**VCE**

- **CLIENT**
  Kernkraftwerk Leibstadt

- **CHALLENGE**
  Rapidly move to a highly-resilient data center architecture

- **SOLUTION**
  Two Vblock 300FX Systems running in active-active mode

- **RESULTS**
  Greater resilience ensures compliance with stringent regulatory criteria

  Solution purchased and implemented in just two months

  95 percent of applications virtualized using 50 percent fewer servers

# SWISS NUCLEAR POWER PLANT IMPROVES BUSINESS CONTINUITY

**KERNKRAFTWERK LEIBSTADT ACHIEVES 95 PERCENT VIRTUALIZATION WITH 50 PERCENT FEWER SERVERS TO ENSURE CONTINUOUS OPERATION**

Information is the lifeblood of any organization, but even more so when one is dealing with a nuclear power station delivering nearly one-sixth of a nation's electricity. That plant, Kernkraftwerk Leibstadt (KKL) in Switzerland, was faced with an immovable external compliance audit and had to accelerate its move to a highly-available data center model.

With the Vblock™ System 300 from VCE, KKL transformed its twin data centers in just two months. For the highest availability, two Vblock Systems are located in separate data centers, working in active-active mode so that all services are mirrored in real time.

For the one million Swiss citizens that it serves, the Vblock solution not only ensures that KKL can reliably deliver the continuous electricity supply that they depend on in their everyday lives, but also that it can do so safely and cost effectively.

## Challenge

Kernkraftwerk Leibstadt (KKL) is Switzerland's newest and most important nuclear power plant. Generating some 29 million kilowatt-hours per day, it meets nearly one-sixth of the country's electricity needs and serves one million people. The KKL watchwords are safe, reliable, and cost effective electricity production. The plant's critical operations rely on continuous access to data and applications, running in two data centers managed by AZS IT Systems, the company's information technology partner.

Although most rack-mounted servers were virtualized using VMware VSphere 5 Hypervisor, backup and recovery tasks were time consuming. Meanwhile, a fast-changing regulatory environment meant that a looming external compliance audit against new and highly-stringent resilience criteria might expose weaknesses in the existing architecture.

"The challenge was to reliably mirror 10TB of data in real time, while improving overall systems robustness," says Andreas Lempen, team leader at AZS IT Systems. "To insure continued compliance we needed a solution we could trust completely with an assured fast-track implementation plan."

## Solution

After researching the market and carefully evaluating all options, KKL selected two Vblock™ 300FX Series Systems. One of the key reasons for that choice was the fact that the entire solution came from VCE, offering a single point of contact for all data center issues.

"Our existing VMware software was already built into the Vblock Systems architecture so, along with Cisco UCS Blade Servers and EMC VPLEX Storage, it provided a ready-made, out-of-the-box solution," says Lempen. KKL also took the opportunity to upgrade its data center LAN infrastructure by installing Cisco Nexus 7010 Series Switches, creating a 10Gbps high-speed network capable of supporting Fibre Channel over Ethernet (FCoE).

It was essential IT services shouldn't be interrupted. "I was impressed with the seamless nature of the implementation," says Lempen. "It took just two months from purchase to full production including offsite design, pre-configuration, and testing. The Vblock solution was delivered on Monday morning, plugged in and working by Monday evening."

For the highest availability, the two Vblock Systems work in active-active mode, ensuring all compute, network, storage, and security services are replicated in real time across both data centers.

## Results

KKL is now able to fully satisfy compliance and audit requirements, while Vblock will help the company adapt faster to changes in the regulatory environment, and deliver IT resources more efficiently. Replacing rack-mounted servers with Cisco UCS blades, for example, means that its IT team can designate more virtual servers using 50 percent less hardware.

So far, around 95 percent of core KKL applications have been migrated to Vblock Systems. These include Microsoft SharePoint, Terminal Server, SQL, and Oracle databases. The new architecture is also being used with VMware View and Windows 7 to deliver virtual desktops to 200 users. "We've reduced server footprint by 50 percent from four racks at each data center down to two," says Lempen. "Licensing is cheaper and easier to manage too."

KKL is also delighted with VCE™ Support. "Documentation is less of a burden and we have a single dedicated contact who knows our Vblock Systems environment," says Lempen. "All these factors save time and effort." And time is important as KKL considers its next strategic IT project. "We intend to move our Microsoft Exchange platform onto Vblock Systems, still leaving enough capacity for the next two to three years' requirements," concludes Lempen.