NEXT GENERATION RADIOLOGY

Next Generation Radiology (NGR) is a practice that has 4 full service locations in New York state. All of these locations specialize in imaging, offering modalities that include MRI, CT, Ultrasound, Radiography, Fluoroscopy, Nuclear Medicine, Mammography and Positron Emission Topography. As a radiology practice, NGR is on the cutting edge of technology using the latest in PACS/RIS technology and load balanced VPN connectivity between all four locations.

REQUIREMENTS

Being involved in the radiology industry, government compliance and good business practices mandate that Next Generation Radiology needed to have a solid backup and disaster recovery program. Their DR plan needed to address fully backing up all imaging and corporate data at ultiple sites as well as taking care of offsite requirements and storing data in geographically ispersed locations in case of disaster.

Dan Castaldo, IT Director for Next Generation Radiology, was responsible for backing up all of the data at their 4 locations in New York. Dan had an existing backup and disaster recovery plan in place that was adequate, however with increasing HIPPA regulatory compliance and increasing amounts of medical imaging data, Dan had decided to completely revamp their backup architecture in order to accommodate their current and future needs.

Being a radiology practice, NGR had a number of industry specific medical imaging applications (RIS and PACS) and other servers used for regular business operations that needed to be backed up. A majority of this data was situated at the main location in Great Neck, NY, but there were certain applications located at 3 other facilities connected via VPN. All of this data needed to be backed up either daily or weekly. The method used to backup that data was a mix of LTO tapes and optical disks using Symantec Backup Exec. The issue that Dan faced was that optical disks were costly and slow when it came to backing up their data. Also the method of using Symantec Backup Exec to backup data over the VPN was time consuming and he averaged about 7 hours to backup about 18GB over the VPN. Dan evaluated a number of different alternatives including backing up to disk and tape as well as using replication software to backup the remote data over the VPN. Dan needed an overall solution that included both hardware and software that would quickly and cost effectively backup all of their data company wide.

THE SOLUTION

Next Generation Radiology implemented the Idealstor 4 Bay Backup Appliance and iBac Data Protection Software to backup their medical imaging servers and other critical data. Dan Castaldo implemented the 4 Bay because it could allow him to quickly backup his current amount of data while giving him plenty of capacity for future growth.

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The Idealstor 4 Bay is backup appliance that runs Windows 2003 server and has 4 removable drive bays that can accommodate any capacity SATA disk on the market. Dan is currently using 3 of the Idealstor 1TB drives to backup his data and as that data increases, he can simply add more drives to the backup rotation or simply purchase larger SATA disks. The 4 Bay can backup up to 6.0TB native allowing NGR ample room for future growth. Each drive bay in the 4 Bay is removable allowing NGR to simply swap disks in place of tape for offsite storage and disaster recovery.

As a part of this project NGR replaced their Backup Exec with Idealstor's own iBac 4.0. This solution provided NGR with a single source vendor for their backup hardware and backup software needs. iBac 4.0 is high speed backup software that backs up data in its native format allowing restores to be simple drag and drop. Once a full backup has been run, iBac simply backs up the changed data and gives the option to merge the changes to create a full backup or use file level de-duplication to store multiple versions of the backup data. Dan configured his backup job to merge those changes each time a disk is inserted. In this case, version control is being handled by using multiple disks in an offsite backup rotation. Dan saw vast improvements in backup speed as iBac simply backed up the changed files but presented the data as a full backup.

A specific application that was an issue before was backing up the Medical records on his imaging servers. Dan keeps images of this data from many years back and stores them on NAS servers at his main facility. This data is changed occasionally and needs to be backed up on a weekly basis. Dan used to use his optical disks and Backup Exec to back this up but this method was time consuming and cost prohibitive. iBac is now used to backup this data every weekend and the jobs are completed in half the time with speeds averaging 2GB/minute over Gigabit Ethernet. Because iBac keeps data in native format, Dan has more options when it comes to recovering data. "I don't even have to run a restore at times because I can simply map my users to the Idealstor drives and allow them access to the backup data." said Dan Castaldo at NGR. iBac allows restores to be run, but in this situation users with the proper privileges can simply go to their backup media to drag and drop a file to their local system.

Dan also uses iBac to backup his remote sites over his VPN connection. Castaldo said, "A backup that would have taken me 7 hours before backing up over the VPN, now takes a couple of minutes. The amount of data at the remote sites doesn't change that much on a weekly basis so iBac simply allows me to backup the changes and still get a full backup."

Next Generation Radiology met all of their requirements by implementing Idealstor and Ibac:

- **Cost Effective Backup -** Idealstor allows Dan to save money on the cost of media by using Idealstor drives instead of expensive optical disks and cumbersome LTO tapes.
- **Fast Local Disk Based Backups -** Idealstor with iBac is a complete backup solution that allows for data to be backed up to disk quickly and efficiently. NGR uses iBac to backup only the changed files drastically reducing their backup window.
- **Site to Site Backup and Replication of Data -** NGR utilizes iBac to backup their data over their VPN providing them with regulatory compliance and secure backup of data stored at multiple locations.