

Top of the Class: How Nutanix Transformed Our School's Infrastructure

by Tracey Guyers

Helping young people grow and learn is one of the best ways to build a better tomorrow. And bringing technology into education is exciting because it challenges students in new, innovative ways. If I can do my part to support students, I feel like I'm contributing to society.

My original goal was to help students on the autism spectrum within the school system, and to get that job, I had to learn to use a computer. The only course available was a certificate in IT, and I ended up loving it. I pursued an advanced diploma in networking and security and obtained a position within a school, where I worked for 10 years. Today, I'm the IT Manager at St Peter's Girls' School in Adelaide, South Australia.

Seeking the Apex of a Technology-Driven Educational Environment

St Peter's Girls' School was founded in 1894 and is an Early Learners to Year 12 International Baccalaureate World School. We have about 800 students and almost 200 staff. We encourage girls to stretch beyond their perceived boundaries, learn new things, stand up to peer group pressure, and discover things that pique their interest and pursue those activities further.

We understand the value of technology in our students' education and offer our students opportunities to explore technology. Similar to our EDGE gifted learning program, our APEX program is a group of students who are innovative, driven, and curious about new technologies. They are our peer testing group for potential new technologies for the school. After their evaluation, we examine what levels would best benefit from the technology and eventually roll it out to those students.

The APEX students serve as peer mentors for the students learning to use the new technologies. The APEX students also take on digital projects around the school as a practical way to strengthen their new skills. For example, our Year 3 class went camping and took photos that were later curated for our digital signage for the rest of the school to see.

Our journey towards technology is growing and that enables us to identify the students' interests. Rather than wonder what the students find interesting, we follow their lead and target those areas.

Bringing Reliable, New Technology into the Classroom

The more you bring technology into the classroom, the more you need reliable infrastructure. While our old IT system didn't have constant outages, it was far from perfect. When the server went down, everything else went down too, and no one had access to anything.

The more you bring technology into the classroom, the more you need reliable infrastructure. #NutanixStories

In modern classrooms, your learning management system (LMS) is your learning lifeblood. When it's not accessible, learning can stop. That makes updating firmware tricky. Students no longer attend school from 8.30am to 3.30pm and leave to do their homework offline. Learning now takes place around the clock.

We spent a lot of time trying to figure out the optimal time for our firmware upgrades — when you know people wouldn't be on the system. Sunday mornings at 2am typically worked best. As the system admin at the time, I can tell you that the time wasn't ideal for me, but I did what had to be done.

For larger system upgrades, we relied on our July summer holiday period. That provided us a three-week window to complete all of our system upgrades. But during that time, our staff had no access to our systems, so their work was brought to a halt.

Being able to keep the system live was the biggest issue for us. We set out on a journey to create the ultimate system with zero downtime. Our hardware was due for renewal, so it was the perfect time to examine what was available.

Going Simple and Stress-Free with Nutanix

We discovered [Nutanix](#) at an industry event and realised how simple and stress-free it would make my life as the one getting up to do system maintenance at 2am on a Sunday. I spoke to our then-IT Manager about it and we started to investigate further by talking to other schools who were using [Nutanix](#) about their experiences.

We discovered that Nutanix would require less administrative time for the IT team. We could automate a lot of our tasks, and the upgrades and the firmware would be much more simplified. The simpler system would mean we didn't have to be afraid of ever breaking the server.

Before Nutanix, my heart always skipped a beat when I had to shut the server down for firmware upgrades. If I was doing the firmware upgrade and it broke, a 40-minute downtime could suddenly span to a couple of days. But with Nutanix, if something went wrong with the upgrade, it would only be one

server going down, and we could have two others still operational.

Armed with this information and positive feedback from other schools, we decided to give it a go.

From Ideation to Implementation

We're fortunate that the leadership team at St Peter's Girls trusts us and the decisions we make. We're the IT experts, and they know that we make decisions for the benefit of the entire school community, not just ourselves.

I stressed the uptime ability to management. In the past, when I told on-site administration staff that they would have to spend a week offline, their warranted response was, "Seriously?" So being able to say that Nutanix would allow them to keep working while IT completed the upgrades — without any disruptions — was definitely a move in the right direction. They loved that.

Working with an #IT solutions partner that can mentor and support you through the implementation process can make all the difference in your success.

#NutanixStories @NutanixPartners

We worked with Nutanix partner [Subnet](#) on the implementation. I've worked with them for more than 15 years and now know the team quite well. St Peter's Girls' School was one of Subnet's first Nutanix customers as well, so we learned together. Their engineers came in and I worked with them to move everything over to the Nutanix system, which was a pretty seamless process.

Testing, Testing

The first test of our system came with our first firmware upgrade, and I was nervous. I'd contacted Subnet and told them I was going to do the firmware upgrade on the servers in the middle of the day. My boss gave me the approvals, and the next thing I know, I'm shutting one of the servers down and moving all the VMs off it.

As I was doing the upgrade and the whole server was down, I looked at my boss and tentatively moved onto the next one with his equally-tentative approval. We didn't want anything to go wrong; but, by the time we were done, I realised just how smart a decision it had been to buy Nutanix and get Subnet to help us implement it. Subnet was on the phone with me the whole time, just in case, but in the end, there were no issues at all. That was my first taste of what was to come with Nutanix.

We're also running Nutanix's [Prism](#) IT infrastructure management solution, where we can see the CPU usage and RAM, and we can move those servers around in order to even that load on the servers from

one cluster to another.

**Automated backups mean that IT staff spend a lot less time babysitting the system.
#NutanixStories**

Prism runs regular health checks in the background and will tell you whether there's an issue. We had a RAM slot that died, for example, and we received a warning. And when you have hardware that dies on a server, you can keep running; you don't have to shut your system down. It automatically does a lot of that backup work for you, which means a lot less babysitting of the system.

Shifting from a Hybrid Model to Nutanix AHV

Downtime is much less than what it used to be, but because we are running a hybrid environment, we still have occasional issues where our existing system and Nutanix don't talk to each other properly. Once we fully convert to Nutanix AHV, their licence-free virtualisation, we shouldn't have that problem anymore.

The next stage of our plan is to upgrade the servers in our server room and move two of those servers to our new disaster recovery (DR) site. After that, we'll completely convert to Nutanix AHV. Then that will allow us to greatly reduce our existing virtualisation licensing costs.

Once you get the system into place, there's less administrative time investment, so I'd definitely recommend that other schools convert to Nutanix AHV straight away, rather than doing the hybrid system like we did. They will appreciate the benefits on their first firmware server upgrade as well.

Shaping the Next Generation of Leaders with the Right Technology

By spending less time on administration, we get to spend more time with our end users, and seek out new, innovative technologies we can introduce to our classrooms. We can also be more available for in-class support, and we can help our parents and our wider community access our systems better, which improves the experience for everyone.

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Helping our students makes me feel connected to something bigger than myself, and I'm happy to know I have a role in shaping the future of the next generation of leaders. Inspiration, curiosity and passion are

some of the greatest characteristics our students can cultivate through schooling.

When students have the support, systems, and yes, infrastructure in place, that will allow them to concentrate on what's truly important; there's nothing stopping them from heading straight to the top of the class.