

LKAB gains flexibility and savings with Commvault® Distributed Storage



Swedish mining firm adopts Commvault® Distributed Storage (formerly the Hedvig Distributed Storage Platform™) for multi-purpose data storage, avoiding vendor lock-in and cutting costs.

Challenge

- Sustain a 24/7 mining operation with zero interruption
- Protect a vast, growing volume of IoT and other mining data with an unpredictable need to meet data bursts
- Avoid vendor lock-in problems, big renewal fees, and scale-up expenses for backup appliances
- Provide fast access to data (remote on-premises location creates latency issues with faraway cloud data center)

Solution

- Deployed Commvault Distributed Storage to store various types of data and support long-term retention requirements
- Added a second storage cluster to continue scaling

Result

- Gained the ability to meet increased IoT data without increasing computers, networks or downtime
- Enabled users to access data anytime and minimized disruption to 24/7 mining operations by eliminating the latency inherent in transfer to distant data centers
- Provided cost certainty to the business even with large unforeseeable data bursts
- Gained flexibility and efficiency for network backups and archiving
- Realized significant cost savings in long-term data retention
- Completed installation in just one day

Industry

Mining

Location

Luelå, Sweden (headquarters), with mines in Kiruna and Gällivare

URL

www.lkab.com

In numbers

- 4,000 employees
- US\$3.3 billion revenue in 2019
- Two main data centers in Kiruna, Sweden and one in the United Kingdom

Key assets protected

- 1,700 VMWare virtual machines
- Approximately 150 TB of data

The backup environment

- Commvault Distributed Storage for long-term retention/archiving
- Microsoft Azure



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Robert Pohjanen Storage consultant in charge of data center operations | LKAB

Scaling out for a mountain of data

Luossavaara-Kiirunavaara AB (LKAB) is a Swedish mining company heavily reliant on data analytics for the profitability and safety of its iron ore mining operation deep in the mountains of Norrbotten County, in Sweden's far north. Because it is a working mine, LKAB is operating 24 hours a day, 365 days a year; there is no down time, which necessitates data management and storage that can run without disrupting business continuity.

Mining is inherently a hazardous business, which is why the LKAB mines are now as automated as possible. Self-driving trucks and trains all produce and consume data that is constantly analyzed to enhance safety, as well as to detect business advantages. LKAB is always increasing its understanding of the mountains, with sensitive IoT sensors planted throughout the area. These sensitive monitors create a "digital twin" of the shifting, changing worksites. It also create its massive data troves in the process. Observing this data over time is essential for predicting future movements of the mountains, which means the LKAB archiving footprint will be bigger than their backup footprint because LKAB must keep the data forever.

LKAB was challenged by running out of storage space on its traditional scale-up appliances. "You have to constantly replace them, as they fill up, and do upgrades, which requires taking them offline, and we can't do that," said Robert Pohjanen, storage consultant in charge of data center operations at LKAB. "We have to keep running the mines all the time."

LKAB invested in Nutanix but found it expensive to continue adding CPUs when what they really needed was simply data storage space. Already a Cisco customer, LKAB wanted to make sure it adopted a solution that would leverage their investment in its current hardware partner.

Flexible storage for unpredictable needs

LKAB still uses Nutanix in its primary data center, but Pohjanen turned to Commvault Distributed Storage because the solution worked on the same principle as Nutanix, but offered less expensive storage options for scale-out. LKAB currently manages about 150 TB of data on two unique Commvault storage clusters.

"We had at least two upgrades with the legacy Veritas NetBackup hardware. It took us time because we basically ripped and replaced the system and that's including moving the data," said Pohjanen. "The biggest saving with the Commvault Distributed Storage is no forklift upgrades. This allows us to grow more storage without increasing computers and networks."

LKAB uses another vendor for backup storage, but it discovered that storing anything beyond 30 days was prohibitively expensive per TB. Commvault Distributed Storage proved to be a far more economical option for long-term storage and archiving.

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Robert Pohjanen Storage consultant in charge of data center operations | LKAB

The move to distributed storage also helps LKAB handle an increasing gush of IoT data generated non-stop by seismic sensors placed throughout the mountain. This data is critical to predict where tunnel walls may be weakening, in order to proactively reinforce them.

"We started generating around five or six TB of data a year with the IoT cluster, and we're expecting to grow to 15 TB," Pohjanen said. "Every time there is a movement in the mountain, that generates data. But we are adding more IoT sensors, which will continue to generate more data."

The benefits of cloud storage without the cost uncertainty

LKAB prefers to keep most of its data on-premises in three data centers — two near the mines in Kiruna, Sweden and one in the United Kingdom — because the costs are more predictable. LKAB also has partial disaster recovery in the cloud with Microsoft Azure and uses Commvault Distributed Storage for archiving.

“While the public cloud provides scale-out options, it is not a current fit for the unique LKAB business use cases,” Pohjanen said. “Instead, LKAB uses the flexibility of Commvault Distributed Storage capacity for unplanned bursts of data, creating cost certainty. I can go to my boss and tell him how much it will cost to store X amount of data on Commvault software-defined storage. Using cloud services, I can’t do that. I can guess, but I can’t be certain.”

“One of the unexpected benefits was the flexibility of Commvault Distributed Storage. We started using it as a target for network backups. Now we’re using it as a target for archiving backups. Those are two completely different use-cases from a technical standpoint.”

Robert Pohjanen Storage consultant in charge of data center operations | LKAB

By keeping its mountains of data secure and on-premises with Hedvig, LKAB can access data anytime and avoid the potential risk of internet connection failure. For example, LKAB has seismic data comprised of millions of very small files. On-site delivery of those files to Commvault software-defined storage is fast and reliable.

Commvault Distributed Storage has created measurable savings against cloud storage. But it’s also created efficiencies and savings in terms of ease of use and flexibility.

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LKAB installed Commvault Distributed Storage in a single day and was able to store data on the same day without any downtime.

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