



"Double-Take RecoverNow is very intuitive and easy to install, learn and use. We were able to jump right in and get things working the way we wanted, without having to call tech support."

Sid Taylor, IT Manager at LANL

Business Profile

Company Name:
Los Alamos National Laboratory

Headquarters:
Los Alamos, New Mexico, USA

Industry:
National security research institute

Business Size:
The Los Alamos National Laboratory (LANL) is a premier American security research facility with almost 12,000 employees. With a fiscal 2010 budget of about \$2-billion, LANL operates more than 2,000 individual facilities, including 47 technical areas with 8-million square feet under one roof.

Since 1978, LANL has won 118 R&D100 awards from R&D Magazine, among other prestigious government and third-party awards.

Business Environment:

- Government research facility.
- Work includes top-secret projects.
- Needs to be able to recover data quickly and thoroughly.

Vision Solutions Product:
Double-Take RecoverNow

Implementation Team:
Vision Solutions and LANL

Critical issue

Data is vulnerable. A natural disaster, a disk crash, or the accidental deletion by an operator can destroy it. At one time, LANL protected its data primarily using tape-based backups, but that was far from foolproof since new data would be lost if a failure occurred after a save. What's more, tapes are fallible. It is not always possible to recover data from them when necessary.

LANL needed a flexible, easy-to-use, reliable backup and recovery solution that would fully protect its data.

Results

- Protects data in real-time.
- Allows for rapid recovery.
- Easily performs bare-metal restores.
- Backup and recovery are flexible and simple.

Technologies

- Double-Take RecoverNow
- Windows Server 2008
- Custom-developed and packaged applications (not disclosed for security reasons)
- 2 x Dell PowerEdge R710 servers

Business Challenge

The IT department at LANL that is responsible for the organization's secure, classified networks serves approximately 800 users. About five years ago the failure of a storage array on an older network destroyed considerable data. When the IT staff tried to restore the data from tape, they found that the information was unrecoverable. As a result, considerable data was permanently lost.

Clearly, LANL could not allow this vulnerability to continue. It needed a solution that could replicate data to an offsite location in real-time, where it would be safe from any destructive events that might strike the primary data storage.

The classified nature of the operations supported by this LANL department imposes another challenge when it comes to software installation. LANL's secure systems have no connections to the outside world. This can be a problem because all purchased software has to be manually moved from external sites to the secure systems. In itself, that is not an issue but, to protect their intellectual property, software vendors often require that their applications connect to the vendor's systems to obtain an activation key before the applications will run.

For the same reason, LANL has also found it difficult to install patches for some applications. To simplify the update process, many vendors install patches through automated update processes that operate and validate licenses over the Web. However, that won't work for LANL's classified systems that can't be connected to the Internet for security reasons.



LANL needed an easy-to-use backup and recovery solution that would provide real-time replication facilities for its data, while keeping all permissions intact, with the flexibility required to overcome LANL's unique security issues.

Solution

LANL was using a data replication product to protect its data, but that product was difficult to use, not as flexible as LANL wanted, and it did not allow LANL to easily perform a bare-metal restore, in which a virtual server is restored onto a physical server rather than onto a logical server within a virtual environment.

"We're always looking for products that are flexible because our secure environment requires that things be done in a specific way," explained Sid Taylor, IT manager at LANL. "And we also need products that are robust and reasonably trouble-free. We are a relatively small shop and we don't want to have to do a lot of trouble-shooting."

LANL eliminated the drawbacks that the previous replication product presented and now meets its data backup and recovery needs with the help of Double-Take RecoverNow, from Vision Solutions.

Double-Take RecoverNow for Windows protects entire servers continuously by replicating their data to disk, so you can rewind from an outage and fast-forward through downtime. It replicates efficiently at the byte level to reduce the impact of data protection on physical or virtual hosts. And it is designed to replicate over limited bandwidth connections, enabling true disaster recovery capabilities.

Installing Double-Take RecoverNow at LANL was fast and easy. Vision Solutions provided all of the help necessary to complete the installation, despite not being able to connect the protected server to the Internet for security reasons.

This stands in contrast to some of the other software the organization uses. Because some other vendors insist that LANL's servers connect to the vendors' licensing servers to validate the software licenses, in some cases, LANL has had to come up with very creative solutions just to apply a software patch. At the time of writing, LANL had been using Double-Take RecoverNow for only about six months and there hadn't yet been any updates issued for it, but Taylor doesn't anticipate any problems when it comes time to apply any patches to Double-Take RecoverNow.

LANL uses Double-Take RecoverNow to replicate data from two Windows Server 2008-based Dell PowerEdge systems over a secure network to another offsite server, in real-time. At a moment's notice, LANL can recover data from the backup server should a disaster or hardware failure destroy data on the primary servers. And that recovery can commence immediately and be completed very rapidly.

In the IT realm, theory doesn't always match with reality. Merely thinking that the recovery operations will work isn't good enough for LANL. A test of Double-Take RecoverNow's data recovery processes proved that they function properly and that the replicated data is accurate and complete.

Because Double-Take RecoverNow has proved its worth in LANL's demanding environment, the organization is planning to expand the use of the solution to provide backup and recovery safeguards for data on additional servers in the future.



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