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Simple, automated data protection for VMware

Proven and modern solution for USC Australia's VMware environment achieves faster backups and 100% successful restores, and provides a flexible platform for future projects.

USC

Education | Australia

Business needs

USC Australia wanted to modernize its data protection to scale with its growth and ensure its valuable research data could be backed up efficiently and restored fast, with 100% success. They wanted a solution that would work naturally with their VMware environment and had capabilities they could leverage for future cloud projects.

Solutions at a glance

- PowerProtect Data Manager
- PowerProtect appliances
- VMware

Business results

- Automation and easy administration save hours per day

- Fast, reliable backups

- 96% deduplication rate

- <10 minute VM restores

- 100% success rate for restores

96%
deduplication rate

<10 minute
VM restores

USC is one of Australia's top-rated universities for teaching quality and overall student experience. Since opening in 1996, the university has been known for having practical focus, with training and internships built into all study programs. Students graduate with the core skills needed to succeed in the future workplace, which is why the university is considered one of the best in Australia for employer satisfaction. USC offers flexible study options at a network of campuses from Moreton Bay to the Fraser Coast.

Recently USC has upgraded with Dell EMC PowerProtect appliances and PowerProtect Data Manager.

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>
> Drew Hills,
> Infrastructure Analyst,
> USC Australia

Doing More in Challenging Times

Providing the high quality education the university is known for depends on world-class data protection. "Data to the university, of course, is our IP," notes Drew Hills, Infrastructure Analyst, USC Australia. "It's extremely important. We can't afford to lose any data, particularly in the research area. It's one thing to protect your data, but really what we're providing is a service to be able to restore that data and restoring has to be 100% successful every time."

The Right Tools

USC has expanded in response to its region's needs to meet 21st century challenges. For the past several years, their research activity has been growing exponentially. To support this growth, and their vision of being a university of international standing, they've recently enhanced their data protection infrastructure.

Solid Proof

USC had long been a Dell shop, with Dell EMC servers and VMware hosts, Unity and Isilon storage, and Dell desktops and laptops.

"Dell came to us with PowerProtect Data Manager and "I loved it," says Hills. "They gave us a copy for a proof of concept. I installed it by myself, learned it by myself. It was very intuitive, and it was going in the direction we believed data protection needed to go. It was nice and light, nice and easy to administer. I was able to set it up and get it functional with all my other work. It was very, very simple and it just worked. There weren't too many moving parts. I didn't have to think too hard. My POC became my production instantly, because it was already correct."

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Well Tested

The tight integration between Dell EMC data protection and VMware also figured in USC's choice. USC has two on-site data centers, with a split VMware environment across the two data centers. Currently they are running approximately 75 VMware physical server hosts and 750 VMs.

"The workloads we're protecting with PowerProtect Data Manager are quite varied, from standard administration virtual machines through to a lot of SQL databases, a lot of research data," Hills notes. "Huge amounts of research data of all varieties, from genomics through to simple Microsoft documents.

"*I can restore a VM, including finding which backup I want to restore from and where I'm going to restore it, in under 10 minutes.*"

Drew Hills,
Infrastructure Analyst,
USC Australia

"We chose Dell and VMware as they are very closely related to each other and we know if we have a problem with one side, the other company will help out. Dell's hardware is proven and well suitable to the VMware environment. VMware is the world's leading hypervisor, I don't think anybody's going to argue about that; so we know that it's going to work and no matter what we want to do with the hypervisor and the hardware, they will both work together."

Working Together

With PowerProtect Data Manager and PowerProtect DD appliances, USC has found a combined data protection software and hardware solution that gives them the ease of use, performance and reliability they were seeking.

"PowerProtect appliances are very simple to install," says Hills. "Once they're added to the data center, it's just a matter of going through a simple HTML5 interface and setting up the local environment variables. With PowerProtect Data Manager, it's about ease of administration, number one. I don't have to spend time in the product. I just set it up, add servers to it and know that it's going to work. That was our primary goal, so very light touch.

