

VDI allows research to continue despite campus closure

Students and researchers at Aalto University can still use specialist applications during the COVID-19 lockdown thanks to virtual desktop infrastructure



Education | Finland

Business needs

Aalto University wanted to provide specialist academic applications outside the traditional campus IT labs so students could access their software on any device at any time.

Solutions at a glance

- [Hyperconverged Infrastructure](#)
- [Dell EMC Residency Services](#)

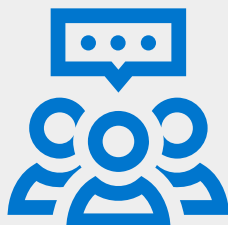
Business results

- Supports entire university's research needs remotely during COVID-19
- Enables 24/7 access to specialist applications from any device

Virtualizes

400

applications for 1,000 concurrent users



Frees

up real estate for new collaborative spaces





Aalto University was formed in 2010 by the merger of three of the major universities in Helsinki. Today, the university has 12,000 students and 4,000 personnel, making it Finland's second largest higher education institution. The university emphasises multidisciplinary research across science, art, technology and business. It also invests heavily in innovation.

As part of this investment, the university's chief digital officer ringfenced funding for a project to transform the university's IT spaces. The goal was to make them fit for tomorrow's entrepreneurs by making them more flexible and conducive to collaboration.

Going beyond the computer lab walls

Aalto University students rely on PCs and workstations—mainly Dell OptiPlex desktops and Dell Precision workstations—to access specialist applications. These applications, covering areas including engineering, 3D design, computer science and media production, are expensive to buy and require powerful computers, making them unsuitable for students on a budget.

The university's IT team wanted to virtualize these desktops so students could log on at any time and from any device to applications for research or coursework. Hannes Päivänsalo, head of IT operations at Aalto University, says, "We wanted to free students from the constraints of the IT labs and make our hardware and software available anywhere. By doing so, we predicted we could redirect the cost of running our IT labs into new strategic ventures."

Four-node infrastructure behind 16,000 active users

The IT team investigated virtual desktop infrastructure (VDI) solutions from several providers, before eventually choosing one based on Dell EMC VxRail and VMware Horizon. Tommi Saranpää, system specialist at Aalto University, says, "We wanted VMware because the pricing structure was by far the most attractive. As a long-term customer of Dell Technologies, we knew VxRail was a great choice for a VMware environment, and conversations with our Dell EMC team proved that we could spec the nodes to meet our needs."

"We've proved that we can deliver research-critical applications to our students without dedicated IT labs... with our VxRail VDI."

Hannes Päivänsalo, Head of IT Operations,
Aalto University

The solution comprises four VxRail V570F nodes, each with:

- Intel® Xeon® processors
- 1,536 GB of RAM
- 1,600 GB solid-state-drive (SSD) cache
- 76 TB of SSD storage
- 3 NVIDIA® Tesla P40 GPU accelerator card
- NVIDIA® Virtual GPU (vGPU) Software (Quadro vDWS license)

The university's VDI supports 16,000 active end users—1,000 of them at any one time—with access to 400 applications. Saranpää says, "We have a lot of users, so we value the SSD storage in the VxRail appliances. It is simpler to manage than the fibre-channel storage that we use elsewhere at the university. And the graphics acceleration is particularly valuable for the 3D and artificial intelligence applications that are increasingly being used by our students."

Aalto University's IT team has worked hard to deploy the VDI across the university. It has been helped by its Dell EMC Resident Expert, who's on hand for two days a month to resolve any issues and look after both system maintenance and upgrades.

University beats COVID-19 lockdown with VDI

While the initial business case for the project was to save money, the university has seen more than it expected from its VDI. In 2020, when Europe went into lockdown due to the COVID-19 crisis, the virtualized desktops proved their value almost overnight.

Päivänsalo says, "All our students went home—many leaving

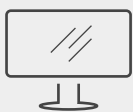
"Students could run demanding applications even on basic laptops because the desktops were virtualized and running on VxRail."

Hannes Päivänsalo, Head of IT Operations,
Aalto University

the country altogether—but teaching and learning couldn't stop. Nobody could physically get into the IT labs, but students and researchers could carry on with their work from home using their own computers. Students could run demanding applications even on basic laptops because the desktops were virtualized and running on VxRail."

The IT team even spent two days connecting the physical PCs in the IT labs to the VDI environment, adding even more resource to support demand.

Says Päivänsalo, "We've proved that we can deliver research-critical applications to our students without dedicated IT labs and done so in a compliant and cost-effective way with our VxRail VDI."



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