



LACA Hosted Off-Site Backup Service

Created March 6, 2007

Revised May 18, 2017

Overview

LACA has the capability to provide backup services to member districts. This service can be used as an off-site disaster recovery copy of your data in conjunction with your existing local backups, or you can abandon your local backups and allow LACA to be your primary backup source. Either way, we create two copies of your files off-site: One copy is housed on-line 24x7 at LACA's StorServer in Columbus, and a disaster recovery copy is rolled off to tape and taken offsite from that location as well.

Prerequisites

Listed below are the prerequisites to participate in this service:

1. The network connection from your server to LACA must be at least 10mb at the most restrictive point in the network to allow sufficient time for backups to complete during the backup window.
2. The installed Operating System version being backed up must be supported by StorServer.

How it Works (Basic Overview)

Below is a very basic overview of how this service will operate.

1. IBM's Tivoli Storage Manger (TSM) will be installed on the server to be backed up (LACA will assist with this to make sure it is done properly). During this installation, we will register the server with LACA's StorServer. We will set up custom options for your district in the StorServer, based on how much storage you wish to purchase and what your data retention needs are. The name of the server and the password provide the security in the StorServer to restore your data and keep it separate from other districts. Each server to be backed up will have a unique name and password, and will only have access to its own data within the StorServer. Server names must be unique across the LACA consortium. Names used in the StorServer do NOT have to match physical server names.
2. LACA will assist you in performing the initial backup of the server up to the StorServer. This is a complete backup of ALL files on the server (or a sub-set of the files that you want backed up...this is all configurable). This will be the last time we run a full backup on the server.
3. Every day, LACA's StorServer will contact your server at a random time during the designated backup window, and request to perform a backup. Your server will send up any files that have changed (files that have the archive bit set). This is known as an incremental backup, and is the only type of backup that will take place from this point forward. This is what makes this backup so efficient and fast.
4. Every day, you will get an e-mail notification that shows the status of your server backup, and the total amount of data housed at LACA (in gigabytes).



5. If you need to restore a file, you log into the server where that file resides, start the Backup/Restore GUI, then use the GUI to restore the files you need. You can restore files to their original location, or specify an alternate location instead.

Pros and Cons

This type of backup has many advantages, which outweigh some of the disadvantages.

Advantages

1. Automated backups across the network to a central location. No tapes to swap or keep track of. No running between buildings to swap tapes.
2. ALL files are kept on-line at LACA 24 hours a day, 7 days a week. You can perform a restore of any file at any time. You do not need to know what tape is it on...simply choose the file from the Backup/Restore GUI and click "Restore".
3. Fast backups, since ONLY files that changed that day are backed up that night.
4. You can perform an on-demand backup of a single file or directory at any time you choose, with the Backup/Restore GUI. For instance, if you are getting ready to make a change and want to preserve the data immediately before you begin the change, you can easily do so.
5. When your backups do not work as planned, you only have to call LACA. You do not have to deal with the tape vendor, backup software vendor, and operating system vendor to determine where the problem lies. LACA will work directly with StorServer if we cannot resolve the problem ourselves.
6. StorServer supports nearly 40 different operating systems, so chances are ANY operating system you have in production today can be backed up.

Disadvantages

1. If the network between your building and LACA is down, you will not have remote access to your backups from your servers.
2. Cost. You will need to lease storage space on LACA's Storserver, even though you may already have licensing for other software for local backups.
3. The StorServer is a shared environment. If other restores are going on at LACA you may have delays getting to your data (not likely, but possible). LACA will reserve the right to prioritize restores based on urgency, but ONLY if absolutely necessary.



