\\\virtana | Case Study

Sovereign Cloud Provider reports 30% capacity savings and 20% performance improvement from its IaaS deployment with Virtana

ABOUT

Industry
Infrastructure-as-a-Service provider

Headquarters
Australia

OBJECTIVE

To be the number-one Australian Government IAAS Provider by delivering a high performance, cost effective IaaS for Government and Critical National Industry to the ASD PROTECTED standard.

RESULTS

30% capacity savings, 20% performance improvement. Immediate value from visibility into VM and SAN environments showing resource consumption and allowing efficient capacity planning.
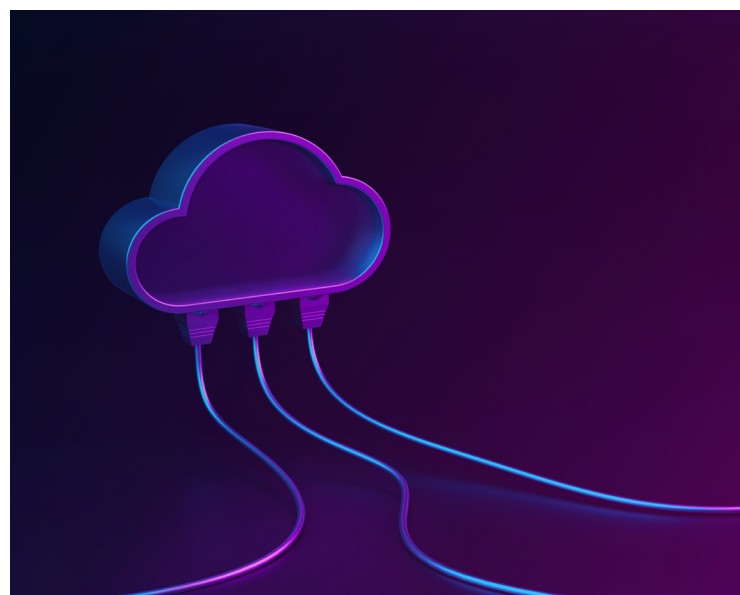
ABOUT Sovereign Cloud Provider

This Cloud Provider is Australia's sovereign cloud Infrastructure-as-a-Service (IaaS) provider, exclusively focused on the Australian Government (Federal, State and Local) and critical national industry (CNI) communities. The organization, which is Australian-owned and managed and operated by Australian citizens, hosts all data and services in Australia, and is independently certified to the PROTECTED level controls of the Australian Signals Directorate (ASD), Information Security Manual (ISM).

After successfully establishing the UK major public sector cloud host with UKCloud, the founder looked to expand its sovereign cloud experience into Australia. After discussions with the Australian Government and a multi-million-dollar investment, the first environment was set up in 2018.

The core technology component is a VMware Cloud Director virtualization platform. "We chose that because 80+% of the Government market in Australia is already VMware virtualized, so it's an easy migration to The Sovereign Cloud Provider without reconfiguration," **said the COO of the Sovereign Cloud Provider**. "Our core networking is

Cisco, ACI and core compute is Cisco UCS, with Pure Storage FlashArray for block storage and FlashBlade for backups and other use cases. In addition, we have Cloudian to provide object storage. We operate out of two data centers, one in Sydney and one in Fyshwick near Canberra, and both of those host two environments at different security classifications. Virtana Platform monitors the entire VM, SAN and Storage infrastructure."

THE CHALLENGE:

Efficiently deliver IaaS to Australian Government and CNI

The Sovereign Cloud Provider was established to become Australia's number one Governmentfocused IAAS supplier. Each customer has to sign to agree that they adhere to the Australian Government Information Security Manual (ISM) and Protective Security Policy Framework (PSPF) standards before work starts. "We recognized, through experience, that we wanted to avoid any capacity planning issues because all these investments in Cisco or Pure infrastructure are rather expensive and you don't want them sitting there idle, waiting for customers to come on board. **We needed to ensure that we were buying things at the right rate and not over-buying them,"** stated the COO.

The Sovereign Cloud Provider also wanted to balance workloads, ensure they were situated in the right cluster and do away with performance issues associated with a shared environment. They needed to optimize CPU and memory allocation based on performance. "We give quotes for hosting and if the customer gives us a list of specifications, we can do that, but it's really down to the customer. We can deploy a very large VM that uses 2% of CPU or they can deploy a small VM that's consistently hammered. It's completely under the auspices of the customer as to what they chose. **We use the Virtana Platform to provide recommendations and help manage the workload on our clusters appropriately,"** said the COO.

