MONASH UNIVERSITY

A Vertiv Case Study
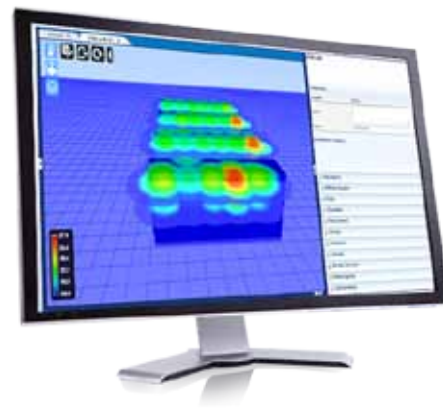

ABOUT THE COMPANY

Monash University is a public research university established in Melbourne, Australia in 1958. It offers a large number of courses across numerous disciplines and has a student population of over 70,000. Monash has achieved an enviable national and international reputation for research and teaching excellence in a short 50 years. The University is ranked in the top one per cent of world universities.

Background

Monash University is dedicated to providing world-class excellence in education and research. They work with industry, government and community partners to develop effective data-driven solutions with impact.

As a world-class research centre, it requires reliable data centre infrastructure where high performance computing acts as the bridge between industry and academia while accelerating research translation. In recent years, however, Monash has been experiencing inefficiencies within its IT system. Adrian Ling, Senior Technical Analyst at Monash University, says, *"The most observable trend over the past few years has been the increasing pace of change and the major leaps in IT load. You inherently know there will be energy inefficiencies and your data centre will be vulnerable to downtime."*

Case Summary

Location: Australia

Vertiv Solution:

- *Trellis™* Thermal System Manager

Critical Needs: The University's immediate challenge in its data centre was to reduce cooling costs and mitigate downtime by getting cold air to the areas that needed it the most. Monash had recently experienced small outages due to water leakage, which if left unresolved had the potential to cause serious problems to the overall network. In addition, the University needed a tool that could not only keep pace with the speed and frequency of changes within the infrastructure, but also forecast the environmental impact of changes within the data centre.

Situation: The University already had an environmental monitoring system in place across multiple platforms and vendors, but found collating the data from over 100 devices was time consuming. So much so, the IT team invested in third party bi-annual environmental auditing. However, the auditing was only "point in time," which meant they could only create historical reporting and graphs. This left the IT team chasing hotspots and unable to recognise if any of the changes they were making had a positive or negative impact on the IT heat load.

The Solution

Leak rope detection leads were installed to mitigate any downtime due to water leakage. Wireless sensors were also installed to monitor temperature and humidity as a more cost effective option to cabling. This means all the data from the hardware is connected via a wireless telemetry network allowing moves to be made via a keyboard rather than calling in a cabling contractor.

Adrian explains: *"It is so much easier to move around and adapt as the environment changes as there is no fixed cabling. This means the sensors can adapt and change with the data centre without any additional cabling contractor costs, which can add up to several thousands of dollars per visit."* All thermal data is aggregated across the data centre without the need to do cabling from the gateway to the sensors. The gateway collects all the data and feeds it through the *Trellis™* platform that manages all the alerts, alarms and notifications.

The *Trellis™* Thermal System Manger was installed to monitor the two data halls contained in the data centre. The University can now centrally monitor their entire infrastructure from one portal. The single panel dashboard provides real time 3D thermal imaging heat maps, allowing the University to:

- Monitor and set threshold alarms for the service processor temperature inside critical IT devices for an added level of protection thereby mitigating downtime;

- Balance the available cooling capacity between IT devices and the facility, which has already seen a downward trend in energy usage; and,

- Understand the true thermal capacity for planning and redundancy, rather than product specifications.

corresponding cooling status.

Tom Anderson, DCIM solutions manager, Vertiv, explains: *"Trellis™ allows IT and facility managers to perform instant impact analysis on all additions, moves and changes within the critical infrastructure. Using this intelligent platform, they can see what their cooling efficiencies are and how much actual cooling capacity they have left in the room, based on real world usage, not on specifications."*

The Outcome

Monash University have seen cost savings in three different areas of business since installing *Trellis™* Thermal System Manager:

- Downward trends in power consumption;

- No need for third party auditing;

- Cabling costs reduced significantly since the introduction of wireless cables

Adrian further notes that unexpected outcomes since the installation of *Trellis™* has been *"understanding the huge amount of information that Trellis™ is collecting so that we can make better decisions."*

"We have a lot more opportunity to improve our monitoring that we didn't realise, like the asset capacity management, which gives us our full rack layouts, so now we can add monitoring at that level. We aren't making decisions blindfold - we can now look at individual pieces of hardware and understand what it is doing to the environment," he adds.

Good data centre management is a critical element for Universities where a large number of users are dependent on the quality and availability of systems and services. Vertiv provided an end-to-end solution that gives real time monitoring of heat loads, which allows the University to preventively manage all their data centre equipment ultimately lengthening the lifecycle of the data centre equipment.

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