

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

EVENT DATE: 10/27/2016 10:00 AM – 1:15 PM ET.

SUMMARY

As part of a robust business continuity program, CU*Answers regularly assesses the preparedness of those vendors who provide business critical services and supplies. This includes the audit and review of vendor disaster recovery plans and tests. According to the 'Statement Processing Agreement' with Sage Direct, Inc., a recovery test is to be performed every 18 months (or as otherwise requested by CU*Answers).

On October 27, 2016, a recovery test was performed at the SAGE recovery suite, witnessed and reviewed by CU*Answers, represented by Jim Lawrence, Business Continuity Manager, and Danielle Caliendo, Business Continuity Coordinator. The test was conducted in part to confirm the capability of SAGE to fulfill their service obligations in the event of a significant disruption at their primary production facility.

For the purpose of this test, regular statement files were generated and securely transmitted by the CU*Answers production host to servers at the SAGE recovery suite in Kentwood, MI. From there, the files were processed for printing and securely transmitted to SAGE's alternate print service vendor, Extend Your Reach (formerly known as Presort Services). EYR has production facilities in Kentwood and Lansing, MI.

The following sections identify challenges observed, lessons learned, and recommendations for consideration related to this recovery event.

EVENT REVIEW

SAGE's disaster recovery strategy 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 and managed by RealVesco Properties. At this suite (hot-site) are computer systems and networking equipment to receive, process and transmit data files to and from clients.

SAGE disaster recovery facility (IT only):

4180 44th street SE,

Building A, Suite 203

Kentwood, MI 49512

SAGE maintains contractual agreement with Extend Your Reach for emergency printing services in the event of a disruption to normal production at SAGE's primary facility.

Extend Your Reach facility (IT and Printing):
4850 Kendrick Street SE
Grand Rapids, MI 49512

This disaster recovery test proceeded as follows:

- The statement test file (STMFLAT6) was encrypted and sent via FTP to <ftp.sagedirect.com> (DNS configured for an FTP server at SAGE's disaster recovery suite) on the morning of the test.
- The test file was received by systems at the SAGE disaster recovery site and held for processing.
- Participants arrived at the SAGE recovery suite at 10:00 AM ET.
- The test file was decrypted, processed, re-encrypted and then transmitted to the FTP server at Extend Your Reach for printing.
- Participants arrived at the Extend Your Reach production site at 11:30 AM ET.
- From the processed test file, a total of 1,239 member statements were printed, folded, inserted into envelopes and sealed for mailing.
- The test concluded at 1:15 PM ET.
- For confirmation purposes, three print proofs and production result samples of printed, inserted and sealed statements were retained by SAGE for their own recovery test records. The remaining test samples were destroyed and statement data file(s) purged.

OBSERVATIONS

- Physical security at the Extend Your Reach facility included proper visitor sign-in and badging. Participants were accompanied by an Extend Your Reach employee at all times during the test and facilities tour.
- Both SAGE and Extend Your Reach provided adequate proof of sufficient (rotated) inventories of paper and envelopes on site for use in the event of a disruption at the SAGE primary production facility.
- Additional observations and comments are included in "Disaster Recovery Test Results" on page five of this report.

CHALLENGES

The documented recovery process combined with the experience of the SAGE recovery team involved in this test demonstrated a high level of competence and overall preparedness. For this test, only one notable challenge was observed.

On the day of the test, it was learned by SAGE staff that Extend Your Reach had recently implemented a change to their production requirements from a 3-of-9 to a 2-D barcode format for each document type. As a result, SAGE programmers at the recovery suite were forced to modify the application used in processing the test file to accommodate these new requirements. An additional level of quality control was implemented to ensure the accuracy and integrity of the processed files before transmitting to Extend Your Reach for printing.

STATEMENT PROCESSING AGREEMENT

One of the objectives for each SAGE disaster recovery test is to confirm the following requirements from the 'Statement Processing Agreement' between SAGE and CU*Answers. These include the following:

