Hewlett Packard Enterprise

Case Study

Deltion College innovates with HPE SDN

Increased bandwidth demand inspires institution to partner with HPE

Objective
Upgrade legacy network with technology that would address current performance challenges, but also enable future flexibility and business agility

Approach
Implement an SDN network that is built on open standards, ensuring maximum future flexibility that is backed by solid technology services capabilities to ensure the solution performs as required

IT Matters
- Technical issues with growing bandwidth demands including Lync communications applications reduced by 30% to 40%
- Latency issues with added bandwidth demands for Lync video and desktop sharing eliminated
- Improved security capabilities help protect network and data from malware, hackers

Business Matters
- College can confidently expand its video-based instruction to help drive growth and comply with changing regulations governing how many hours of instruction students are required to have
- Flexibility of SDN architecture, streamlined management, and open standards position college to be more agile and responsive to changing business needs

Faced with increased demand for bandwidth-heavy applications, including Microsoft® Lync® video and desktop sharing, Deltion College recognized it had an opportunity to do more than simply upgrade its legacy network hardware. It could innovate by adopting leading edge technology that would not only address its current performance challenges, but position the college to become more flexible and responsive to its users and strategic priorities. So Deltion joined with Hewlett Packard Enterprise to design and deploy a Software-Defined Network (SDN) solution.

The network that powers Deltion College, a vocational institution based in Zwolle, the Netherlands, is similar in many respects to the enterprise networks that power the average commercial business.

But in other ways, the college's network is both unique and ahead of its time. Deltion video records its class lectures, making them available to students as both live streams and for playback. Its network must therefore support video—a lot of video.

So when the time came for Deltion to replace its legacy network infrastructure, it chose HP SDN as the platform flexible enough, and robust enough, to support the high-bandwidth applications required by today's forward-looking organization.

The importance of open architecture

The timing of Deltion's decision to upgrade its network was based on straightforward factors. Its legacy equipment had reached end of life. The hardware was fully depreciated; it was no longer cost-effective to maintain. And as outdated technology, it wasn't powerful enough to support the college's new wireless network and its critical applications, such as Microsoft Lync. Users were noticing latency issues with video streams and desktop sharing.

Deltion decided to approach the upgrade with a spirit of innovation and technological creativity. "Innovation is ingrained in our mindset," notes Ramon de Boer, head of IT Operations, Deltion College. "SDN was still very new, even theoretical, at the time we began planning our upgrade. There weren't any firms we could visit that had implemented it in an operational environment. But we knew if we didn't move to SDN, our next chance would be four or five years away. And SDN is the future. So we made a decision that is consistent with the mission and vision of our department."

The IT team began by doing extensive research on the state of SDN technology; it also issued an RFP to facilitate the careful vetting of SDN vendors. "All of the big network vendors responded," de Boer says. "We looked at their technology and also their SDN philosophies. It soon became clear that the HPE SDN solution stood out from the others."

In particular, Deltion valued HPE's commitment to using open architecture technologies. "We wanted an SDN solution based on open standards," de Boer explains. "One of the most compelling advantages of SDN is its flexibility. We want to take advantage of future SDN developments, without being locked into a single vendor's proprietary architecture. HPE SDN met this requirement."

HPE Technology Services reduces risks, ensures timelines met

In addition to selecting HPE SDN, Deltion also asked HPE Technology Services to perform the network design and implementation.

Working with HPE services professionals addressed two implementation challenges. One was resources. Deltion has two network engineers on staff; augmenting them with HPE resources ensured that the implementation would be conducted in a timely fashion. It also allowed the Deltion team to focus on critical day-to-day support and management tasks during the upgrade project.

Engaging HPE Technology Services also reduced the risks associated with implementing new technology. "We were one of the first major implementations of SDN," notes de Boer. "But the SDN expertise of HPE is extensive. We trusted their knowledge."

