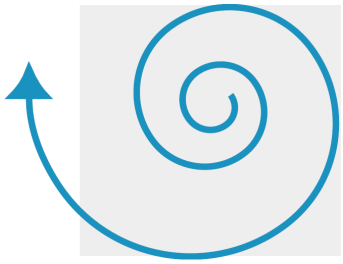
Library Connection, Inc.



Risk Mitigation and Disaster Recovery Plan

2018

Approved by the Library Connection

Board of Directors

April 20, 2018

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Introduction

Most of an organization's disaster recovery effort should be spent in planning and acting to avoid the necessity of disaster recovery. Towards this end, Library Connection staff have taken steps to enhance the resilience of the organization. We are on the cusp of being device and location independent in terms of information storage and access and location independent in terms of internet and voice communication.

There are two operational areas of risk addressed by this plan, those that directly affect the operations of our libraries, and those that pertain to the operation of Library Connection itself.

Risk Mitigation for Library Operations

Library Connection manages an Integrated Library System (ILS) for its 30 member libraries. Our ILS is remotely hosted by our vendor, Innovative Interfaces, Inc. at a secure facility in Syracuse, New York. In this facility are databases and applications associated with Sierra, the staff interface to our ILS, Encore, the patron interface, Decision Center, the collection management program, and reporting tools.

Library Connection also maintains a website that hosts our customization of the Encore patron interface, and a library of reports and information for our member libraries.

Infrastructure

Hardware and Software

Innovative Interfaces hosts our ILS software and data at a secure server farm in Syracuse, New York. Our data is backed up every 24 hours via a SSL encrypted channel to encrypted storage at a US-based, SAS70/SSAE-16 certified facility remote from the facility at which our ILS is hosted. Innovative can quickly restore our data should the hardware that is hosting our ILS experience failure. However, we may lose up to 24 hours of our most recent data. It is not known how long we would be without service if the entire facility were lost, as Innovative would then be faced with the need to restore all of their customers that were hosted at that facility, which might take some time.

Innovative has been asked to provide their disaster recovery procedures and estimates of the time it would take to recover from a facility loss as well as the maximum number of days of data that would be lost by restoring from the newest off site back-up media. Their response will be appended to this plan.

Innovative has started to migrate hosted customers to Amazon Web Services (AWS). Library Connection would prefer to decide on whether to migrate to AWS only after we can review a year's experience of other Innovative customers with AWS.

If Innovative restores our hosted ILS at a different location, it would be using new IP addresses. For library operations this would make no difference, as the URL, lci.iii.com, would remain the same. However, LCI's Hardware and Telecom Support Specialist would have to work with third party vendors to re-establish their links to our Sierra database with new IP addresses.

Network Infrastructure

Network

Library Connection and all of its member libraries access the internet via links supplied by the Connecticut Education Network (CEN), a state agency that operates a fiber network for libraries, schools, and colleges and universities. By the end of 2018, all of our libraries should be connected to this fiber network. The network is a robust structure designed not to let a single point of failure affect more than one institution. Support of the fiber infrastructure is CEN's responsibility, although Library Connection staff work with CEN staff in communicating with our members when service is disrupted. LCI has the ability to monitor CEN traffic volume to our libraries, which helps in determining how widespread outage incidents are.

Firewall

Library Connection has a firewall through which all traffic to and from its CEN fiber connection is routed. LCI has a paired set of firewall hardware in operation so that in the event of device failure traffic can be switched to the redundant unit. Our firewall is configured and monitored by CCAT. A number of our libraries also route their traffic through this firewall. A goal for 2018 is to determine whether this traffic is an unneeded legacy from when LCI hosted its ILS on its own servers, or whether libraries are depending on our firewall in the absence of one of their own.

Website

Our HTTPS ready website is maintained by pair Networks, Inc. at its facility in Pittsburg, PA. On our website we maintain a directory of reports documentation for our libraries and our customized version of Encore, our patron interface. Pair nightly backs up this website.

Temporary Loss of Access to Hosted Server

During any circumstance that prevents library staff from accessing LCI's Sierra ILS, library circulation staff are able to operate Sierra in an off-line mode. All transaction data is saved and can be uploaded to our hosted Sierra environment once access has been restored. Our Public Services Support Specialist or our Systems Librarian for Public Services can then merge this data with our Sierra online database. Instructions on off-line operations are posted on our website. LCI encourages library staff to practice off line operations and restorations at least quarterly and to maintain a printed copy of off-line operation instructions at the circulation desk.

