



How a Single Solution Solves Multiple Backup and Recovery Challenges for Canada's Largest Mining Company

VAULT400 satisfies reporting requirements imposed by Sarbanes-Oxley, automates off-site backups and provides cost effective disaster recovery



A day rarely, if ever, passes when ill fortune doesn't blindside an organization with an event that disrupts its data management infrastructure. Most of us in IT can personally attest to the fact that the aftereffect is painful if not costly, regardless of the precipitating circumstances. It is at this juncture where recovery strategies are taken most seriously.

With several backup, recovery and DR options available in the IBM i marketplace, it's difficult to conceptualize which one best suits your unique needs. According to technologists who work at the Center of Excellence for JDE Support for Teck Resources Ltd. in Trail, BC, Canada, a solution offered by UCG Technologies meets their challenging backup and recovery requirements while also delivering some well received, yet unexpected benefits. Matt Paterini, Canada Regional Director for UCG Technologies noted, "Teck Resources is a great example of a forward thinking organization leveraging VAULT400 for data protection. Having automated backups with fully managed DR is a winning combination for efficiency and security."

Almost 10 years ago in December 2009, Teck Resources Ltd. deployed VAULT400 (vault400.com) from UCG. VAULT400 is a business continuity solution for virtualized backup and recovery. It secures Teck's business-critical data by transmitting highly compressed and encrypted data packets over the web to two secure managed data centers.

VAULT400 is comprised of multiple components for data collection, compression, encryption, and replication. An agent resides on Teck's production IBM iSeries model 800 and the data is sent to a pair of data centers hosted by UCG. Teck's time and date stamped data backup sets are instantly available for immediate, user-initiated recovery 7/24/365.

Teck is Canada's largest mining company, headquartered in Vancouver, BC. It operates in more than 20 countries and mines natural resources such as gold, coal, copper, zinc, and other specialty metals. Teck employs approximately 9,500 people globally, and in 2016 it booked nearly \$9 billion in revenues.



Matt Paterini
Canada Regional Director
UCG Technologies

Teck shifted its computing strategy from one that called for IBM midrange systems running JD Edwards Enterprise One and World situated at each site to a virtualized strategy, with control centralized in Vancouver. In part, Teck made this decision because of the limited computing skill sets available at desolate areas where the mines often exist. While many of Teck’s mining sites now operate under the new virtualized construct, others continue to run their own systems with assistance from their partners in Vancouver. Still, Teck’s new standards for IT, which are in part driven by Sarbanes- Oxley legislation, apply to all of their facilities. Such is the case for Teck’s operation at the Highland Valley Copper Mine, situated about 35 miles southwest of Kamloops.

Teck previously relied on a tape backup routine that included daily, weekly, and monthly saves. side from being relatively labor intensive compared to an automated system, tape backups left them vulnerable to common tape failures. Furthermore, roughly two hours had to be carved out every night to run backups. During this time, users couldn’t access their apps and batch jobs had to wait in the queue. Decision-makers at the corporate level decided to implement a unified backup level of automation, offsite replication, and technology that could accommodate limited bandwidth and facilitate a full recovery in less than 48 hours. In response to corporate directives, technicians at Highland Valley Copper and Trail Operations began to investigate disaster recovery options.

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In February 2009, Mario Amantea (now retired), a member of Teck’s Center of Excellence for JDE Support, began to help the Highland Valley team find a suitable solution that met the company’s stated criteria. Amantea’s search unearthed VAULT400. UCG explained its tiered recovery options that accommodated 1-, 12-, and 24-hour recovery windows.

Vaulting fits new disaster recovery strategy

Teck sat in on a web-based demonstration and soon decided that VAULT400 met their technical and budgetary requirements, and opted for the 24-hour DR recovery option. Implementation was straightforward, and the vault was seeded in less than four hours with VAULT400 compressing 125 gigabytes of data to 40 GB. According to Teck’s Larry Holm, the technician tasked with managing the implementation, “I arrived at the Highland Valley site at 8:30 AM and was finished by lunchtime. The installation was all menu driven and really easy to use. At first our firewall blocked our transmission out, but we quickly diagnosed the problem and created an exception within the firewall.”

An initial DR test was conducted where technicians from the mining company, aided by a recovery specialist from UCG, restored access to all of their core business applications over a VPN connection that tunneled through Teck’s Vancouver facility. “We told everyone that we were simulating a disaster at a specific time and date,” said Holm. “First, UCG configured an iSeries environment that mirrored the one in Highland Valley. We obtained temporary codes for our applications, and once the system was ready to go and we had our devices connected to it, we entered our password and were back in business.” To check the integrity of the remote system, Teck ran payroll along with a few applications on the purchasing side. The outcome matched earlier benchmarks obtained from the Highland Valley system.

After the test, UCG provided Teck several documents including a 49-page DR plan detailing the processes that occurred throughout the test to serve as proof of recoverability. In short, it took 147 minutes to prepare the hosted system for recovery. This included the installation of the operating system at the appropriate release level, a disk configuration re-build, the installation of logical partitions and PTFs, and the configuration of a TCP/IP connection. It then took UCG 381 minutes to restore user profiles, user libraries, the IFS, and perform all remaining necessary tasks prior to going live. “On our first pass, we were able to recover in roughly one fifth of the amount of time that we specified as our RPO,” said Holm. “Elsewhere in the organization where the computing environment is completely virtualized, recovery procedures take about the same amount of time.”

Soon after, Teck worked with UCG's engineers to simulate a disaster. They ran reports, documented financials, and had a restore completed to one of UCG's machines. Teck verified with members of different departments all of the data and information over the period of several days. All data was confirmed.

Holmes commented, "I found this to be a worthwhile exercise and gave us the confidence that in a disaster our information would be fully restored and available."

Data available 7/24/365 for day-to-day recovery

Holm adds that Teck didn't subscribe to VAULT400 necessarily for the ability to granularly restore individual files and folders as they were accidentally deleted or corrupted on an ongoing basis, but they are finding this feature much more convenient than restoring using the old manual tape-based process.

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Larry Holm,
Teck Resources Ltd.

Encrypted files are immediately available online, which is much easier than going off-site to locate the tape & specific file. Frequent incremental vaulting backup intervals are used to satisfy daily, weekly, monthly and annual backup requirements, and maintain parity between Teck's production system and their offsite backup. "The backup solution was a bonus for us. Because we're managing as much of this operation as possible from hundreds of miles away, we were relieved when we realized that we didn't need to have people mount tapes and run backups," says Holm. "Once everything was set up, it was a runaway and there wasn't much to do. Now we can do backups on the fly with no downtime and it's completely automated."

To prove that Teck's data was accessible and recoverable, Holm deleted several files on Highland Valley's server. He then accessed the data from VAULT400, drilled down to the files he needed to restore, tagged them, and in a few seconds verified that they once again appeared on the Highland Valley Copper production server.

Upon factoring the cost of human capital, hardware, software, and offsite storage hardware, the investment associated with implementing VAULT400 was much less. "We weighed the value of re-platforming the Highland Valley Copper site to conform to our virtualization initiative, and also considered making another machine available. But besides requiring hardware, we'd need staff," said Holm. "Then, we'd need a way to replicate the data across to that machine. We looked at all the prices and VAULT400 really stood out as the most cost-effective option. And when our vaulting requirements grow, VAULT400 will accommodate us."

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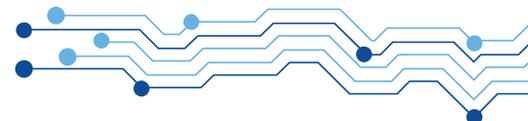
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