Synology Case Study

CANDAC
Canadian Network for the Detection of Atmospheric Change

Photo courtesy of Paul Loewen

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Why CANDAC Chose Synology Disk Stations

- Reliability
- Easy File Sharing Applications
- Superior Support and Community
- Affordability

Company Profile

Location: Research Network across Canada
Industry: Research
Platforms: Windows, Mac, Linux
Business Issues: Data Storage and Backup, File Sharing, Remote Access

Benefits

- Lower IT Costs
- Reliable and Secure
- Peace of Mind

Photo courtesy of Pierre Fogal

CANDAC Relies on Synology DiskStations to Store and Share Valuable Atmospheric Change Research

"We looked for a reliable NAS solution, that was able to work in remote locations and required minimum supervision. We chose Synology."

- Professor James Drummond, Principal Investigator of CANDAC

The Company

In Canada's high Arctic, a mere 10 degrees from the North Pole, a team of scientists and researchers work from a remote laboratory to answer some of the planet's most important questions regarding climate change. Using lidars, radars, spectrometers, interferometers, and other instrumentation, researchers at the Polar Environment Atmospheric Research Laboratory (PEARL) near Eureka, Nunavut brave the bitter cold to collect data on atmospheric change in one of the planet's most affected regions.

PEARL is the primary research facility of CANDAC, the Canadian Network for the Detection of Atmospheric Change. CANDAC is a partnership of university researchers, government entities, and non-profit foundations to advance research on atmospheric change. Boasting the planet's northernmost permanent geostationary communications link, PEARL has instrumentation to measure the atmosphere in various ways from the ground to about 60 miles into the atmosphere, well through the Earth's ozone layer.

The Challenge

For research organizations such as CANDAC, collecting, distributing, and analyzing data from several dozen different pieces of complex equipment requires the means to reliably store and share the data collections, even at remote research facilities. The data created and

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collected at the PEARL complex needed to be stored both locally and remotely to ensure protection of the valuable research data. From the PEARL at Eureka, data is transferred to the CANDAC Archive in Dalhousie University (Halifax, Nova Scotia) via satellite links, and then further via the Internet to university of Toronto, Ontario, where data is accessible to all CANDAC researchers.

Photo courtesy of Paul Loewen

After looking at different NAS solutions available on the market, Prof. James Drummond, Principal Investigator of CANDAC and Canada Research Chair in Remote Sounding of Atmosphere, chose CS407 from Synology for its reliability, RAID capabilities and a price that fit well within a non-profit research organization's budget. "We looked for a reliable NAS solution, that was able to work in remote locations and required minimum supervision. We chose Synology because they were actively improving their products, offered an excellent support team and well-developed forums. Cost was also a serious consideration for us."

Yan Tsehtik, CANDAC Data Manager, is responsible for ensuring that CANDAC's data is safely stored, yet also easily accessed and distributed. When gathering and storing important primary data that is often cited by major news organizations and governments, it was extremely important to Yan and the CANDAC team that their storage solution was not only reliable but easily accessible and economical.

Solution:

When the world is watching your organization's research to answer some of the most pressing issues of our era, such as global warming and atmospheric change and its effects on the planet, knowing that you've chosen a company and a product that you can rely on to secure and protect your data is of utmost importance.

With seven CS407s across the network, Yan was able to able to easily connect them all and establish a reliable data backup and transfer system. Primarily data is first stored and backed up on two CS407s in Eureka at the PEARL laboratory. Then, it's transferred via satellite links to three CS407s in Halifax, Nova Scotia for archival. Finally, the data is transferred to two more CS407s in Toronto, Ontario, where the CS407s act as distribution servers so that data may easily be accessible from anywhere by CANDAC scientists. The Toronto location also serves as a backup in case of disaster at one of the other sites.

As he was managing seven Synology systems spread over several thousand miles, rock solid support from the Synology support team was important to Yan in his decisions. When CANDAC began to run low on available capacity on their older 1TB hard drives, Yan undertook the task of upgrading to 2TB drives, which required expanding the RAID5 volume without losing valuable data or experiencing downtime.

"We contacted the customer support team regarding our problem with RAID5 volume's expansion," Yan said, "They fixed the problem and provided us with detailed explanation of the solution. It was very impressive."

Photo courtesy of Pierre Fogal

Recently, CANDAC decided to upgrade the CS407s to the award-winning Synology DS409+. With data needs increasing daily, CANDAC is preparing for the future by protecting its valuable research with RAID 5, secure FTP connections, and remote backups.

"Currently, we have about 6TB of raw data. However, we expect that amount will increase dramatically after data processing and quality control," Yan explained. With this much data being transmitted over such a large area the increased performance of the DS409+ will help keep CANDAC maximize data availability to their entire organization.

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As the scientists, researchers, and other inquiring minds at CANDAC continue to gather, examine, and uncover some of nature's greatest mysteries that last thing they should have to worry about is losing their work due to simple drive failures or lack of automatic backup. Synology DiskStations provide the peace of mind that organizations like CANDAC demand in order to carry out their important research and continue to solve mankind's most pressing issues.

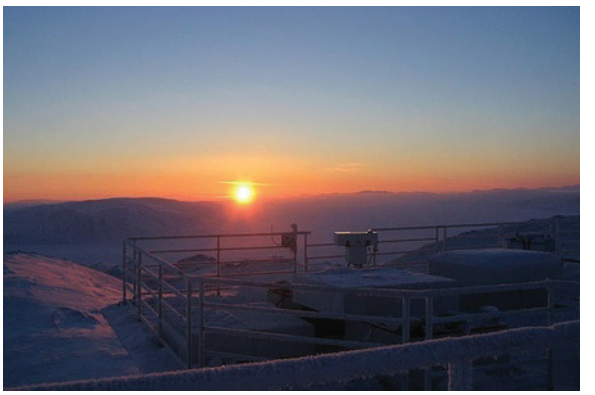

Photo courtesy of Pierre Fogal

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For more information on CANDAC please visit:
http://candac.ca

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