



CASE STUDY

CONSOLIDATED MINERALS



Region / Country

APJ / Australia

Industry

Mining

Company

Consolidated Minerals

Use Case

- Database – Microsoft® SQL Server
- VSI – Microsoft Hyper-V®
- ERP – Pronto™

Business Transformation

Executives, finance professionals, geologists and other key personnel are more productive with fast, reliable access to data and applications, and the company receives a superior return on investment in its IT infrastructure.

Challenges

- Re-commencing of mining operations required major upgrades to IT infrastructure.
- Legacy storage system lacked the performance and expansion capability to support future growth.

IT Transformation

- FlashStack™ converged infrastructure speeds processing times, lowers operating costs, and simplifies administrative demands.
- Nightly ERP backup times were reduced by more than 90%.
- High rates of data reduction ensure adequate storage capacity to meet long-term needs.





Consolidated Minerals Strikes a Motherlode of Storage with FlashStack

Consolidated Minerals (ConsMin) is an Australian mining company that is one of the world's leading providers of manganese ore, an essential element in the production of steel and iron. The company's Woodie Woodie mine in western Australia has been recognized internationally as a source of high-grade, low-impurity manganese for some 70 years but was placed in care and maintenance mode in 2015 due to a drop in manganese prices. In 2017, under new ownership, production at the

mine was re-commenced. As part of the re-start process, Erle Metcalf arrived as the company's IT Coordinator with the task of modernizing the company's IT infrastructure.

"Even before the shutdown in 2015, much of the legacy IT equipment was ready for replacement, so by 2017 we had reached end-of-life. Still, we had to migrate from our old infrastructure rather than start anew, so it was quite a complex task," Metcalf recalled. "Our storage was a spinning-disk SAN that only had 500GB capacity left, and it fed three IBM servers. So, we needed

something more modern with higher capacity, performance and scalability."

With extensive experience in IT management, Metcalf was clear about his priorities in selecting new equipment. "When I decide on products, I have three core values: simplicity, scalability, and the least administrative effort. And I found one company that met all three — Pure Storage."

Previous experience with legacy storage met none of these criteria, he continued. "They didn't have the simplicity nor minimal administrative effort. There was

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ERLE METCALF
IT Coordinator





always a lot of messing around with LUNs and tiers and all that. The old storage was quite a complex system.”

FlashStack Provides the Solution

Metcalf engaged with Pure Storage and Cisco Systems to design a solution using FlashStack converged infrastructure, which combines Cisco UCS® servers and Pure Storage FlashArray™ arrays in a proven reference architecture that simplifies ordering, deployment, support and expansion.

“We looked at solutions from a couple other vendors,” Metcalf said, “but it came down to the reputation of the products. I have lived and breathed Cisco equipment for more than 15 years, and everyone I have spoken with that uses Pure Storage has extremely positive things to say about it.” The FlashStack was installed in late 2017, and a second system was purchased later for a remote backup site.

“My key requirement for storage was not necessarily to support high-intensity transactions,” Metcalf said. “It was more about longevity — knowing that I’ll get the best value for the money over the long-

term and not have performance degradation over time, the way it does with spinning disk.”

“With legacy storage, you had to constantly rebuild RAIDs and take other steps to preserve performance and stretch out the useable life of the equipment. With Pure Storage, you don’t have any of that. The maintenance requirements are practically zero. We just put it in and it works.”

Consolidating Multiple Workloads

While Metcalf has moved some applications, like Microsoft Office® 365, to the cloud, most of the business-critical workloads remain

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on-premises and have been consolidated onto the FlashStack, which handles multiple, diverse workloads without any compromise in performance. These workloads include Microsoft SQL Server databases, Pronto ERP (“the backbone of our operations”), and ConsMin’s fleet-management system.

The fleet-management system is especially demanding of the storage infrastructure. “We collect a lot of data as we track excavators and trucks and the movement of ore,” Metcalf said. “There are a lot of transactions.” The system feeds multiple functions in the company, including geologists who

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constantly monitor the quality of ore being excavated and business analysts who prepare data for an executive dashboard of operating metrics that is refreshed four times each working day.

Metcalf said that since installation of the FlashStack system, response times on all key applications have decreased, with end-users waiting less time to complete tasks, make queries or retrieve information. One example of productivity improvement is in the creation of work orders for the trucks that transport ore from mine to processing. With the lagging performance of legacy storage behind the ERP system, “it could take as long as 20-30 minutes to complete a work order, when it should take only five,” Metcalf noted. “With Pure, we have had no delays at all. Everything is a lot faster.”

A dramatic improvement also has been seen in the nightly backup performed on the Pronto ERP system. “In the past, it was a 13-hour process to move that



1.2TB LUN onto our backup server — from 6 p.m. to 7 a.m., and occasionally it would finish later than that and impact the start of the workday. With Pure Storage, that job has been reduced to just one hour.”

Optimized Storage Administration

The deduplication and data-compression features of the Pure Storage arrays have resulted in data-reduction rates that are “better than I expected,” Metcalf reported. “We’re seeing 3.4:1, which means less infrastructure to maintain, less power consumed and lower data-center costs. We don’t have to constantly keep





thinking about where we'll get more capacity when we need it. We're nearly two years into having our array and still are only at 50% capacity. That gives us plenty of room to accommodate growth."

Reliability also has been a strong point of the FlashArray. "We have had 100% uptime, even through software upgrades, which are done non-disruptively during regular business hours. That's definitely a pleasant change from past experience."

The hands-off management of Pure Storage arrays exceeds Metcalf's requirement for minimal administrative overhead. "I figure we're saving at least 10% in staff time by not having to tend to storage all the time. We just get on with our work, and when we need more storage — bang, we just set up another LUN and away we go. We never had a dedicated storage administrator but outsourced a lot of the work, especially during provisioning and migrations. Now, we save

money by not employing all those consulting services."

Metcalf sees a very attractive return on investment in his FlashStack system. "After three years, you'd normally look at swapping out your storage, so anything you can keep after that time is a massive benefit. I expect Pure Storage to last at least six years before we have to even consider expanding capacity or replacing controllers.

"When you put everything together — the power savings, minimal maintenance and staffing requirements, the reliability of the equipment — you have an ROI that is way ahead of traditional SANs," Metcalf concluded.

Products and Services

Unified Computing FlashStack:

- Cisco® UCS® servers
- Pure Storage FlashArray
- VMware vSphere

Cisco Networking and Security Solutions:

- Cisco Nexus® switches

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