During any ILS service interruption that affects multiple libraries any LCI staff member (but usually the Public Services Support Specialist or the Hardware and Telecom Support Specialist or the Executive Director) can keep library staff informed of the steps that are being taken to mitigate the service interruption and when a resolution is expected. This information is broadcast via emails to ConnectNews and by text messages to our GroupMe account.

Resisting Unauthorized Data Access

Disasters are not limited to hardware failures and facility damage or destruction. Loss of data and/or loss of data integrity can be at least as disrupting as the loss of the hardware that supports it. Therefore, preventing unauthorized access to the data on our ILS is a vital part of risk mitigation.

By the end of June 2018 Innovative Interfaces should release Service Pack 1 for Encore 4.7. This will make every page in Encore HTTPS, which should greatly increase the security of patron information.

Encore allows the payment of patron fees and fines via credit card. Since patrons type in their own credit card numbers for payment, libraries are not required to be PCI/DSS compliant to permit this form of payment. However, LCI policy prohibits library staff from handling patron credit cards or typing in credit card numbers for patrons unless specifically asked by patrons for such assistance under ADA guidelines. LCI has established a PCI/DSS compliant method for routing patron payments to a bank account. On a quarterly basis LCI tallies up the fines and fees due each library and distributes the collected funds.

In 2018 we are testing a credit card reading device that can be attached to express lane self-check-out terminals. This device will require each library deploying it to establish PCI/DSS compliance as if they were any other merchant with a credit card reader for accepting payments.

In addition to concerns about system integrity, Library Connection and our member libraries have a legal and moral mandate to protect the privacy of patron information entrusted to us.

Library Connection's system infrastructure has robust defenses against malicious attacks. We and Innovative Interfaces have strong firewalls, and we coordinate with Innovative, our libraries, and third party vendors to carefully manage remote access to our data.

One weakness in our system is the sharing of IDs and passwords among library staff, and the absence of a requirement to change IDs and passwords when staff leave library employment. A goal for the 2018 calendar year is to recommend to the Board that these practices be replaced with procedures that provide more security.

Risk Mitigation for Library Connection Office Operations

All staff computers are protected from power outages by a UPS with a thirty-minute battery. Because our building is the town of Windsor's emergency shelter, the electricity supply for the building is protected by a roof mounted diesel generator. This generator and its ability to rapidly supply power to the building in the event of a disruption of service from the electric utility is tested periodically.

In the event staff were denied access to our offices, it would be quite practical for staff to work from home for the duration of the problem. All staff have computers at home and have at least tested the possibility of performing their duties from home. All have tested access to their files in Microsoft's OneDrive.

Steps to take to recover operations:

The Executive Director would communicate with all staff via their work or personal phone lines and establish that everyone is able to work. Ongoing communications would be maintained via work cell phones, email, and on-line chat. Staff would be able to teleconference via ZOOM. All of our staff have trained other staff in their responsibilities, so work reassignments can be made if not all staff are available for work after the disaster.

The Executive Director would communicate LCI operational plans to the board and member library staffs.

Information about Library Connection's recovery efforts would be posted to our website on a regular basis.

Staff who do not have access to their work cell phones because of the disaster will obtain replacement phones from Verizon. Steps to take are posted in the staff shared space in the cloud.

The Executive Director would also work with member libraries to obtain rooms where all staff could meet and work at least one day a week.

Staff Contact Information

Staff Member, Title	Contact Options	Contact Number/email
George Christian	Work Cell	(860) 937-8261
Executive Director	Personal Cell	[redacted]
	Work email address	gchristian@libraryconnection.info
Ann Weaver	Work Cell	(860) 937-8262
Financial Officer	Personal Cell	[redacted]
	Work email address	aweaver@libraryconnection.info
Sam Cook	Work Cell	(860) 937-8263
Systems Librarian for	Personal Cell	[redacted]
Public Services	Work email address	scook@libraryconnection.info
Max Rowe	Work Cell	(860) 937-8264
Public Support Services	Personal Cell	[redacted]
Specialist	Work email address	mrowe@libraryconnection.info
Judy Njoroge	Work Cell	(860) 937-8265
Systems Librarian for	Personal Cell	[redacted]
Bibliographic Services	Work email address	jnjoroge@libraryconnection.info
Yi Liu	Work Cell	(860) 937-8048
Cataloger	Home Phone	[redacted]
	Work email address	@libraryconnection.info
Luz Knowles	Work Cell	(860) 937-8266
Database Support	Home Phone	[redacted]
Specialist	Work email address	lknowles@libraryconnection.info
Ed Stidum	Work Cell	(860) 937-8267
Hardware and Telecom	Personal Cell	[redacted]
Support Specialist	Work email address	estidum@libraryconnection.info

Vendor Contact Information

Innovative Interfaces, Inc.

