WaterNSW protects one of Australia's most precious resources with Nutanix

The Nutanix Enterprise Cloud ensures WaterNSW leverage the power of technology to improve water management while protecting data sovereignty

BUSINESS BENEFIT

WaterNSW sought to modernize its technology, using the cloud to leverage the full power of its data while reducing management and costs. However, with data sovereignty and data security issues to consider, simply migrating all its workloads to a public cloud wasn't an option. It was able to retain key workloads on-premises without losing the benefits of the cloud by working with Nutanix. Implementing Nutanix Enterprise Cloud to work alongside the public cloud also opened the way to increasing the value of its data. What's more,

> **"With Nutanix, we have gained workload portability for critical water management systems, rapid provisioning, and simplified administration for multiple environments to help deliver better services to our customers."**
>
> – Ian Robinson, Chief Information Officer, WaterNSW

INDUSTRY
Public sector

BENEFITS
- Increases the value of data assets and flexibility
- Improves resource management using operations and event management tools
- Reduces IT costs by 30% compared to a public cloud IaaS solution
- Moves workloads to the most appropriate and highest performing environment
- Raises efficiency by reducing IT management workloads by 10%
- Completes failover of entire data center in 4 hours when previously took days

SOLUTIONS
- Nutanix Enterprise Cloud OS
- Disaster Recovery (DR)

APPLICATIONS
- Supervisory control and data acquisition (SCADA) system
- Telemetry system
- Geospatial systems
- Risk and compliance systems
- Business productivity systems

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WaterNSW improved resource management, reducing IT costs by 30 percent compared to a public cloud infrastructure as a service (IaaS) alternative and streamlined IT management by 10 percent, while ensuring business continuity.

CHALLENGE

Water has always been a precious resource in Australia, with the country's limited and unpredictable rainfall. With climate change and economic growth, however, water security has become even more of an issue with the government funding projects to save water and prevent loss in cities and towns.

State-owned WaterNSW is a key player in the management of the country's water resources. It controls river and water supply systems across New South Wales (NSW), and supplies two-thirds of water used across the state. It also operates the largest surface and groundwater monitoring network in the southern hemisphere. "Water is a scarce resource that we need to manage efficiently," says Ian Robinson, chief information officer at WaterNSW. "To be better resource managers requires better information about our supply. What's the best way to get water point A to point B? How much water should we release on any given day? Only through technology can we optimize the way we use it."

WaterNSW's IT systems support both the organization's operations and water monitoring network. WaterNSW wanted to modernize its IT to help optimize both operations and the network. The modernization plan rested on updating all applications and using the cloud to leverage software-as-a-service (SaaS) or infrastructure as a service (IaaS) models. Simply moving to a public cloud, however, wasn't an option. Robinson explains, "It's unlikely that many utility companies would hand over all their IT to a public cloud. We were mindful of data sovereignty and data security conflicts."

He adds, "It was clear that a hybrid cloud offered us the best option. We wanted to emulate the essential cloud capabilities—easy maintenance, on-demand services, cost effectiveness, and availability—but in-house."

SOLUTION

WaterNSW engaged with Nutanix and Nutanix Partner HCL. It was part of a wider engagement with leading tier-one providers, which presented several hyperconverged infrastructure (HCI) solutions to support the hybrid environment. After a detailed technical evaluation, WaterNSW chose a Nutanix Enterprise Cloud solution running on a Nutanix HCI to deliver its goals. Within nine months of its decision, WaterNSW expanded the Nutanix HCI platform to enhance its disaster recovery (DR) capabilities.

WaterNSW began modernizing its applications and, depending on the needs of each workload, allocating them to the public cloud or the Nutanix Enterprise Cloud. To date, WaterNSW has deployed a total of 23 Nutanix nodes to support half of its system workloads and modernized approximately 400 applications. Of the workloads on the Nutanix Enterprise Cloud, some of the most critical are supporting the supervisory control and data acquisition (SCADA) and telemetry systems behind the surface and groundwater monitoring network. These are running on two three-node Nutanix clusters.

Increases the value of its data and flexibility

With Nutanix, WaterNSW is able to leverage the full potential of the cloud. By modernizing its applications as well as leveraging SaaS and IaaS models, the organization can extract greater value from the information it collects. Highlights Robinson, "WaterNSW understands the incredible value of its data. Through an innovative approach to its architecture, it has retained ownership and control over its most important asset, while simultaneously having the flexibility to share it in real time." This capability gives WaterNSW new opportunities to enhance customer value through increased transparency and to improve water usage, in turn increasing crop yields and choices on water consumption.

Enabling smarter resource management

WaterNSW resource managers have better information on which to make critical decisions on water allocation day by day. Government departments can also see the condition of the state's water reserves, and farmers can see the availability of water to irrigate their fields. It's made possible by the Nutanix-based SCADA and telemetry systems that process data from 5,000 measurement gauges and sensors installed in waterways across the state. They take this data and make it available to a wide range of internal and external applications— including the recently released Water Insights Portal.

"Our water data is critically important, and it needs to be shared. Making it accessible is a core part of our role," comments Robinson. "We're a data management company when it comes down to it," Robinson said. "Everything we deliver for our customers depends on the visibility of what's happening across our water network. Whether that's river flows, storage levels or water quality, every decision we make is data-driven."

Reduces IT costs by 30%

As a result of its hybrid cloud strategy—combining the Nutanix Enterprise Cloud with the public cloud— WaterNSW made a significant cost saving. Robinson explains, "Nutanix represented better value for money than going to a public cloud-only strategy. Not only do we save a further 30 percent, Nutanix's consolidated approach means we can emulate the cloud capabilities in-house without a huge amount of effort."

Optimizes performance through workload agility

The hybrid cloud approach ensures data sovereignty and data security are never issues because WaterNSW can run sensitive workloads on the Nutanix Enterprise Cloud. "I don't feel like we've compromised on anything relating to cloud capabilities through a hybrid solution," indicates Robinson. "It gives us the most flexibility and a lot of control."

Reduces IT management workloads by 10%

WaterNSW can dedicate more IT resources to developing its systems rather than routine management after lowering IT administration workloads 10 percent. "A lot of the people that might be dedicated to managing a data center like ours, are no longer required and can work on other things," says Robinson.

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Completes failover of entire data center in 4 hours when previously took days

With the DR cluster now in place, WaterNSW has increased the resiliency of its IT—reducing the risk of IT issues impacting system performance. Furthermore, as part of the application modernization program, business-critical applications have been architected in a way that enables automated failover, giving a much stronger disaster recovery capability. Robinson says, "We have been able to failover our entire data center in 4 hours whereas previously it could take days and would result in some significant manual workarounds."

NEXT STEPS

Right now, WaterNSW is bringing in hundreds of new personnel to support large-scale engineering projects, including an AU$1 billion dam building initiative across NSW. The efficiency of the personnel and projects will depend to a large degree on data. Concludes Robinson, "The decisions we make are linked to our IT systems. Building our resilience and core performance is absolutely fundamental to our future, and Nutanix is a key part of that."

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