> "No educational institution wants to be put in a vendor-lock. We don't want to discover that we can't use some application or solution because we've implemented an architecture that doesn't support an open protocol."
>
> — Ramon de Boer, head of IT Operations, Deltion College

To assist with knowledge transfer, HPE conducted a two-day SDN architecture workshop. "It was a very effective training," says de Boer. "It was targeted to our specific environment.

"The implementation went quickly," de Boer adds. "The cutover was very smooth and completely transparent to our users. And when we encountered some minor issues a few weeks later, HPE Technology Services responded immediately to resolve them. We're very happy with the job they did."

Improved Lync performance; video latency eliminated

Deltion College has realized a number of benefits from its HPE SDN network.

The college's Lync communications systems perform better: technical issues with Lync calls have been reduced by 30% to 40%. "HPE SDN also completely eliminated the latency issues we were experiencing in our Lync video calls and desktop sharing," notes de Boer.

Improving the quality of the application performance of Lync is critical to Deltion for more than technical reasons. "We're using more and more video in our classroom instruction," de Boer explains. "Around a year ago, we began streaming video so that students can participate in classes remotely, in real time. Our new HPE SDN network equips us to continue to expand this capability."

Offering video-based instructional opportunities means Deltion can better serve its students, including students who are attending part-time while also holding down jobs or caring for families. This supports the college's long-term strategy of serving more students by offering more flexible educational opportunities.

It also helps Deltion comply with the Netherlands government regulations. "The government establishes how many hours of instruction must be provided to students, and it recently increased those requirements," says de Boer. "Video lessons help us accommodate the increased cost efficiently, because our instructors can teach more students than would be possible if the students always had to gather in the same physical space."

Improved security, flexibility, plus streamlined management

The new HPE SDN network is more secure. "HPE SDN talks to the firewall, so it tracks what passes into and out of our network," de Boer explains. "Over time, this will help improve our ability to detect anomalies, which will help boost the effectiveness of our security measures."

Improved security not only shields the network and connected devices from malware; it also helps ensure Deltion is protecting student data, such as exam results and grades.

Case study
Deltion College

Industry
Higher education

Customer at a glance

Hardware
- HPE 10508 Switch Chasses
- HPE 5900AF-48XG-4QSFP Switches
- HPE 5900AF-48G-4XG-2QSFP Switches
- HPE FF 5900CP-48XG-4QSFP Switches
- HPE HI 5500-24G-4SFP Switches
- HPE 2920-24G Switches
- HPE 2920-48G Switches
- HPE 2920-24G-POE Switches

Software
- HPE Intelligent Management Center (IMC) Standard Edition Software
- HPE IMC Virtual Application Networks (VAN) SDN Manager
- HPE IMC VAN SDN Controller Base Software
- HPE Network Optimizer SDN Application for Microsoft Lync

Services
- HPE Technology Services Consulting
- HPE Foundation Care Support
- HPE Education Services

"If you want something or have a great idea, in my personal experience HPE is willing to listen. It fosters a sense of partnership and shared commitment to the technology."

— Ramon de Boer, head of IT Operations, Deltion College

HPE SDN also gives Deltion better tools to load balance its network. This will allow the network team to drive improvements in many areas, such as in its backup procedures.

The new network is also easier to manage with HPE Intelligent Management Center (IMC). "Our two engineers spend one day a week on manual configuration and debugging," says de Boer. "With HPE SDN, these tasks are simplified."

The engineers will be able to re-allocate that time to other tasks. "With our old network architecture, our engineers were focused exclusively on keeping the technology up and running, and up-to-date," de Boer says. "Implementing HPE SDN means we can shift their attention to more proactive projects. They can invest their time in better understanding how we can serve the college and support instructors."

And as the IT team deepens its understanding of the college's needs, it can refine the services it provides.

"We embraced SDN as a concept because we believe this is the direction network technology is headed," de Boer concludes. "Partnering with Hewlett Packard Enterprise helped us achieve the innovating networking solution that we envisioned."

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