Case Study

Penta College Delivers Multimedia Virtual Desktops, with VDI-Appliance Powered by PCoIP® Hardware Accelerator

"Adding the PCoIP Hardware Accelerator to the VDI-Appliance increased the number of virtual desktops per appliance from 70 to 100. That means we can deliver virtual desktops with 43% less infrastructure."

LEO SMIT
IT MANAGER
PENTA COLLEGE

PENTA college CSG

Penta College CSG is a Christian secondary school with eight campuses in the western region of Holland. Approximately 5,800 students ages 12-18 are enrolled in vocational and college prep programs.

AT A GLANCE

Challenges

- Enable students to access digital learning content anywhere, anytime, with any device
- Provide excellent video experience on virtual desktops
- Simplify desktop management

Solution

- VDI Appliance IO-250 with Teradici PCoIP Hardware Accelerator (APEX 2800)
- HP t310 Zero Clients
- VMware Horizon® View

Results

- Delivered outstanding multimedia experience on Zero Clients and personal devices
- Reduced infrastructure requirements by over 40%
- Accelerated desktop loading from 5 minutes to less than 1 minute
- Lowered power consumption of users' desktop device by 95%, from 200 watts per PC to 10 watts per Zero Client

"The multimedia virtual desktop performs exactly the same as our high-end Windows PCs, thanks to the PCoIP Hardware Accelerator. And now students can access school applications on any device, anywhere."

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IT MANAGER
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Penta College enlivens learning with digital content. Textbook publishers provide interactive applications to reinforce key concepts. A history teacher might assign students to watch a YouTube video on the Renaissance before class. Chemistry students capture their experiments with a webcam and stream live video to students in other locations using Twitch.tv.

To bring more digital content into the curriculum, Penta College needed more desktops. The school had just 2,000 Windows PCs for 5,800 students and 540 teachers and staff. "Students could only use the computers during school hours, and only in the classroom or computer labs," says Leo Smit, IT manager. "We wanted our students to be able to access digital content anywhere, anytime, with any device—including personal laptops and home computers."

The first virtual desktop infrastructure (VDI) solutions that Penta College evaluated didn't provide a good experience. Desktops and applications took too long to start up, and video sputtered. "Thin and Zero Clients don't have a graphics processor, so all the performance has to come from the VDI server," says Smit.

Then Penta College discovered the VDI-Appliance IO 250 with the Teradici PCoIP Hardware Accelerator, distributed by IOdis. The Teradici card offloads the server CPU by taking over the job of encoding the screen image for delivery to the endpoint. As a result, the server can support more virtual desktops and always deliver a consistent experience.

Penta College conducted a 70-desktop proof of concept with the VDI-Appliance and another leading hyper-converged infrastructure platform. "The VDI-Appliance with PCoIP performed the best by far," Smit says. "Adding the PCoIP Hardware Accelerator to the VDI-Appliance increased the number of virtual desktops per appliance from 70 to 100. That means we can deliver virtual desktops with 43% less infrastructure."

Penta College has replaced the Windows PCs on two campuses with 1,800 HP t310 zero clients, powered by Teradici PCoIP technology. The desktops live on 18 VDI-Appliance IO-250s. Guided by IT service provider Fastbyte, the transition from physical desktops to virtual desktop took just a day or two after several weeks of careful planning. The IT team manages the Zero Clients centrally, using the PCoIP Management Console. "Deploying and managing Zero Clients is a piece of cake," Smit says.

Now students can access a virtual desktop from anywhere, anytime, on any device—including Zero Clients in classrooms and computer labs as well as personal devices. Students receive a fresh desktop from a shared pool whenever they log in. Student virtual desktops are identical: Microsoft Office, a browser, educational software, and a file server for saving notes, research, and reports in the cloud. "Students love virtual desktops, especially accessing digital content from home," says Smit. Teachers and staff appreciate being able to do work from anywhere on campus with a network connection.

Products used

VDI Appliance IO-250

Teradici PCoIP Hardware Accelerator

HP t310 Zero Clients

Virtualization platform

VMware Horizon View

Desktops and applications load faster than they did on the Windows PCs. "With the Windows PCs, the desktop took up to 5 minutes to appear after power on," says Tjerk Mout, IT Administrator. "With the VDI-Appliance using Teradici PCoIP Hardware Accelerator, the virtual desktop is fully loaded in less than a minute."

Total desktop costs dropped. The workspace requires almost no management, enabling the IT team to manage more desktops with the same size staff. The Zero Clients have twice the expected life of PCs and consume just 10 watts compared to 200 watts for PCs. Lower energy consumption supports Penta College's commitment to environmental sustainability. "Consuming 95% less power is also a serious cost savings when you have thousands of devices," Smit adds.

Penta College is now deploying the Teradici PCoIP-powered VDI-Appliance and zero clients on the remaining campuses. The VDI-Appliances will eventually host 5,500 virtual desktops. Other plans under consideration include giving each student a personal virtual desktop, and slimming down the virtual desktop by using application delivery.

IOdis BV

IOdis is a value-added distributor of high-IO products located in the Netherlands. As a supplier of innovative flash storage products and VDI solutions, IOdis is able to discover and develop relevant new technologies like VDI-Appliance that help make their customers successful.

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