ERGON ENERGY

HIGHLIGHTS

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Maintain a complex network of substations, fibre, high-speed comms network and satellite links spread across metro and remote areas

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Software-driven architecture where all computing, networking and storage is managed by a single box, provided by a single vendor - Cisco Hyperflex

CLOUD-MANAGED SOLUTION

Cisco Hyperflex

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HOW ERGON ENERGY KEEPS THE LIGHTS ON FOR 850,000 CUSTOMERS... WITH HYPERFLEX

When Ergon Energy (an Energy Queensland company) wanted to turn electricity delivery on its head for regional Queensland, they needed a new way to manage their operational network. Something faster, easier and more cost-effective than the traditional server & SAN model, but something just as robust and secure. Enter Cisco HyperFlex...

THE CHALLENGE

Since 2000, Ergon Energy has been 'keeping the lights on' for more than 850,000 metered customers, spread across 97% of QLD - many so remote they have absolutely no mobile coverage.

To do so, Ergon Energy maintains a complex network of substations, fibre, high-speed comms network and satellite links.

From 2015, things got even more complicated, as Ergon Energy accelerated deployment of intelligent, street-level devices that are installed on power poles, and which intelligently manage the flow of electricity at a much more granular level.

The introduction of these new devices meant that Ergon Energy's already large power delivery network was now significantly more complex, so they needed a much more sophisticated environment to make management easier. And naturally, it also raised a swag of new security concerns. They needed to protect against unauthorised control of power delivery and access to data.

In other words, they needed a single, common computing platform that would talk to, understand, secure and control all of their disparate systems - from telecommunications management, SCADA, metering and alarm management software to historian and real-time intelligence solutions.

And because energy utilities are extremely risk adverse, it had to be an on-premise solution.

> "Cisco has driven our business communication for 12 years. They've always taken the time to understand our needs and tailor intelligent solutions to meet them."
>
> – Simon English, Manager of Operational Technology, Ergon Energy

THE SOLUTION

For decades, the on-premise server & SAN model has been the go-to solution for businesses with expansive networks that require exceptional uptime and security. And Ergon Energy definitely considered that model.

But having maintained numerous server & SAN infrastructures in the past, they knew from first-hand

experience that it's a model that requires an inordinate amount of management. They also knew that it would require them to work with four or more independent vendors to design, cost and implement the solution.

So rather than simply running with the default option, they decided to investigate a more contemporary alternative: hyperconvergence – a software-driven architecture where all computing, networking and storage is managed by a single box, provided by a single vendor.

According to Ergon Energy's Manager of Operational Technology, Simon English, hyperconvergence appealed to the organisation because it promised all the speed, security, redundancy and scalability of a traditional server & SAN solution, but with a fraction of the hardware investment and maintenance overhead.

English said they looked at several hyperconvergence solutions from different providers, but Cisco's HyperFlex stood out from the crowd: "Everything else we looked at either didn't fit the bill or was going to be a very complicated solution that would require a whole lot more work on our part."

What's more, Ergon Energy already had a very high opinion of Cisco's innovation and customer service capabilities: "Cisco has driven our business communication for 12 years. We already had a range of their solutions in place, and an excellent relationship with them. They've always taken the time to understand our needs and tailor intelligent solutions to meet them. Plus they're always there when we need support. So HyperFlex made sense from more than a technology standpoint."

"From go to woe, it took us about two weeks to set up. And we didn't have to be Cisco-certified to be able to do it."

– Simon English, Manager of Operational Technology, Ergon Energy

So after 3 months of due diligence, English decided HyperFlex was the way to go, and he and the Cisco Queensland team set about designing exactly the solution Ergon Energy needed.

It was a complete system with Servers, Storage, Hypervisor, VMware, Networking and Automation from a single vendor. That solution took just a couple of weeks to integrate. "We commissioned each cluster in less than a week, plus a bit of commissioning on site," said English. "From go to woe, it took us about two weeks to set up. And we didn't have to be Cisco-certified to be able to do it."

By way of comparison, according to English, a traditional server & SAN implementation would have taken four to six months. "We would have multiple racks full of equipment, and all of it would require patching and wiring. We'd have needed three additional groups involved in that process, to build patch cables, do drawings, and connect all the pieces together, then commission all the parts from all the groups. Just putting the pieces together would have been months of work, let alone commissioning the VMware. With HyperFlex, we got a single system, we put it in a rack, and we were essentially done."

"We're able to deploy a new virtual server, off template, complete with storage and patching, and ready to go, in under 20 minutes"

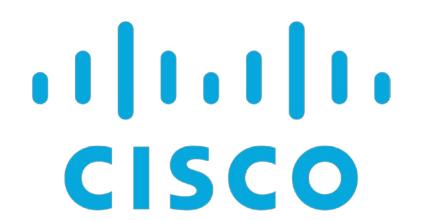– Simon English, Manager of Operational Technology, Ergon Energy

THE OUTCOME

Ergon Energy now has a robust, high-performance, fully redundant network, and a computer system that supports applications that can control, monitor and manage a diverse array of devices and systems, which themselves communicate using an equally diverse array of protocols.

All with just a few boxes in their rack, and two network cables. "Rather than the four or five racks of equipment we'd have had had with a server & SAN implementation," said English, "now we have a single rack. With room for expansion."

No compromises on performance either. In fact, according to English, their server performance is actually some 25 times better than they'd expect from traditional computing platforms.

Just as importantly, their solution is easy to use and requires negligible ongoing maintenance. "Had

we gone down the server & SAN road," said English, "we would have had to employ a significant team of people to support it. A database specialist, a VM specialist, a hardware specialist, a storage specialist…"

HyperFlex has also helped make Ergon Energy more agile. "We're able to deploy a new virtual server, off template, complete with storage and patching, and ready to go, in under 20 minutes," said English. "It's shortened our time to market considerably. In a server & SAN environment, this would take a couple of days per server."

And if they do happen to need some help along the way, they have one number to call. "The entire solution from rack to street is managed and controlled by a single-vendor system, so we always have that peace of mind of knowing the people we call will be able to resolve the problem."

FUTURE

Ergon Energy plans to expand further into hyperconvergence in the coming years. "We'll be expanding on our current HyperFlex infrastructure," says English, "with a particular emphasis on software defined networking."

FINAL WORDS

In the words of Ergon Energy's Manager of Operational Technology, "In the end, when compared to the server & SAN alternative, HyperFlex was a cheaper solution up-front, it was quicker to implement, our support costs are lower, and we get superior performance per CPU. Exactly what we needed."