ctos

Moving to a High-Capacity Data Storage System

40%-50%
Faster data extraction buffer time

66%
Reduction in rack space

23%
Lower electricity bills

> " The seamless deployment processes of Pure Storage products and top-notch service are the reason we have chosen Pure Storage for our data storage needs."
>
> **BENJAMIN LAU**
> **GENERAL MANAGER OF IT**

CTOS is a business centered around acquisition and presentation of information, so data storage is crucial. Pure Storage all-flash arrays help CTOS store large quantities of information and allow it to process data quickly and safely. Since deploying Pure Storage, CTOS has significantly improved response.

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Venturing Toward a Sustainable, Long-Term, All-Flash Solution

Established in 1990, CTOS is a leading credit reporting agency in Malaysia, with 420 employees. The company was founded with the aim to solve one fundamental problem in Malaysia—the lack of information sharing among businesses, including small and medium enterprises. This also extends to consumers' limited knowledge and awareness of their credit standing.

CTOS facilitates credit extensions by empowering businesses and individuals to achieve better financial credit health via data and information gathered from the public domain and government authorities like the Suruhanjaya Syarikat Malaysia and Bank Negara Malaysia, among others. CTOS counts among its customers major banks in Malaysia such as Maybank, CIMB, RHB; major telcos such as Maxis and Digi; established SMEs; leasing companies; and moneylenders.

With the growing amount of data available in the public space, CTOS gathers information on individuals and companies, and presents these data sets to various industries. As CTOS continues to expand its business by gathering a wider variety of data sets, it faced challenges in data storage. Traditional storage systems required a much longer time for data to be generated, affecting the speed and capabilities of the company.

"Previously, we have always used a rack-mounted storage. Every time we ran out of space, we had to buy a new hard disk and go through the process of migration and upgrades," says Benjamin Lau, General Manager of IT at CTOS, who recognised that they had to move towards a more sustainable, long-term solution. "Most of our usual contacts weren't too confident with their all-flash solutions, so we ventured beyond our usual contacts, and eventually learned about Pure Storage all-flash arrays."

> **❝ Knowing that we can trust Pure Storage as a reliable and safe platform, we can look forward to realising the new, innovative ideas that are present in our roadmap."**
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A Future-Proof Storage Solution with Improved Performance

Given that CTOS' key clients are banks who need data to be extracted quickly and accurately, they were among the first to experience the difference once Pure Storage came onboard. Pure Storage's products have served the company well, especially during peak periods. The company uses multiple databases, including TMAX Tibero, MySQL, and Postgresql, as well as Redhat Enterprise Virtualization.

"In the past, when data storage failed, recovery took time. But now, we're able to assure our clients that our system can withstand high performance workload. With faster response time of just 2 to 3 seconds, queues at banks and even roadshows they hold become shorter, and this has made all the difference to our clients," says Lau.

Since deploying Pure Storage, CTOS no longer needs to run on high load. Only two instances of high load are enough now, down from 3 to 4 instances on previous servers. Data extraction is also much smoother, with a buffer time of only 2 to 3 days, compared to 4 to 5 days previously. In addition, the Pure Storage solution reduced rack space from nine to three racks, and electricity bills by 23%.

Time to market has been significantly reduced after adopting Pure Storage. "Previously, we needed 4 to 6 weeks for procurement, and 2 to 3 days for deployment. Now that we have Pure Storage, time to market has dropped to half an hour. The time taken to deploy a new server and spawn a new VM has become extremely fast. Where it used to take days, it now only takes 3 to 5 minutes to spawn a standard VM and 10 to 30 minutes for a customised VM," says Lau.

"Currently, we work only with structured data, but we already have plans to move to unstructured data. Pure Storage's products allow us to plan ahead—the addition of unstructured data would create more complex storage demands, and we'll need a storage system with the speed to support this data," says Lau.

CTOS currently runs two FlashArray units, with a total capacity of 20TB, and enjoys the "self-driving storage" benefits of Purity software. The company is also confident that as business requirements grow, it can easily move forward with Pure Storage without worrying about loss of data during migration, since growing data space simply means replacing the controller. Furthermore, Pure Storage promises zero downtime during the migration, a bold promise unheard of in the industry. Pure Storage removed the need for yearly storage migration and upgrades.

Faster data processing enables CTOS to generate more data sets and provides a quicker response time. Pure Storage keeps CTOS ahead of the curve with a reliable solution that addresses the greater data demands of the market. Moving direct to flash from rack-based storage has saved ample time without the hassle of migration and upgrades. Data retrieval time has also been significantly reduced.

"Knowing that we can trust Pure Storage as a reliable and safe platform, we can look forward to realising the new, innovative ideas that are present in our roadmap. Indeed, this is the product of the future," says Lau.

> **" Not only has performance improved, we are also enjoying smart, proactive service."**
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> **GENERAL MANAGER OF IT**

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Seamless Migration and Simplified Management

Prior to engaging Pure Storage, CTOS consulted with other all-flash array storage solutions companies, but found that their representatives were unclear about their own solutions. In contrast, the expertise of the Pure representative CTOS met gave the team confidence to pursue Pure Storage solutions.

Furthermore, when CTOS needed support for hardware and network, they found response time from Pure Storage fast, and each diagnosis also came with an in-depth analysis and report on the issue. "The seamless deployment processes of Pure Storage products and top-notch service are the reason we have chosen Pure Storage for our data storage needs," says Lau.

"At CTOS, we always assume that anything that could possibly fail is bound to fail, but the deployment process of Pure Storage solutions was so seamless, we were surprised by how fast it took. For this particular deployment, we were working with three other partners, apart from Pure Storage. The Pure Storage team were the last vendor to arrive, but the first to leave. While the others took half a day to set up, Pure Storage only took over 20 minutes," says Lau.

"We were always concerned with maintenance on our previous rack-based storage solution. However, when we migrated to Pure Storage, we were pleasantly surprised to learn that the Pure Storage team would conduct web-based monitoring for us," says Lau. To test the system, CTOS conducted a UAT cycle on Pure1, and was impressed when the Pure Storage team detected it and began following up via emails and calls.

> ❝ We took a risk with Pure Storage by going for an all-flash solution when hybrid was still the talk of the town; we trusted that the IOPS would be better. The risk paid off. Not only has performance improved, we are also enjoying smart, proactive service. I'm excited to see what Pure Storage's foray into self-driving storage will deliver for us in future."
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