

# Improving Efficiency and Agility in IT Infrastructure



## Krones boosts production efficiency in data center and executes safe migration from RISC platforms for mission-critical applications

### EXECUTIVE SUMMARY

**Customer Name:** Krones AG

**Industry:** Machinery and plant engineering

**Location:** Headquartered in Germany with global operations

**Number of Employees:** 12,000

#### Challenge

- Improve IT efficiency and agility
- Deliver technology migration while minimizing interference to other departments

#### Solution

- Cisco Smart+Connected Manufacturing solution, based on Cisco Unified Data Center validated design and built using Cisco Unified Computing System and Nexus

#### Results

- Greater availability of IT solutions supporting business processes
- Server provisioning time improved by factor of 10
- 90 percent reduction in cabling and power supplies, with fewer ports

#### Challenge

Krones group, headquartered in Neutraubling, Germany, plans, develops, and manufactures machinery and complete plants for process, bottling, and packaging technology. These operations include intralogistics, information technology, and planning of plants as well as its own valve production. Millions of bottles, cans, and specially shaped containers are processed daily on behalf of breweries, the soft-drink sector, and manufacturers of wine, sparkling wine, and spirits as well as for the chemical, pharmaceutical, and cosmetics industry.

Since its foundation in 1951, Krones has evolved far beyond its original role as a supplier of machinery and plants. The company has become an all-round partner to its customers, a role that harmoniously combines and optimizes mechanical engineering, systems know-how, process engineering, microbiology, and information technology. Today, Krones acts as a synonym for system engineering.

The company's data centers are a key enabler for business growth. Consisting of 200 physical servers and 700 virtual machines spread across three locations, this critical infrastructure previously used a mix of technologies from different vendors. During a typical day, the three facilities handle around 1.3 petabytes of data and, in the case of the largest SAP database with more than 6TB, serve 5500 users concurrently. This data center environment relied on reduced instruction set computer (RISC) processor architectures for business critical applications such as SAP and databases, mostly running Solaris operating systems.

Responsible for data center management, the department Informationsmanagement Rechenzentrum (IM-RZ) is at the forefront of this challenge. "Like all companies, we needed a platform that was optimized for zero downtime and application performance," says Gerd Neuland, team leader IM-RZ. "The platform has to provide a central server solution for our UNIX and MS Windows systems that could be virtualized to make these more flexible and efficient."



**“With Cisco UCS, for example, time to install a blade server has decreased by a factor of 10 compared with conventional rack-mount systems.”**

Gerd Neuland  
Team Leader  
IM-RZ



Helping ensure a safe and smooth technological migration with minimum interference to mission-critical applications was especially important. Other key requirements were less downtime during maintenance and 10Gbps Fibre Channel over Ethernet connectivity for greater network performance. In addition, Krones was eager to reduce cabling and to speed up provisioning. “In some cases it could take three months between ordering and provisioning new servers,” says Neuland.

### Solution

Krones selected a Cisco Smart+Connected™ Manufacturing solution, based on the Cisco® Unified Data Center. This pre-validated architectural approach combines server respective computing performance, network, and management into a platform designed to automate IT as a service across physical and virtual environments. The end result is increased budget efficiency, more agile business responsiveness, and simplified IT operations.

At the heart of the solution are Cisco Unified Computing System™ (UCS®) B-Series Blade Servers, which run numerous standard server software along with a host of Oracle databases, SAP systems, and Microsoft applications including SQL server, Active Directory, Exchange, SharePoint, and Citrix.

Krones also took the opportunity to refresh its data center switching by implementing Cisco Nexus® 5000 and 7000 Series Switches. These switches, together with Cisco UCS 6248UP Fabric Interconnects, form the unified fabric component of the Cisco Data Center Architecture and deliver 10Gbps data and storage networking, reducing complexity and operating costs while increasing quality at the same time.

Fabric Extender (FEX), Virtual Port Channel (VPC), Virtual Device Context (VDC), and In-Service Software Upgrades (ISSU) are some of the other advanced Nexus-enabled technologies that have also been introduced. “We’re confident that our Cisco data center platform is future proof,” says Neuland. “For example, using FEX top-of-rack switching saves effort, time, and money. Similarly, as is the case with ISSU, it offers us downtime-free maintenance possibilities.”

### Results

Krones is a great example of how a unified network and server platform, people and devices can be connected with applications and information in the fastest, most economical way possible.

Migration from RISC/Solaris to Cisco UCS/Linux has begun and is already improving agility. IT infrastructure can now respond quicker to changes and requirements in the development of application and business processes. “Our Cisco Smart+Connected Manufacturing solution gives us high-speed connectivity and high-availability, while providing more flexible provisioning of computing power using central capacity management,” says Neuland. “With Cisco UCS, for example, time to install a blade server has decreased by a factor of 10 compared with conventional rack-mount systems.”

Better utilization also means that server footprint is forecast to reduce by a factor of 10. Added to these hardware savings, Krones expects to achieve a 90 percent reduction in cabling and the number of LAN and SAN ports.

IT operations are more environmentally friendly too. Moving to a unified fabric and introducing new technologies such as VPC and VDC, will reduce power consumption significantly.

And these operations are less complex to manage. Rather than having to negotiate service windows for security and software upgrades these tasks can be completed without incurring downtime, in turn improving business continuity. “Thanks to a simplified design, we also have better visibility into the network and the devices connected to it,” says Mr. Wein, member of the network group.

**“Our initial estimates were based upon 350,000 SAPS, but with our Cisco UCS solution, we can scale to 600,000 if we need to.”**

Gerd Neuland  
Team Leader  
IM-RZ

Due to complete in 2015, the planned migration from all RISC/Solaris systems to Cisco UCS/Linux will help enable Krones to adapt faster to changes in the business environment, while also delivering IT resources more effectively and efficiently.

#### Next Steps

Krones is already looking to take advantage of its Cisco Unified Data Center architecture. The extra density provided by the UCS blade servers will help to accelerate a planned SAP ERP migration. “Our initial estimates were based upon 350,000 SAPS, but with our Cisco UCS solution, we can scale to 600,000 if we need to,” says Neuland.

#### For More Information

To learn more about the Cisco technologies featured in this case study, please go to [www.cisco.com/go/datacenter](http://www.cisco.com/go/datacenter)

For more information on Cisco Smart+Connected Manufacturing solution, please go to [www.cisco.com/go/manufacturing](http://www.cisco.com/go/manufacturing)

#### Product List

##### Data Center

- Cisco Unified Computing System
  - UCS B230 and B440 servers with Intel Xeon E7-2850/E7-2870 and E7-4870 processors

##### Routing and Switching

- Cisco Nexus 5000 and 7000 Series Switches

##### Fabric Interconnects

- Cisco UCS 6248UP Series Fabric Interconnects

##### Applications

- Oracle Database
- SAP Netweaver (ABAP and JAVA)
- Microsoft SQL Server
- Microsoft Active Directory
- Microsoft Exchange
- Microsoft SharePoint
- Citrix Terminal Server



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