



ABOUT THE COMPANY

Xtreme Networks provides complete internet solutions for New Zealand businesses. It supplies business internet connections with managed redundancy options, co-location/data centre facilities, VoIP, Web, Mail and Domain Name Services.

The company is 100% New Zealand owned and operated.

Case Summary

Location: New Zealand

Vertiv Solution:

- Liebert® NXr
- Liebert® HPC-S Freecooling chiller
- Liebert® CRV'S

Critical Needs:

Leveraging Wellington's famously cold southerlies from Antarctica, Xtreme Networks opted for free cooling technology utilising a fluid economiser system to reduce energy consumption. This is seen as the best approach due to the cold temperature as well as the prevailing westerlies that bring in cooler offshore ambient air temperatures.

With free cooling, compressors in the chillers are not required to provide cooling capacity 24 x 7, thereby reducing energy consumption while improving cooling performance.

In addition to the above, Xtreme Networks was looking for a modular uninterruptible power supply (UPS) solution to complement its cooling system, enabling flexibility and agility as its business grows.

Xtreme Networks took lessons from its existing 34-rack collocation facility (Room1) when they took on the design for their second collocation facility (Room2) of 100 racks in Thorndon Quay, Wellington. Xtreme's brief was to work with an organisation who understood this project would involve a long sale cycle and scalable cooling and power solutions that could grow as the facility grew.

XTREME NETWORKS

A Vertiv Case Study

Situation:

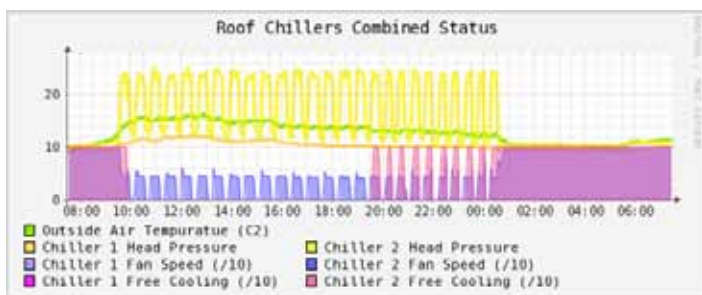
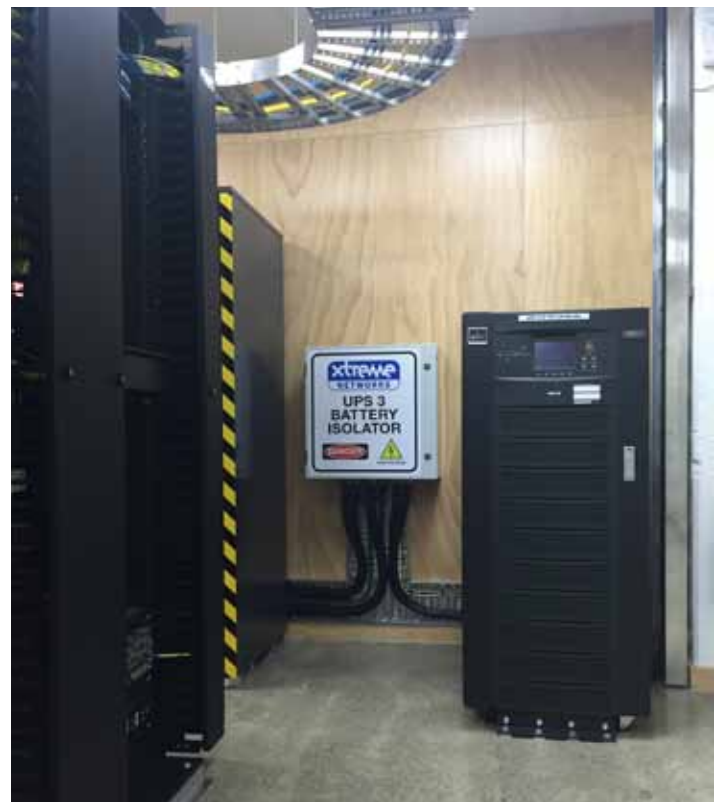
Xtreme Networks continues to rapidly expand its business to provide the best services to its growing customer base. In building its new Wellington colocation facility, the customer identified energy efficiency as its top priority in the new data centre design. Xtreme Networks opted for free cooling and modular UPS technology in their new facility.

