

Cloud Optimizes Product Development and Delivery



Medical publisher transforms from print to online solutions with new business model for growth and innovation

EXECUTIVE SUMMARY

Customer Name: Georg Thieme Verlag KG

Industry: Publishing

Location: Germany

Number of Employees: 900

Challenge

- Respond to Internet threat to print publishing with new business model and cost structure
- Accelerate product development and time to market

Solution

- Private cloud based on Cisco Unified Computing System and Cisco Nexus 7000 Series Switches, integrating and extending services from and to the open cloud

Results

- Overall 20 percent reduction in operating costs, including 60 percent saving on maintenance, 10 to 15 percent on management, and nearly 65 percent on rack space
- Time to provision new server resources slashed from two or more days to hours and minutes
- Server utilization increased by a factor of five

Challenge

Publishing is feeling the Internet-fanned winds of change. In response, Georg Thieme Verlag KG is changing the way it does business through transformational online content solutions. “The market changed rapidly,” says Ralf Buttermann, CIO at Georg Thieme Verlag KG, “and traditional newspaper companies weren’t able to change their business models or revenue and cost structures. The same drivers are impacting premium content publishing and in ten years’ time print may only represent 50 percent of the total market.”

Thieme Publishing Group is a scientific and medical publishing house maintaining offices in seven cities including New York, Delhi, Stuttgart, and three other locations in Germany. Founded in 1886, the Thieme name has become synonymous with high quality and excellence in medical and scientific publishing. Today, it is the market leading publisher of neurosurgical content and holds strong market positions in orthopedics, radiology, anatomy, and chemistry. Thieme publishes 140 peer-reviewed journals and over 500 new books annually. The company also has a rapidly growing array of web-based products in medicine and science.

Having foreseen the potential impact of the Internet, however, Thieme realized that its IT infrastructure had to be able to support the changes it needed to make. The company wanted to take more control of content and distribution by analyzing, repurposing, and indexing information to create online solutions that consumers could access 24/7 using an increasingly broad range of devices, from PCs to smartphones and tablets.

There were several other turning points that influenced the decision to invest in a technology refresh. The group’s existing data center in Stuttgart was full to capacity. Around 250 traditional blade servers had been virtualized across two sites, but sprawl was still an issue. Floor space had run out at one center and a second tier of racks had to be installed on top of the first, causing a major headache for routine maintenance. Power, too, had reached its limit.



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Ralf Butterman
CIO
Georg Thieme Verlag KG

While the 20-strong IT team ensured high levels of availability, provisioning services fast enough to keep up with new initiatives from the group's 32 publishing departments was often impossible. New web or database servers took two to three days to configure and deploy. A new EMC® VPLEX™ storage solution had increased capacity from 1TB to 9TB, but 1Gbps bandwidth in the data center had become a bottleneck.

Solution

The IT team's first thoughts were to carry out a like-for-like upgrade of its blade servers, but a demonstration of Cisco Unified Computing System™ (UCS™) and subsequent workshops changed minds.

The attraction of a seamless delivery approach between technology partners was another compelling factor in the company's decision. “We work to understand the needs of the business and decide which technology best meets those needs,” says Butterman. Thanks to its alliance with EMC, VMware, and Intel, Cisco was able to offer a complete solution, not a collection of components. No other vendor could do this. It gave us the features we needed and confidence that there would be no interoperability issues.”

The Cisco Unified Data Center designed for Georg Thieme Verlag KG brings together networking, computing, storage, management, and security resources into a unified platform across its two main sites, forming a cloud computing platform.

This core infrastructure comprises five Cisco UCS B200 MS Series Blade Servers, each with Intel® Xeon® 5600 Series multicore processors with 48GB of RAM, offering a cost effective solution for less demanding workloads in the data center. More demanding applications, such as database servers and the suite of business critical SAP applications that underpin the group's operations, benefit from 16 UCS B230 M1 Series Blade Servers with Intel® Xeon® Processor X569012 with 256GB of RAM, and four with 128GB of RAM.

The blades are housed within three Cisco UCS 5100 Series Blade Server Chassis, with Cisco UCS 6120 Series Fabric Interconnects providing line-rate, low-latency, lossless 10Gbps Ethernet interconnect switches that consolidate I/O within the system.

Access to the UCS compute resources is provided via 10Gbps links to a Cisco Nexus 7000 Series Switch at each site, which also link to EMC data storage facilities. Offering both Ethernet and Fiber Channel ports, Thieme was able to connect its existing Ethernet switches with no disruption to its SAN. This provided the confidence that future planned upgrades to Fiber Channel—to support low latency and faster access, for example, to stored video content—would be seamlessly supported.