Cost

The following items make up the cost of using LACA's Off-Site Backup Service

On-going costs (billed twice per year)

- Per Gigabyte fee = \$9 per gb/year up to 222gb
- Per Terabyte fee = \$2000 per tb/year above 222gb

Examples:

- 100GB would cost \$900/year (\$9/gb/month x 100)
- 600GB would cost \$2000/year (exceeds 222GB but less than 1TB, uses per TB pricing)
- 800GB would cost \$2000/year(exceeds 222GB but less than 1TB, uses per TB pricing)
- 1,200GB would cost \$3800/year (\$2000 for 1st TB, then \$1800 (\$9 x 200)
- 1,300GB would cost \$4000/year (\$2000 x 2TB)

Responsibilities

- LACA will provide technical support for backup related issues during our normal support hours.
- LACA will provide an automated daily e-mail report letting the district know the status of the nightly backups (Successful, Failed, etc).
- LACA staff will also review daily reports, and follow up with individual districts if errors are found.
- If a backup fails, districts will review local logs on their servers to determine the cause.
- District will be responsible for initiating the steps to correct the backup failures on district servers, as LACA will not have administrator access to district servers. An alternative is to provide LACA with local admin accounts to your server(s) if you are comfortable doing so.
- If the district is unable to determine the cause of the failure or unable to correct the cause of the backup failure, and requires assistance from LACA, the error logs will need to be e-mailed to LACA for review, as we will not have access to your servers to review the logs. Alternatively, district may need to allow LACA to conduct a remote assistance session to aid in fixing backup issues.



Frequently Asked Questions

Is there a contingency plan if a school cannot get to the StorServer to recover a file because of a network outage?

LACA staff will have a test server used to “impersonate” the district server logging into the StorServer. We would then have access to all of that server’s files, and could recover them to a specified location. These could then be burned to DVDs or CDs, or transferred to a Tech Coordinator’s laptop that was brought to LACA. NOTE: This will only be possible for operating systems LACA has at our disposal.

Are there files stored on the off-site tapes are not available on the StorServer ?

No, everything on tape is also on-line 24x7 in the StorServer.

How many backups can happen simultaneously?

We are only limited by network bandwidth and StorServer disk performance. There is not a stated hard limit, but 20-30 simultaneous backups running would definitely be possible, but at a very degraded performance level. The StorServer takes care of scheduling backups at random times during the entire backup window (currently 8:00pm until 5:00am), so 20 servers do not ALL start backing up exactly at 8:00pm when the window opens.

Do I need to buy any kind of licensing on a per-server basis?

LACA buys space in the StorServer using a “capacity-based” license. It does not matter what servers or even how many back up to that space. For example, we could buy 10TB of space at a fixed cost, and have 20, 30 or even 100 servers back up to that space for that same cost, as long as the amount of data does not exceed 10TB. No individual licensing needs installed on the servers. This applies to agent software as well. No special SQL or Exchange agents need to be purchased, they are included in the capacity-based license model.



Appendix A – Supported Operating Systems

As the time of this writing, the following operating systems are supported in the StorServer. The StorServer also supports many more obscure operating systems that are not listed below. We will need to verify support with StorServer if you have an operating system that is not listed below.

- Windows 2000 Professional SP2 and up
- Windows 2000 Server SP2 and up
- Windows 2000 Advanced Server SP2 and up
- Windows 2000 Datacenter Server SP2 and up
- Windows XP Professional (32-bit) SP 1 and up
- Windows 2003 Server
- Windows 2003 Web Server
- Windows 2003 Enterprise Server (32-bit)
- Windows 2003 Datacenter (32-bit)
- Windows 2003 Storage Server
- Windows 2008 and up
- Windows 2008R2 and up
- Windows 2012 and up
- Apple Macintosh G3 or higher, OS-X 10.1.5 or higher
- Sequent DYNIX Server
- Hewlett Packard HP-UX Server
- IBM AIX Server
- IBM Open Edition MVS Server
- IBM OS/390 UNIX Server
- Silicon Graphics IRIX Server
- LINUX Server (Major distributions, Red Hat, SuSE....other variations may need to be verified with StorServer)
- Novell Netware Server 5.1 or higher
- Sun Solaris Server
- HP OpenVMS

Agents (different than clients)

- Microsoft SQL
- Microsoft Exchange server
- HP OpenVMS