complex owned by RealVesco Properties. At this suite are computer systems and networking equipment to receive process and transmit document files from their clients.

SAGE disaster recovery facility (IT only):
4180 44th street SE,

Building A, Suite 203
Kentwood, MI 49512

SAGE has a contractual agreement with Presort Services for disaster recovery printing services in the event of a disruption to normal production at SAGE's primary facility.

Presort Services facility (IT and Printing):
4850 Kendrick Street SE
Grand Rapids, MI 49512

This disaster recovery test, performed on Wednesday, May 8, 2013, proceeded as follows:

- The test statement file (SAGE3) was encrypted and sent via FTP at 8:00 AM to <ftp.sagedirect.com> (DNS configured for an FTP server at SAGE's disaster recovery suite).
- We arrived at the SAGE disaster recovery suite at 9:30 AM and met with SAGE employees.
- The (STMTFLAT3) file was received, decrypted, processed by 1:15 PM at the SAGE disaster recovery suite.
- The processed file was encrypted and sent to the FTP server at Presort Services for printing.
- We then traveled to the Presort Services facility.
- We verified that the file was received at Presort Services.
- From the test file, 250 statements were printed, folded, inserted into envelopes and sealed for mailing.
- For confirmation purposes, ten print proofs and end result samples of printed, inserted and sealed statements were kept by SAGE Direct. The remaining test samples were destroyed and the statement data file was purged.
- The disaster recovery test concluded at 2:30 PM.

OBSERVATIONS

Presort Services has a similar facility in Lansing (with equal capacity potential) that can share (some or all of) the production load should capacity at the Grand Rapids' facility reach its limit. Presort has an arrangement for mobile generators in the case of a power failure. These mobile generators have been used twice in the past four years (both unplanned events).

Presort Services targets clients in the financial, insurance, and medical industries (among others). Presort Services operates two shifts (at the time of this test) with the capability of three shifts if required.

Throughout the exercise, we asked questions related to contingency planning and preparedness, including recent disruptions and how they were handled (power outages, snow storms, pandemic planning, etc.). Answers provided demonstrated a solid knowledge of business continuity principles and an investment in recovery preparation planning.

Physical security at the Presort Services facility included proper visitor sign-in, badging, and being accompanied by an employee at all times during the tour.

Presort Services provided adequate proof of abundant (rotated) inventories of paper and envelopes on site for use in the event of a disruption at the SAGE primary production facility.

CHALLENGES

The results of the 2013 test were very similar to the previous test with two notable exceptions:

1. For the first time, source files used in this recovery test were generated and transmitted from the CU*Answers restored host in Sterling Forest, NY, using the redundant 400FTP server at the Muskegon secondary facility.
 - a. For the purpose of this test, source files were generated using data from five credit unions. The transmission of a source file containing data for all credit unions may have exceeded the bandwidth available for this test. In an actual disaster scenario, other methods of file transmission would be considered (i.e. copy encrypted files to DVD and ship overnight) or to utilize the expanded bandwidth available on the “burstable” data communications line.
2. Once the file is received by SAGE, it is processed for printing. Processing time on the redundant systems at the SAGE offsite office location for the test file was nearly double from that of the previous recovery test. This may present a concern in the event a full production file (containing data from all credit unions) is required.
 - a. SAGE has initiated a project to replace the system hardware at the SAGE recovery location within 45 days. Another test to measure processing time will be performed once new hardware is in place.
 - b. **[UPDATE]** On Wednesday, July 24, 2013, a test was performed on the upgraded equipment at the SAGE offsite office location. Processing time was reduced from three hours to 40 minutes for a comparable statement file.

For the purposes of each SAGE recovery test, we set out to resolve/confirm the following components from the ‘Statement Processing Agreement’ between SAGE and CU*Answers. Responses are shown below each.

1. SAGE warrants that they will ship within 2 weeks of a catastrophic event.
 - a. Based on test results, there is no indication that SAGE would fail to meet this timetable.
2. SAGE warrants the ability to receive statement data in encrypted state via FTP.
 - a. Successfully tested.
3. SAGE to provide CU*Answers with an updated documented recovery plan.
 - a. SAGE has indicated that a basic point-by-point document would be provided (not allowing for every possible contingency, but outlining the necessary steps that will need to occur in a disaster to handle processing in timely fashion). As of this report, no additional documentation has been received.
4. According to the agreement, testing will “ensure that the disaster recovery service will satisfactorily handle the current CU*Answers processed volumes.” We will need information on site processing capability as well as material sources (paper, envelopes, etc.).
 - a. Both the SAGE recovery site processing capability and the processing capability and inventories of their fallback vendor indicate that handling CU*Answers volume will not be at issue.
5. Minimum 18 month testing cycle; last test was November 2011, we are within the cycle.
 - a. The current test is within the 18 month cycle.
6. CU*Answers has the right to audit and visit the site accompanied by a SAGE employee.
 - a. See above; both the SAGE secondary site and their correspondent vendor site have been reviewed for production capability and security; both were found to be acceptable.
7. Test results will be provided to CU*Answers as soon as they become available.