The reduced complexity of the unified data center approach was underlined by the time it took to install the solution. “Installation and configuration were very fast,” says Martin Mödinger, senior system and network administration manager at Georg Thieme Verlag KG. “The combination of Cisco and VMware technology was up and running in four days compared to a traditional solution which would have taken between two and three weeks to install and configure. Installation was made much easier by the unified fabric, which reduced our cabling requirements by over 50 percent and eliminated cable spaghetti almost overnight.”

Virtual device context (VDC) technology, supported by the Nexus operating system (Cisco NX-OS), was used to separate production, development, and test environments. VDC was also used to create a totally separate infrastructure for one of the group's publishing houses that, under German law, has to ensure personal data is kept very securely. “In the past we had to provide a totally separate LAN infrastructure, so being able to meet that need using VDC avoided capital expenditure and made day-to-day management much easier,” says Mödinger.



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Senior System and Network Administration
Manager
Georg Thieme Verlag KG

Results

The new unified data center provides Thieme with a secure, high performance, and scalable foundation on which to continue its business transformation. At the heart of this is the company’s vision for cloud computing.

A private cloud is currently supporting six web servers, 30 content servers, and five databases delivering e-books, journals, and innovative online services. They include an online diagnostic aid for radiology that compares an initial diagnosis with those from a comprehensive database that a doctor can use while talking to a patient. Another service, a learning system for medical students, is now provided under license by every university of medicine in Germany. The Thieme Science of Synthesis chemical database is the pharmaceutical industry’s reference tool for comparing new synthetic compounds against existing structures.

Space requirements in the data center have been slashed by nearly two-thirds, with corresponding savings in energy required for power and cooling. Resource utilization has also dramatically improved, with the new blades able to support up to 40 virtual machines compared to the eight on the traditional solution.

Creating and delivering service profiles with UCS Computing System Manager means that virtual machines can be spun up within minutes rather than the previous two to three days that was needed. “Our test environment is really dynamic,” says Mödinger. “Sometimes a new server is only required for a couple of days, but it is needed immediately. We just couldn’t react that fast in the past, but now we can.”

Transitioning to private cloud has brought other advantages. For example, data center resources now have the capacity and flexibility to meet peaks in demand for online services enabling doctors and other medical staff to prepare for exams.

Like Cisco, the publisher envisages a world of many clouds providing the ability to buy in, as needed, compute or storage resources from third party companies. “Hosting content in the cloud, however, is not rocket science,” says Butterman. “The big difference is that we wish to deploy services on demand that blend resources from our private cloud and elsewhere in the open cloud.”

A critical enabler will be the combination of VMware and Cisco security and management technologies, which will enable the company to monitor and oversee services provided in real time by partners, while managing its own resources. For example, an online product delivered through a third party, but with Thieme providing all-important back office functions such as billing, authentication, and authorization from its private cloud.

“This flexibility will deliver a step change in capability to streamline processes, increase cost efficiencies and accelerate time to market while extending our geographic reach. These gains will help us differentiate our products and secure first mover advantage,” says Butterman.

Next Steps

Faced with the need to take greater control and streamline production processes, combined with increasing demand from consumers for video content, Thieme plans to create a corporate network to support secure, highly scalable, and media-rich communications. It is currently evaluating Cisco Borderless Network Architecture and various Cisco Collaboration solutions, ranging from videoconferencing and unified workspace, to presence and multimedia content management and distribution.





For More Information

To learn more about the Cisco architectures, solutions, and products featured within this case study please go to:

www.cisco.com/go/cloud

www.cisco.com/go/unifieddatacenter

Product List

Data Center Solutions

- Cisco Unified Computing System (UCS)
 - Cisco UCS B230 M1 Series Blade Servers with Intel Xeon 6500 Series processors
 - Cisco UCS B200 M2 Series Blade Servers with Intel® Xeon® 5600 Series processors
 - Cisco Unified Computing Solution 5100 Series Blade Server Chassis

Routing and Switching

- Cisco Nexus 7000 Series Switches

Fabric Interconnects

- Cisco UCS 6120 Fabric Interconnects

Network Management

- Cisco Unified Computing System Manager
- Cisco Data Center Network Manager

Applications

- VMware
- SAP CRM, ECC, XI/PI, BW, IPM, Sol Man, Media Enhancement, Archive, SharePoint Connect, EBP electronic buying platform
- Klopotek MEX, PPM (subscription system, rights and royalties)

Storage

- EMC storage



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