The Solution

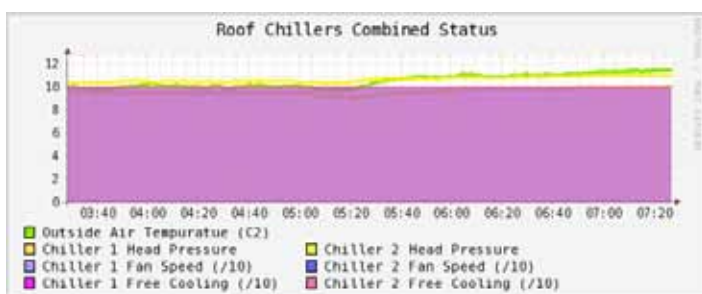
Vertiv's free cooling chiller design is optimized for applications following ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) guidelines in terms of temperatures required by the new generation of servers. With higher return temperatures to the Computer Room Air Conditioning (CRAC) units allowing for higher cooling liquid temperatures, up to 20°-26°C. Vertiv's free cooling chiller guarantees maximum efficiency and greater hours of free cooling operation.

In addition, the Liebert NXr UPS was selected to minimise upfront capital expenses and optimise efficiency. Its low footprint saves costly floor space while effectively managing data centre facilities with high densities. The Liebert NXr provides 100% usable real power with high generator compatibility because of its low input THDi (total harmonic distortion), lowering the size of input cables needed and the the rating of the switch gear.

Moreover, the system provides for module redundancy. At any given time, there is one module providing for modular redundancy at a customised level. You can build in your own level of redundancy because of the modularity. This is important for reliability – in the event if one module fails the system runs as normal. NXr modular UPS means colocation providers potentially do not need to spend a lot of money upfront. Customers can buy the chassis with one or two modules and grow it up to five modules to meet increased capacity demands as the business grows.



Impact of changes in ambient temperature on free cooling.



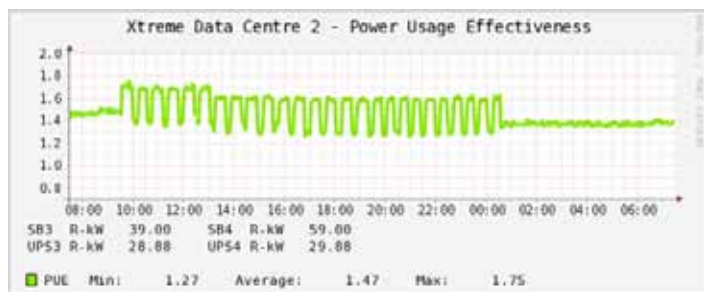
Graph showing continuous free cooling operation.

Dion Hallam, Managing Director of Xtreme Networks, explains “We were initially considering using separate cooling and power vendors, but felt it made more sense to go with the one vendor who can provide a complete solution that integrates seamlessly in providing sales, service and maintenance. Vertiv provided this solution. Service is a key component of the offering and having local Vertiv Engineers in Wellington is of huge value to us.”

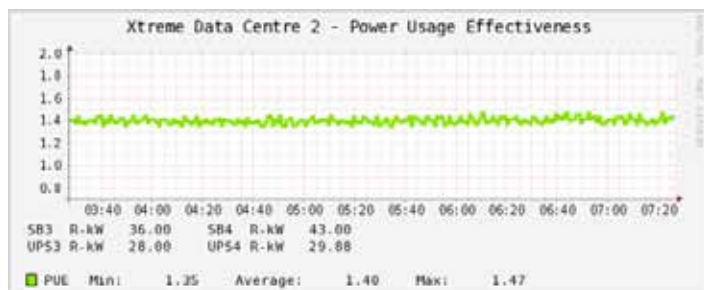
The Outcome

The project timeline was on schedule which meant the sale cycle took three years from the initial introduction to delivering the final cooling and UPS solution for the official opening.

The scalability has been so successful that Xtreme Networks is now looking at a UPS replacement program for its room 1 facility, using the Liebert NXr modular system. This will enable them to leverage the technology, consolidate vendors and create a replicable and predictable infrastructure in both rooms. In practical terms this means Xtreme has high levels of redundancy in their UPS power solution.



Impact of changes in ambient temperature on PUE and the impact of the compressors being utilised



Graph showing continuous free cooling operation in relation to PUE.

Mark Deguara, Director of Data Centre Solutions, Vertiv said: *“The utilisation of higher return temperatures and higher cooling liquid temperatures, realises the benefits of the free cooling technology deployed. As a result, it delivers a significant reduction in compressor operation over a 24 hour period, a significant reduction in energy consumption and takes advantages of the free cooler air temperatures.”*

“When operating in free cooling mode we see the benefits of this reflected in the PUE of the room going from 1.75 down to 1.27. Currently this is a short period reading and an overall annualised PUE will be calculated,” Deguara added.