- a. Ann Marie Priddy (SAGE employee) to provide certification that all data was deleted and certification of successful completion of the test. Included at the end of this review.
8. SAGE will maintain confidentiality of data at all times.
- a. Successfully tested during this exercise.

CONTINUING EFFORTS AND RECOMMENDATIONS

Of interest is the close proximity of the recovery facilities (within 5 miles of each other). It is important to understand the risks inherent to such and determine if this is acceptable. Potential risks may include a regional power outage, severe weather outbreak (ice, snow, winds, etc.). Presort Services does have additional production redundancy with its facility in Lansing. We may want to consider another potential vendor in the event of a regional disaster.

SAGE indicated that the systems at the disaster recovery site are synchronized (application) weekly. If the timing of a disruption was such that synchronization must be completed before processing could begin, a delay of 24-48 hours could result. This complies with the agreement that statements would be produced and mailed without inserts within two weeks of the declaration of disaster.

At the SAGE disaster recovery facility, there appeared to be no alarm on the office door at suite 203 (with the exception of the exterior complex door). SAGE indicated that no data was stored on the systems. However, it is believed that encryption keys may be stored on a system in the (dark) office. Exploiting this would prove to be a difficult task. Risk is determined to be low. In the event the office physical security was compromised and systems stolen, both parties would generate new encryption keys for future files.

As noted in the post-test results report shown on page five, there was an initial reported discrepancy in the number of statements contained within the test file. It was learned that the file audit summary totals sent to SAGE for processing confirmation was from the incorrect test file (previous month's data). A corrected summary was provided to reflect the totals below.

CREDIT UNION	PRE SORTED		NON		TOTAL		HASH TOTAL
	MEMBER/PAGES		SORTED		MEMBER/PAGES		
0030-ATL Federal Credit Union	786	1,492	0	0	786	1,492	9,212,307.95
0060-Kenowa Community FCU	1,174	2,304	10	19	1,184	3,323	15,204,094.74
0070-Rockford Community FCU	871	1,501	0	0	871	1,501	15,320,715.98
0090-Newaygo County Serv. ECU	1,549	2,854	0	0	1,549	2,854	17,483,019.05
0116-Thunder Bay Area CU	1,672	2,781	0	0	1,672	2,781	11,133,697.86



Disaster Recovery Test Results Revised 5-24-13

Date: 5-24-13

Person completing form: Ann Marie Priddy

Location test was performed: Sage offsite facility and Presort Services Grand Rapids location.

Who was present: CU Answers: Jim Lawrence, Sage Direct: Becky Henne, Evelyn Alvey, and Ann Marie Priddy, Presort Services: Don Fare and Eric Rosbury

What files were transmitted: Stmt 5 and CC5

Printing:

- To and from dates on the statements are correct
- Number of pages shown on statement match the number of pages printed
- All address lines are showing including name, address, city, state, and zip

Inserting:

- Correct envelopes were used
- One complete statement was folded and inserted into each envelope
- The address block placement in the window is correct
- Envelopes are sealing properly
- I opened 10 statements after inserting was complete and all statement pages were correct

Date copy of test results were given to CU Answers 5-15-13 Updated 5-24-13

Date copy of test results were give to Presort Services 5-15-13 Updated 5-24-13

Comments: Sage is in the process of upgrading the systems at the offsite location and have invited CU Answers back for another test within the next 45 days. Once the upgrade is complete Gary Sage will be contacting Jim Lawrence to set up the date and time for the next test. The audit totals did not balance to what Sage processed. During normal processing and during disaster processing Sage would stop processing and contact CU Answers for instruction on how to proceed. CU Answers found that the incorrect totals had been sent to Sage. On 5-22-13 updated totals were sent to Sage. On 5-23-13 Sage confirmed that these totals balanced with the totals of the file after processing. All statements were shredded by Presort on May 8, 2013. The live samples kept by Sage are in a locked fire proof cabinet. The files transferred to Sage and Presort were deleted from the systems on May 8, 2013.

In the event of a disaster:

No file audits will be available. All statements will be printed and mailed within two weeks of Presort Services receiving all of the data from CU Answers. If a disaster were to include all of the Grand Rapids area Sage Direct would use Presort Services Lansing facility.

The original copy of this completed form will be kept on file at Sage Direct.

Signature: Ann Marie Priddy Date: 5-24-13