Marcellin College upgrades technology to meet increasing demand for bandwidth

Marcellin College has successfully doubled its bandwidth through installing a 400Mbps VERNet service. ICT Manager, Remco Burgers, and Director of Community Engagement and Marketing, Ben Bugeja, share how the school is leveraging this new capacity to enrich the learning environment.

Marcellin College is a Catholic Marist boys' secondary school located in the leafy Melbourne suburb of Bulleen. Founded in 1950, the College has a rich history of academic excellence spanning almost 70 years. The decision to install a second internet service arose from a need for both diversity and increased bandwidth. Prior to engaging VERNet, the College relied on a single 400Mbps fibre service from Catholic Education Melbourne (CEM), with the needs of the school community rapidly changing.

Remco explains, "Capacity requirements are always increasing. The school has recently moved to Microsoft Office 365, and a lot more of our services are being provided online. Our CEM link is a shared service and they can have outages like anybody else, which can affect the quality of service we're delivered. So the school chose to go down the path of getting a secondary connection to alleviate this."

To manage the fluctuating traffic of 1500 users, Remco's team has employed a load-balancing system. "We now have 800Mbps combined bandwidth between the two services, with the load balanced between the two. If one service goes down the other one takes over, and vice versa," Remco says. "Continuation of service is our main priority, so having the CEM link and the VERNet link makes that so much easier."

The microwave service has proved a reliable and economical solution. "To get another fibre connection would have been very costly, so the decision was made to go with the microwave link from VERNet," continues Remco. "It's obviously a much more economical option. We've had the link on a trial basis for six months now, with really good results. The team at VERNet have been very responsive to what we need."

The scalability of the service is particularly advantageous, enabling the school to not only increase bandwidth to meet growing requirements in the future, but also increase it temporarily to manage short-term usage spikes. "Our bandwidth requirements will vary hour to hour, minute to minute, depending on what the students are doing," Remco explains, "Some of their work is very intensive on the internet and some of it isn't as much, so it ebbs and flows. We can call VERNet and say, 'Hey guys, we've got some really heavy times coming up, turn up the pump.'"

With twice the previous bandwidth to play with, the College is introducing a Cloud First Policy. "Our preference is to have products that live in the cloud, it provides much easier access for everyone," Remco says. "It doesn't matter if our site goes down, people can still access it, or if parts of the internet go down, people can still access it. A lot of schools are moving towards this, it's a hybrid model - you have some of your services inhouse and others in the cloud, and you balance them."

The ICT team is currently hard at work on the upcoming roll-out of Schoolbox, a sophisticated Learning Management System (LMS). Schoolbox provides students with their own centralised portal, storing their study materials, assignments and academic records. After a twelve-month lead-in of extensive planning and staff training, followed by a successful trial, the team is now on track to implement the platform across the student body in 2019. Access will then be extended to parents and guardians later in the year, enabling them to view their child's academic progress and achievements in real time.

Schoolbox is set to transform the way education is delivered at Marcellin. As content accumulates over time, each account builds on itself year after year, becoming an increasingly valuable resource for both students and parents. As the platform is hosted both inhouse and in the cloud, users can access it from anywhere at any time, Remco explains. "It's all online, it's all available. The LMS becomes a repository of information," he says, "With the LMS, we can go back and see exactly what we did last year."

Do they anticipate any issues with increased traffic from Schoolbox? "It's fairly lightweight in terms of the way the students will be using the data on there," says Remco, "but it's 1500 students using it all at once, so we'll see what happens. We haven't had any issues so far, if we do we'll adjust our firewall and bandwidth accordingly."

Today's rapidly evolving tech landscape is opening up a world of possibilities for schools, and Marcellin College is exploring options through the lens of its core objective – to provide its community of staff and students with the highest quality learning experience possible. Ben explains, "We're looking at new tech and new applications, and we're evaluating how we're going to use them effectively." It's essential that new technology is introduced with minimal disruption to the learning environment. "You want it to be efficient right from implementation", Ben says.

"We don't just want to say, 'Here's some tech,'" adds Remco, "it's got to be about, 'How does this fit into the curriculum?'. For instance, could we utilise virtual reality to teach English or Maths in a VR environment? Or can we use this technology to connect to a class in another country in real time to do that lesson?"

With so many possibilities on the technological horizon, the future's looking bright at Marcellin College.

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> **Remco Burgers**
> **ICT Manager**
> **Marcellin College**

ABOUT MARCELLIN COLLEGE: *Marcellin College is a leading Catholic Secondary School for boys established by the Marist Brothers in 1950. See more information by visiting www.marcellin.vic.edu.au*

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