THE SOLUTION:

The Virtana AI-powered monitoring, analytics, and automation platform

The Chief Operating Officer continued "We wanted a product that was capable of doing multiple tasks. We looked around and we talked to UKCloud and evaluated quite a few products. I know Virtana from a previous life and had had very good support from their Services people. We first engaged with an overview of the Virtana Platform, then a deep dive, a POC – which settled the argument. It was very different to what I was used to from back in my infrastructure days – the analytics, the dashboards themselves, and the capability of doing right-sizing. We implemented the Virtana Platform early and now our customer base is ramping up. We have

recently made additional significant investments in infrastructure, so we are still not reaching capacity issues yet, but we expect to in the next 12 to 18 months. Once we see workloads grow and need re-balancing, we will really see the real value. **We like the fact that the Virtana Platform analytics help us to optimize the environment for everyone while it is still shared, and it helps us to keep performance levels at the right SLAs."**
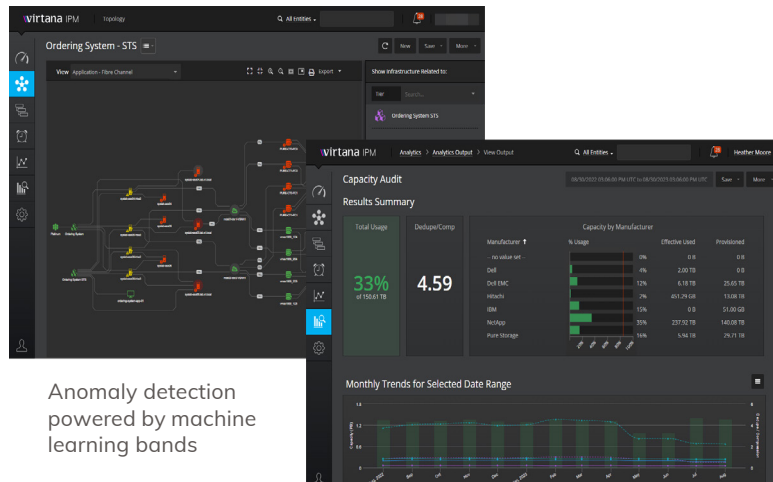
IMPLEMENTATION:

Easy setup in just days

said, the company's Head of Technology, "It's a virtual appliance and it was easy to install and configure – which I did myself. I also had good guidance from Virtana's Services team. We had it up and running and productive in a few days. I ran some of the analytics and it gave me recommendations, like how much memory and CPU we could lose on VMs, and we could choose if we wanted to do that or not. **It offers right-sizing and optimization suggestions out of the box, and also gives you a script on how to move VMs between hosts to balance it up. As the workloads grow, we will have to run the exercise pretty much continuously as we start to see potential challenges emerge."**

Anomaly detection powered by machine learning bands

the COO added, "Right now, by using Virtana to optimise our infrastructure we are getting a 30% capacity savings and around a 20% improvement in performance. We have the Virtana topology map sitting in our new Security Centre video wall with the Red, Yellow and Green alerts – except we haven't got any Red or Yellow!"

RESULTS:

Better problem solving

The Head of Technology stated, "The Virtana Platform has been excellent for setting off alerts on CPU usage for our internal systems. There have been a lot of issues where some VM processes have run away to 100% full-time usage and caused a fault, so now Virtana is set up to send an alert to our Network team who can deal with it, and that's 24/7. **It's a great help. For capacity forecasting, we now know where we are with CPU, memory and storage. Virtana fills in gaps that we have, and it's a lot easier to see at a glance what is going on than with other tools I have used in the past."**

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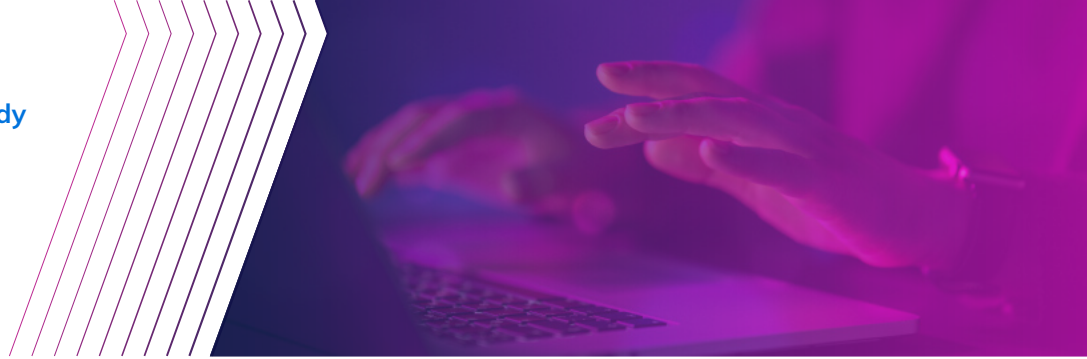
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> **Chief Operating Officer**
> at Sovereign Cloud Provider

THE FUTURE:

A clear path to growth

"We are always growing" said the COO. "The second data center is operational now, but we have components going in, so all four environments are equivalent. We have two performance SLAs for customers, Basic and Standard, equivalent to Dev and Production. It's all Flash and apart from a few storage policies, each environment is identical. Our Basic customers are getting very good performance from their Dev environments."

The Virtana Platform is set up to ensure performance SLAs are met, looking at latency from application host, SAN and storage perspectives to see the whole latency path backwards and forwards. It ensures that the latency SLA is upheld and that there are no noisy neighbours affecting performance. The Sovereign Cloud Provider will get further benefit from Virtana as they load up the systems, add in more VMs to the system, put more workloads on them and run CPUs at higher utilization. **"At The Sovereign Cloud Provider, we can run utilization of our systems higher than other people because with Virtana we have the capability to detect and monitor the entire infrastructure from one place. I am confident we are getting and will continue to get a good return on our investment,"** commented the Chief Operating Officer.