"The other advantage to PowerProtect Data Manager is being able to hook in with our automation. We've recently changed the way we deploy VMs within VMware, and it's all automated so, again, it's about light touch, getting efficiencies because PowerProtect Data Manager has the built-in ability to deal with that automation.

"*PowerProtect Data Manager and PowerProtect Appliances have obviously been designed to work together… They work seamlessly.*"

Drew Hills,
Infrastructure Analyst,
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"All of our different policies, we now don't need to touch that anymore. All we have to do as part of our automated VMware VM build is add the appropriate tag. We know it's going to be there in the right policy and it's backed up. It's a very, very light touch after the initial setup, which was quite a light touch to start with. All I'm doing now is ensuring each morning that my dashboard is green, and that's data protection done for me. I can move on with the rest of my day and deal with my other varied tasks."

As for performance, Hills reports, "PowerProtect Data Manager backups are happening faster, so at night we're able to protect all our workloads and also clone to our second PowerProtect DD, all within a window that does not affect our production or our teaching environments."

USC has been delighted with the ease of administration and visibility their Dell EMC data protection solution provides. "PowerProtect Data Manager and PowerProtect appliances have obviously been designed to work together," says Hills. "We almost treat them as the same product, one's just the software interface to the other. They work seamlessly. It was very, very simple and intuitive to add PowerProtect DD into PowerProtect Data Manager and make it our backup target. Every backup goes to those devices and we have great insight into the PowerProtect appliances through the PowerProtect DD Management Center.

"PowerProtect Data Manager saves me hours a day. It's so stable, sometimes it just requires a quick glance within its console, its dashboard, just to see what's going on. It's only if we have to dig a bit deeper, we usually switch over to Data Protection Central, and that allows us to jump from product to product."

"The backups are fast. You set it up at night, come in, in the morning and it's done. It's happening so quickly, the backup window no longer affects our production

environments. We don't even know it's happening. I used to worry about restores. Now I know I can restore a VM, including finding which backup I want to restore from and where I'm going to restore it, in under 10 minutes. Restores need to be 100% successful, and with Dell products, I've been able to achieve that. If it's been protected, I know I can restore it."

"Another benefit we're gaining from PowerProtect appliances is, quite simply, deduplication. We don't need a large amount of disk. We're currently getting an over 96% deduplication rate, which is just astronomical. We have a very small device, not much bigger than an ordinary server, sitting in a rack and it's backing up massive amounts of data for us. It's also quite fast so we're able to do protection overnight, not interfering with production at all, and then we can do things like instant restores which are literally instantly recovering a machine for testing while data is still protected on the PowerProtect DD."

Looking to the Future

USC is well positioned to meet current and future challenges. "Today," Hills says, "with most of our workforce working from home, we had some challenges of course, like every organization. We were fortunate that we already had a lot of Dell products in

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place to help us achieve that work-from-home ability. So not many changes needed to be made. "Going forward, we have a few new things to look at."
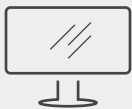
"We can see a need to have at least one copy of our most precious data in the cloud, in a secure manner. It's something that's going to happen sooner rather than later. We know PowerProtect Data Manager can do that, and in the next 12 months, we'll probably have to leverage that feature. It's in PowerProtect Data Manager, the Cloud DR feature, so we can just turn it on and make sure we've got a policy to back up those environments we need protected.

"Kubernetes, I think, is going to come as well. Containers have already started to be part of our environment, and with VMware's new Kubernetes integration, I can see that coming onboard sooner rather than later. We know PowerProtect Data Manager can protect those environments. It's in the dashboard so, again, I expect it to be just as simple as backing up a VM.

"PowerProtect Data Manager combined with PowerProtect appliances – that's cutting edge. That's world leading as far as we're concerned here at USC Australia. With easy administration and also very high performance and very good dedupe, it's taking us in the right direction."

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