

Architectural firm accelerates graphics-intensive virtual desktops with Cisco HyperFlex

Size: 300 employees · Industry: Architecture and planning · Location: Sydney, Australia

BVN is an award-winning architectural firm with an international footprint and global reputation for design leadership and innovation. The firm has design studios in Sydney, Brisbane, New York, and London, and its portfolio includes civic and institutional projects, office and residential design, tourism projects, industrial developments, master planning, and urban design. For more information, visit bvn.com.au.



Challenges

- Boost virtual desktop infrastructure (VDI) performance
- Improve application accessibility and availability
- Simplify infrastructure management and scaling

Solutions

- Cisco® HyperFlex™ Hyperconverged Infrastructure (HCI)
- Cisco Intersight™ SaaS Systems Management Platform

Results

- Accelerated Autodesk™ application performance by 200 percent
- Reduced data center power and cooling costs by \$36,000 a year
- Cut firmware update times in half

For more information

- [Cisco HyperFlex](#)
- [Cisco Intersight](#)

Challenge: Improve virtual desktop performance

Architectural design tools have come a long way since the days of drafting boards, scale rulers, and tracing paper. The architects at BVN, for example, use powerful design software, 3D rendering tools, and even virtual reality to envision, engineer, and showcase client projects. These graphics-intensive technologies require a massive amount of computing power with equally capable memory and storage. And because BVN projects often involve multiple teams and workflows, it is vitally important that project resources are easily accessed and shared.

“When I was first hired, each office had its own technology stack,” says Haydn Davies, IT infrastructure manager at BVN. “We were flying people across the country just to access files that were on specific servers.”

The decision was made in 2014 to centralize the firm’s computing resources and deliver applications to its 300 users via Citrix VDI. BVN purchased the latest NVIDIA graphics cards and put them on discrete servers, but each server could only support 15 users.

“While the solution worked, managing all of those servers and keeping them updated was difficult,” Davies recalls. “And if one of the servers failed, our project teams had to wait while we moved them to a new one. We can’t have that.”

BVN’s users needed better application performance, accessibility, and availability. And its IT staff wanted to simplify systems management and scaling. After considering on-premises and cloud-based infrastructure solutions, the firm selected Cisco HyperFlex with NVIDIA graphics processing units (GPUs) as the engine for its Citrix VDI.

“The alignment of compute and storage is what really made the difference. Cisco HyperFlex offered the latest GPUs and better performance than the other on-prem solutions we considered, and it was also less expensive,” says Davies. “A cloud-based solution would have cost substantially more, and our data would be harder to access.”



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Simplifying IT operations

BVN’s two Cisco HyperFlex clusters are managed as one logical environment with Cisco Intersight, a SaaS-based systems management platform.

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“And new features are added all the time,” he continues. “Because Cisco Intersight is SaaS-based, those features just appear. We don’t have to update or download anything.”

The platform has dramatically improved BVN’s IT operations, he explains. Firmware updates, security patches, and application upgrades can be easily deployed across the two Cisco HyperFlex clusters.

“We used to manage each Citrix host as its own catalog, and there were 25 hosts,” Davies says. “Now we just update the image and deploy it to all of the hosts. It takes less than three hours instead of six or more.”

The density of the platform has helped BVN reduce 25 Citrix hosts down to 15, saving roughly \$3000 each month on data center power and cooling. And the firm can scale compute, memory, and storage independently as needed.

“Scaling the environment is so easy,” Davies claims. “You just put additional compute into the rack, turn it on, and away it goes. We don’t have to worry about matching CPUs, images, or clusters.”

Accelerating graphics-intensive applications

With the latest NVIDIA GPUs and double the amount of video RAM and memory BVN had previously, Cisco HyperFlex has dramatically improved the firm's VDI performance.

"We did some benchmarking with Revit, which showed Autodesk running 200 percent faster," Davies says of the firm's core design application. "The benchmarking models took roughly 110 seconds on Cisco HyperFlex compared to 330 seconds on our previous generation of servers."

And because file servers are no longer scattered across the firm's regional offices, project resources are easily accessed from anywhere. In addition to reducing the time and cost of cross-country flights, this accessibility became vitally important when the global pandemic emerged. With high-performance VDI in place, BVN was able to quickly mobilize its workforce and maintain business continuity.

"It was seamless," Davies recalls. "All we had to do was call our Internet provider and double our bandwidth. Everything else was ready to go."

Looking ahead

In addition to getting configuration and deployment assistance from Cisco, BVN is receiving ongoing support from the Cisco Technical Assistance Center (TAC).

"Getting everything from Cisco has been very helpful," Davies says. "The NVIDIA and Citrix integrations are great, and if we ever have a problem, Cisco TAC will jump in and solve it."

With less technology to manage and fewer problems to solve, BVN's IT staff has turned its attention to projects focused on business enablement and protection. The team plans to implement multi-factor authentication, further improve its tenant environments, and explore additional capabilities for its 300 users.

"Flexibility, manageability, and scalability are the keys," says Davies. "We get all of that and more from Cisco HyperFlex."

