

HIGHLIGHTS

Secondary College implementing a 1-to-1 learning environment and improved infrastructure by fully leveraging digital technologies for class and homework.

Cisco HyperFlex implemented because of its speed, simplicity, reliability and cost-effectiveness

A solution that provides enterprise-grade reliability, speed, simplicity and flexibility, including the ability to expand with growing organisational needs without necessitating a technical re-design.

Evolved infrastructure that supports more than 5,000 users and more than 2,200 connected devices

CLOUD-MANAGED SOLUTION



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FROM 1,600 TO 5,000 USERS HOW CISCO HYPERFLEX TRANSFORMED RINGWOOD SECONDARY COLLEGE

10 years ago, Ringwood Secondary College had the IT network of a humble SMB. Today its network matches, or even exceeds, the infrastructure of many Fortune 500 companies. All thanks to Cisco Hyperflex...

THE CHALLENGE

Ringwood Secondary College is a public secondary college in the outer Eastern Suburbs of Melbourne. It employs approximately 160 teachers and administrators, and teaches approximately 1,500 year 7-12 students per year. It also incorporates Ringwood Training, which provides automotive, engineering and IT training to approximately 350 senior students, trainees and apprentices per year.

Historically, the school's network needed only to provide storage, data transfer and internet access to support its staff and students. And for 17 years, it used a traditional server and storage model to do that, before eventually transitioning to a SAN model for 5 years, before HyperFlex.

But in 2007 the school began implementing a 1-to-1 learning environment, and by 2011 all students had a mobile device. At this time, Ringwood's principal, Michael Phillips, saw an opportunity to further improve the school's teaching and learning infrastructure by fully leveraging digital technologies for class and homework.

He planned to issue all year 7 and 8 students with an Apple iPad, and all year 9, 10 and 11 students with an Apple MacBook. Each device needed to be connected to the school's network and configured to provide secure access to the student's personal storage space, enabling storage of all school-related files (including very large video and streaming media files from the Media Arts and Digital Technologies programs) on the school's own servers.

In addition, students enrolled in Ringwood Training courses added another 350+ connected devices to the mix, many of which were being used by students completing an Advanced Diploma in Information Technology, which integrates Cisco Networking Academy courses (CCNA/Security) and has particularly demanding IT requirements.

And finally, the school's 160 teaching and administration staff each use two to three connected devices, and the school's various parent and community committees and programs also connect to the network and save files.

This meant the school's network needed to evolve from one that supported only 1,600 users and 250 connected devices, to one that supported more than 5,000 users and more than 2,200 connected devices! From just ~2TB of data stored per day to ~50TB, and from 10GB downloaded per day to ~650GB - most of it wirelessly.



In other words, Phillips needed to transform the school's network into one with the capacity to support the scope of needs usually found in a Fortune 500 company!

Naturally, that meant enterprise-grade reliability, uptime and privacy, and because public education IT budgets rarely match those of the corporate sector, it also meant flexibility, including the ability to expand with growing organisational needs without necessitating a technical re-design.

Just as importantly, Phillips also wanted to integrate a single solution, rather than having to construct, design and deploy many individual components to comprise a solution.

“From server to storage to data centre switching, we wanted just one contract and just one point of contact. An end to end solution.”

“Although our needs match those of a big corporate, our budget certainly doesn't, we had a fraction of the typical private-sector budget to dedicate to the project.”

- Michael Phillips, Ringwood's Secondary Principal

“We also wanted a single hardware maintenance agreement across the entire solution,” he said.

“From server to storage to data centre switching, we wanted just one contract and just one point of contact. An end to end solution.”

“And although our needs match those of a big corporate, our budget certainly doesn't,” said Phillips.

“We had a fraction of the typical private sector budget around \$130k to dedicate to the project, and it which had to cover server and storage hardware under a three-year lease, with a five-year lifecycle, along with all deployment and migration of our retired systems.”

THE SOLUTION

Since 2003, Ringwood Secondary College has partnered with technology solutions provider, VIXTRO. A technology agnostic firm, VIXTRO analysed the school's strategic needs and translated them into a cutting edge, scalable IT architecture.

Because the school already used Cisco routing and switching, wireless and web filtering, Cisco HyperFlex naturally made the shortlist. But it was by no means a shoe-in. Together, the school and VIXTRO examined a number of other technologies, but in the end, Cisco won out, because of its speed, simplicity, reliability and cost-effectiveness.

According to Phillips, “The reality is, it's just more reliable, with overall lower latency and a single point of management for storage. Its de-duplication and smart compression are also a big plus, because they allow us to make much more efficient use of our storage hardware.”

So Cisco HyperFlex is now at the heart of the school's server infrastructure. It does everything - from computing to storage to networking. It's integrated with a VEEAM backup solution and a vast WiFi system, with approximately 100 access points.

“The performance of the HyperFlex solution far exceeds what we expected to see. The system is definitely functioning better in a hyper-converged environment.”

- Michael Phillips, Ringwood's Secondary Principal

But surprisingly, despite the sophistication of the system, the school, together with VIXTRO, was able to implement the HyperFlex solution within a week, including the migration of 90 virtual servers.

THE OUTCOME

According to Phillips, the HyperFlex solution is more than meeting the school's requirements. “We couldn't be happier,” he said. “The performance of the HyperFlex solution far exceeds what we expected to see. The system is definitely functioning better in a hyper-converged environment.”

He said the school has made particular savings on the cost of storage and service rollout. “Thanks to HyperFlex's great de-dupe and compression, our stored data dropped by 28% after the migration,”

said Phillips. “And our virtual server deployment, and testing of new products and services is now lightning fast, in comparison with previous solutions.”

“When we need to increase capacity,” he said, “we just add another node to the HyperFlex cluster and expand the resource pool. Everything just works. We don’t have to assemble the storage, networking and computing components individually, and tie them into our current setup. We just install a pre-built box that was designed to do exactly what we intend, and it’s a much more streamlined and easy process.”

He said, “If we were working with the traditional server and SAN model, things would be a lot more complex, because any new equipment would need to be connected and configured, which takes days and costs heaps. With HyperFlex, we can provision new capability much faster, without any downtime or costly hardware upgrades.”

“It’s given us an unprecedented level of reliability”

- Michael Phillips, Ringwood’s Secondary Principal

The system is also a lot more reliable. “It’s given us an unprecedented level of reliability,” said Phillips. “So our teachers can now drive digitally engaging content further in the classroom, and they can also interact with, and manage, our students more effectively. This is incredibly important because, when any technology is unreliable, teachers naturally resort to manual processes and lose confidence in the entire online system.”

Just as importantly, the school won all of these benefits without compromising on ease of use. “Our students and staff just have to log in, then they can access the internet and their stored files, just as they normally would,” said Phillips. “All the same tools, just faster, more reliable and more space!”

FUTURE

Technology in education is a constantly shifting challenge. “Because we can never know, for sure, what the jobs of tomorrow will be,” said Phillips, “it’s impossible to plan an IT infrastructure to help us teach the skills required for those jobs - particularly in DigiTec, and in Science, Technology, Engineering and Maths. All we know for sure is that 21st century learning requires technological agility. We can only ensure that what we put in place now can be easily adapted. HyperFlex gives us that. Because we know it’s a fast and simple matter to upgrade and adapt, we’re free to focus on our students’ education needs, rather than the technology.”

FINAL WORDS

According to Phillips, “Cisco HyperFlex was the solution that the College needed in order to both resolve existing pain points and exceed community expectations in terms of performance and reliability. We’re now free to fully utilise modern digital technologies in and out of the classroom. We couldn’t be happier with our choice.”