NEW INFRASTRUCTURE OPTIMIZES SPACE, POWER, AND COOLING

Frankfurter Entsorgungs- und Service creates a virtualized platform for delivering greener, more efficient operations

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Stefan Fehr
Team Lead for Infrastructure and SAP Basis
Frankfurter Entsorgungs- und Service GmbH

Executive Summary

About Frankfurter Entsorgungs- und Service GmbH
Frankfurter Entsorgungs- und Service (FES) GmbH is a waste management company located in the Rhein-Main region of Germany. FES employs approximately 1,500 people.

Challenge

- LAN could no longer cope with explosive growth in data processing
- Physical space and air conditioning limitations hindered virtualization strategy

Solution

- Vblock™ Infrastructure Platforms consisting of Cisco UCS with three blade servers, EMC Celerra NS 120 storage, and VMware vSphere 4.1 hypervisor

Results

- Simplified management, setup, storage, power, cooling, and cabling
- Annual electricity saving of €73,500, giving full project payback within 60 months
- Greener IT operations, removing 250 tons of carbon per annum

Challenge

Frankfurter Entsorgungs- und Service (FES) is a public private partnership and the leading full-service provider for waste management and cleaning in the Rhein-Main region of Germany. It comprises six subsidiaries, all of which are dedicated to the principles of ecological and economic sustainability. These critical operations include a thermal incineration plant generating heating and electricity for 30,000 homes.

Such a drive for efficiency, resource conservation, and flexibility is reflected in the company's approach to IT, coinciding with explosive growth in data processing. This growth includes SAP application traffic as well as the satellite navigation, traffic, and weather information used to optimize routes for waste-removal vehicles.

"It became clear that our existing core network would no longer be able to handle these continually increasing requirements over the long term," says Stefan Fehr, team lead for infrastructure and SAP basis at FES.

FES saw the acute need for network modernization as an opportunity to future-proof its entire IT infrastructure. Based on new virtualization infrastructure, this approach would also make best use of limited space and air conditioning at the company's main data center.

Solution

FES chose the Vblock™ Infrastructure Platforms from VCE. “While looking at the Cisco Nexus switching platform, we started to focus our attention on the Cisco Unified Computing System and, along with it, the Vblock platform offered by VCE,” Fehr recalls.

The deciding factor was the ability of the Vblock platform to virtualize the complete IT landscape while also enabling data centers with space constraints to scale up. “Virtualization removes previous dependencies between applications and physical hardware,” explains Fehr. “With the Vblock platform, we can host hundreds of virtual machines on the same blade.”

The Vblock platform is a pre-configured, tested, out-of-the-box solution. It was implemented in less than three months and includes a pre-integrated Cisco Unified Computing System (UCS) with three UCS blade servers, EMC Celerra NS 120 storage, and the VMware vSphere 4.1 hypervisor. FES has also completely refreshed its network foundation by introducing two Cisco Catalyst 6500 Series switches in the core, linked to Cisco Nexus 5000 and 2000 Series switches.

The company’s decision was backed by an attractive business case, which showed that the entire investment would pay for itself within five years. FES also benefits from VCE engineering support. Unlike other multi-vendor solutions, there is only one contact point in the event of any issues.

Results

Simplified Management

From the outside, UCS looks like a standard blade server. However, in reality, it is a highly scalable system for the standardized virtualization of server, storage, and network resources. Working alongside the EMC Celerra storage system, the Cisco unified fabric gives FES a single management model for NAS and SAN storage. This system not only improves availability, but it also lowers backup costs. Moreover, it provides FES with a much simpler way of managing configuration, provisioning, storage, power, cooling, and cabling.

Financial Saving

“Where six network cards were once needed, only two are required today,” concludes Fehr. “Furthermore, we no longer need 1,500 patch cables. This input/output consolidation alone results in savings of almost €7,000.” FES also expects to reduce electricity costs by a minimum of €73,500, which, added to the saving on cabling and future hardware requirements, means the project pays itself back within 60 months.

Physical Limitations No Longer Restrict Scalability

The number of server chassis has been cut from eight to five. One of these still houses a legacy Citrix farm, which is expected to be virtualized shortly and migrated onto the Cisco UCS. Only four server chassis would then remain, making room for hundreds more virtual servers.

Greener IT Operations

The data center is more environmentally friendly, a point that is at the core of everything the company stands for. Using the Vblock platform, FES expects to eliminate over 250 tons of carbon emissions per year.

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Product and Services List

Data Center

- Vblock platform
  - Cisco Unified Computing System
  - Cisco Nexus 5000 and 2000 and Catalyst 6500 Series switches
  - EMC Celerra NS 120 storage
  - VMware vSphere 4.1 hypervisor
- Planning, design, implementation, and support services

ABOUT VCE

VCE, the Virtual Computing Environment Company formed by Cisco and EMC with investments from VMware and Intel, accelerates the adoption of converged infrastructure and cloud-based computing models that dramatically reduce the cost of IT while improving time to market for our customers. VCE, through the Vblock platform, delivers the industry's first completely integrated IT offering with end-to-end vendor accountability. VCE's prepackaged solutions are available through an extensive partner network, and cover horizontal applications, vertical industry offerings, and application development environments, allowing customers to focus on business innovation instead of integrating, validating and managing IT infrastructure.
For more information, go to www.vce.com.