1. SAGE warrants that they will ship within 2 weeks of a catastrophic event.
 - a. Based on test results, there is no evidence to suggest that SAGE is unable to meet this requirement.
2. SAGE warrants the ability to receive and decrypt statement and notice data using the FTP protocol.
 - a. Secure file transmissions have been tested successfully during multiple tests.
3. Testing will "ensure that the disaster recovery service will satisfactorily handle the current CU*Answers processed volumes." This is to include details on site processing capabilities as well as material sources (paper, envelopes, etc.).
 - a. The data processing and printing capabilities (including raw material inventories) at both the SAGE and alternate print services vendor (Extend Your Reach) meet and/or exceed the requirements of CU*Answers.
4. Minimum 18-month testing cycle.
 - a. The previous test was performed May of 2015, placing this test within the agreed upon 18-month schedule timeframe.
5. CU*Answers has the right to audit and visit the site accompanied by a SAGE employee.
 - a. As noted in this report; both the SAGE secondary site and their alternate vendor site have been reviewed for production capability and security.
 - b. A follow-up meeting and tour of the SAGE production facility was performed by the participants on November 4.
6. Test results will be provided to CU*Answers as soon as they become available.
 - a. Evelyn Alvey (General Manager, SAGE Direct Inc.) has provided their own test results report and certification that all data used in the test has been destroyed (included at the end of this report).
7. SAGE will maintain confidentiality of data at all times.
 - a. Proper security controls were observed as part of this test.

CONTINUING EFFORTS AND RECOMMENDATIONS

As in previous SAGE recovery tests, the file/document type used for processing and printing is selected based on an agreed upon rotation. Moving forward, the scope will be expanded to include multiple types of documents within the same test, such as notices, regular and credit card statements, mortgage statements, and LOC statements.

During these recovery tests, the topic of facility proximity is often discussed. Part of continuity and recovery strategic planning includes understanding the risks inherent to the locality such as regional power outages and severe weather outbreaks (ice, snow, winds, etc.). The SAGE production facility, SAGE recovery suite, and Extend Your Reach site are all located within a five-mile radius. This may be considered a risk for certain regional threats. Extend Your Reach maintains a second production facility in Lansing, MI with similar equipment and capacity. The Lansing site will be considered for use in future tests.

SAGE has indicated that they are actively pursuing a tertiary alternate print service vendor and recovery suite in a different geographic region. One location being considered is in the state of Florida.



Disaster Recovery Test Results

Date: 10-27-2016

Person completing form: Evelyn Alvey

Location test was performed:

Sage Direct Disaster Recovery Processing Site
4180 44th Street SE, Suite 203
Grand Rapids MI 49512

Extend Your Reach
4850 Kendrick Street SE
Grand Rapids MI 49512

Who was present:

CU Answers: Jim Lawrence, Danielle Claiendo
Sage Direct: James Mucci, Jennifer Zimelis, Evelyn Alvey
EYR: Randy Hecht

What files were transmitted:

To Sage from CU Answers: ATL FCU, STMFLAT6.ZIP
To EYR from Sage DR site: Presortpg1CUA.pdf, Presortpg2CUA.pdf

Printing:

- To and from dates on the statements are correct (7/1/2016 to 9/30/2016)
- 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 out of 500 statements after inserting was complete and all statement pages were correct

Date copy of test results were given to CU Answers: 10-27-2016

Date copy of test results were given to Extend Your Reach: 10-27-2016

Comments:

- EYR had implemented a slight change from a 3 of 9 barcode to a 2D barcode. All barcodes are scanned by inserting equipment to communicate the number of sheet(s) of paper to pull for each statement. This is a change that was communicated to Sage on the morning of 10-27-16 not allowing for the programming change to be completed for the test. This programming will be completed going forward. To accommodate this barcode change, Sage changed the sort in the data file processing to sheet count and produced files per number of sheets per statement. (sorted by number of sheets for each statement – 1 sheet, 2 sheets, 3 sheets, etc.) EYR, changed the mode on the inserting equipment to sheet count with the output scanner interpreting the sequence number in the address block barcode. This required an additional step at the DR office to prepare the test file to meet these new requirements.
- During the recovery test, SAGE demonstrated a few of the controls in place to ensure accuracy and security for member documents.
- The use of 2D barcode technology, by production equipment, allows for more specific information to be tracked and monitored unique to the credit union, batch, sheet and page count, inserts unique to each member, time and date stamp, and the identification of the inserter operator.
- Number of key, check points where totals and job summaries are compared throughout the workflow process ensuring the correct file was received by Sage and was transmitted and processed in its entirety.
- Demonstrated what happens if one page of a document is pulled from the batch (intentionally creating an error condition)
- Demonstrated what happens if one statement is pulled from the batch creating an out of sequence condition (automated processing halts until resolved)

In the event of a disaster:

Statements will be printed and mailed ASAP after Extend Your Reach receives data from Sage Direct or CU Answers. If a disaster were to include all of the Grand Rapids area Sage Direct would use Extend Your Reach Lansing facility.

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

Signature: *E. [unclear] [unclear]* Date: 10-27-16