Hewlett Packard Enterprise

Stadt Bremgarten
5620 Bremgarten

Objective
Replace fragmented IT environment with new and secure networking

Approach
Engaged a local IT service provider to provide suitable solutions

IT Matters
- Provides a scalable, high-performance IT infrastructure that addresses all requirements
- Reduces administration with easy-to-use central system
- Enables easy rollout of new software and updates

Business Matters
- Boosts teaching with maximum performance for each thin client and laptop
- Significantly reduces power and space requirements
- Supports the school's reputation through use of modern IT

Schule Bremgarten delivers an uncompromising PC experience

HPE ConvergedSystem 100 for Hosted Desktops provides scalable efficiency

Organic growth of Schule Bremgarten's IT infrastructure meant there was no overarching network communication between classrooms and school buildings and no secure Internet access. After implementing networking solutions from Hewlett Packard Enterprise, it is now enjoying a scalable, high-performance IT infrastructure.

Challenge

Isolated PC solutions
When you ask people about the Swiss municipality of Bremgarten and its picturesque old town, often the first words that spring to mind are 'sleepy' and 'historic'. However, not only does this regional capital on the banks of the Reuss boast various historic and architectural highlights, it also offers people and businesses alike the ideal environment for living and working, development and growth. Schule Bremgarten plays a vital role in this with 140 teaching staff and around 1,100 pupils who receive a solid academic education at all key stages.

> "HPE ConvergedSystem 100 for Hosted Desktops gives
> IT at our school a solid footing."
>
> – Guido Wirth, head teacher at Schule Bremgarten

This comprehensive school comprises a primary, junior, secondary and regional school, as well as a kindergarten, nursery classes and music school. A total of 59 classes are spread across several school buildings and locations. Operational management of the school is the remit of three head teachers, as well as the head of the music school and the head teacher of the comprehensive school as a whole.

For many years, Schule Bremgarten has been a pioneer when it comes to teaching pupils about the newest technologies and providing diverse stakeholders including teachers, heads and secretaries with high-performance, efficiency-boosting tools. Consequently, the use of IT in everyday school life has long been a reality. Yet the steady organic growth in IT infrastructure over the years means that it could no longer meet current and future needs in many areas.

Guido Wirth, head teacher, Schule Bremgarten explains: "The school's previous computer infrastructure was mainly PC-based with isolated solutions that were not networked. These had been planned, installed and supported by innovative and dedicated teaching staff. Although this worked well in the past, on the negative side the end result was an explosion of systems. Plus it was impossible to communicate between classrooms and school buildings via the network or to guarantee secure access to the Internet."

Given the fact that the majority of the installed systems (PCs, monitors, printers) were approaching the end of their lifespans, it was essential to procure appropriate replacements. Schule Bremgarten wanted to seize on this opportunity to create a new, stable foundation for the school's IT and to implement an IT infrastructure that would fulfil modern pedagogic requirements as well as excelling in terms of scalability, flexibility and cost-effectiveness.

Based on a comprehensive needs analysis, a working group was formed and tasked with producing detailed specifications that included, amongst other aspects, the following requirements:

- Central server infrastructure – operated out of Bremgarten town hall

- Networking various school buildings (via optical fiber)

- Central hosting of data and applications

- Integration of thin clients and laptops

- Access to data and applications from every school building

- Teaching staff able to use data and applications at home

- Central, secure Internet access via data center

- Potential integration of other branch locations, such as the kindergarten, the school building in Hermetschwil-Staffeln and home offices (secure access via SSL-VPN)

Solution

Greater flexibility

Schule Bremgarten issued a public call for tender and the project was awarded to Steffen Informatik located in Mägenwil.

At the core of the IT infrastructure planned and installed by Steffen Informatik lies the new server platform HPE ConvergedSystem 100. This enabled the set-up and operation of a Citrix-based hosted desktop infrastructure (HDI) offering all the advantages of a central server infrastructure whilst being less complex than virtualized solutions, and also setting benchmarks in terms of performance and minimal power consumption.

HPE ConvergedSystem 100 for Hosted Desktops is modular, individually configurable and seamlessly scalable system that can take up to 45 compact units per 4HE chassis. These system elements, also known as cartridges, offer space for up to four high-performance System-on-Chip (SoC) modules that in turn contain all of the components a computer needs, such as the motherboard, CPU, graphics card, chipset and SSD memory. There are up to 180 high-performance computers available for each chassis. Ten Moonshot chassis in a single rack allow for up to 1,800 hosted desktops. Through its consistent implementation of SoC technology, HPE ConvergedSystem 100 for Hosted Desktops gives each user dedicated computing capacity, just as if they had a high-performance PC installed locally.

In this HDI-oriented environment, individual users do not have to share their hardware and corresponding computing performance with other users, as is the case with virtual desktop infrastructures. Other benefits of the HPI Hosted Desktop platform include up to 89 percent less power consumption compared to conventional solutions, as well as a greatly reduced need for space (up to 80 percent). This solution also scores top marks in terms of installation. Operating systems are provided quickly and conveniently to each individual SoC via Citrix XenDesktop provisioning services. HDI infrastructures built on HPE ConvergedSystem 100 can easily be integrated into a XenDesktop environment. There is no need for either the hypervisor or SAN infrastructure as in a regular Citrix XenDesktop environment, which reduces complexity.

Benefit

Well-equipped for the future

Thanks to the networking of individual school locations in Bremgarten, the implemented HPE ConvergedSystem 100 for Hosted Desktops and numerous connected thin clients, laptops and printers, Schule Bremgarten is now enjoying a scalable, high-performance IT infrastructure that addresses all its requirements and equips individual classrooms with cutting-edge IT.

Customer at a glance

Hardware
- HPE Converged System 100 for Hosted Desktop Infrastructure
- HPE ProLiant DL380 Gen8 Servers
- HPE Switch Series 5900
- HPE Care Pack

"With HPE ConvergedSystem 100 for Hosted Desktops, pupils and staff in each of our classrooms have permanent access to networked, centrally hosted school IT as well as secure access to the Internet."

– Guido Wirth, head teacher, Schule Bremgarten

Wirth comments: "Regardless of which classroom they are in and whether they access our central data and applications via laptop or thin client, each individual user – at final count we had a total of 370 workstations – has access to the full processing power of a high-performance computer; and all without having to worry about installing and updating software, storing data, backups and the like. Plus, our school benefits from the advantages of a central server architecture. This is reflected, for example, in the minimal effort required for operation and maintenance, ease of rolling out new software versions and comparatively low system and maintenance costs."

"It is also important for us to have the option to expand the IT infrastructure to cover new and emerging needs. For example, to connect with branch locations such as kindergartens and the school building in Hermetschwil-Staffeln, and to provide secure remote access to the school network for authorized teachers working from a home office. The reduced power consumption is also worth mentioning. The thin clients we use take just 10 watts of power, compared to the typical 70 watts for PCs. These ecological and financial benefits align perfectly with our commitment to sustainable thinking and actions".

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