Procedures:
Always start with opening a ticket in the Supportal. Note the ticket #
For critical issues, if Executive Director is available, he should follow up with Vincent Briggeman or Bruce Randall and ask for prompt attention, giving ticket #. Financial Officer can do this in Executive Director's absence. If necessary, make this contact yourself. If you need to contact a second time, cc Hilary and Roger

Customer Support
Supportal: https://iii.rightanswers.com/portal/ss/
800 444-2344

Vincent Briggeman — Responsible for software issues
Sr. Manager, Customer Support
vincentb@iii.com
1-800-444-2344 x4965
[redacted]

Bruce A. Randall — Responsible for server operations, installations, and networking
Senior Manager, Customer Support
bruce.randall@iii.com
1.877.857.1978, x4599
Mobile: [redacted]

Hilary Newman — Bruce Randall and Vincent Briggeman report to Hilary
Senior Vice President of the Customer Support and Customer Success
hnewman@iii.com
[redacted]
Mobile: [redacted]

Roger Leitner — #2 position at Innovative
Chief Operations Officer
roger.leitner@iii.com
[redacted]

CEN
Connecticut Education Network

To report a problem, contact the service desk
(860) 622-4560

To escalate or for really big problems, contact

Ryan Kocsondy
Director of CEN Team
(860) 622-4563
ryan.kocsondy@uconn.edu

Novus Insight
(formerly Connecticut Center for Advanced Technology [CCAT])

Novus Insight maintains our firewall can support its restoration

Director of IT Services
Phone: (860) 282-4200
Mobile: [redacted]
Email: dsalazar@ccat.us

pair Networks, Inc.

pair hosts our website.

account # [redacted]
support phone # (877) 724-7638
support email support@pair.com

Board of Education at Wilson Center

George Greco is Head of Building Operations for the Board of Education
687-2000 x223
Mobile [redacted]

Stanley Hernandez is the Head Custodian for the Wilson Center
shernandez@windsorct.org
Mobile: [redacted]

Town of Windsor

Jonathan Luiz
Assistant Town Manager
luiz@townofwindsorct.com
860-285-1807

R. Leon Churchill, Jr.
Town Manager
860 285-1800

Verizon

Employees who have lost access to their LCI cell phone because it was at the office when a disaster occurred that prevents access to the office can get a replacement phone by calling 800 922 0204, explaining the situation, and giving the # of the cellphone they no longer have. A replacement phone will be shipped to the employee.

OverDrive

Account rep:
Shannon Carroll
(216) 573-6886 x 321
scarroll@overdrive.com

Collection Development Specialist
Kristin Preyss
(216) 573-6886 x 293
kpreyss@overdrive.com

Link to OverDrive site
https://marketplace.overdrive.com

Baker & Taylor

Eric Throndson, CSPO
Baker & Taylor
EBIS Sales Manager and Sales Consultant
Cell: [redacted]
email: eric.throndson@baker-taylor.com

Ingram

Genevieve Maxwell
EDI Support Specialist,
Ingram Library Services Inc.
14 Ingram Blvd.
La Vergne, TN 37086-1986
p: 800-937-5300, ext. 35752| f: 888-210-4161
genny.maxwell@ingramcontent.com

MidWest Tape

Marin Lindsay
ILS Integration Specialist
t: (800) 875-2785
f: (800) 444-6645
e: MLindsay@midwesttapes.com

OCLC

LCI Contact
Carrie Morrison
morrisoc@oclc.org
1 800 848 5878 ext 6118

General OCLC Support
1 800 848 5800

Innovative Interfaces Disaster Recovery Plan for Remotely Hosted Applications and Data

Awaiting on Innovative to supply details

Goals for 2018

1. Determine which libraries continue to use our firewall and why

2. Develop a policy recommendation for the board on staff specific IDs for accessing Sierra

3. Have all LCI staff email accounts require 2 factor authentication

4. Have all staff switch to a more robust desktop messaging program

To be worked into plan:

Staff access SQL through their desktops, controlled by IP address. To work from home they securely remotely access their desktops. Deprived of access to their work desktops, it would be necessary to work with SQL though our website on pair Networks or get Innovative to allow access through their home IP addresses.