# Case Studies 2011
## Fujitsu Best Practice Compendium

The customer
The challenge
The solution

### The great beyond
The European Southern Observatory stores data from outer space on ETERNUS systems

### Perfect indoor climate
Education provider IAL switches to Zero Clients – with Power over Ethernet

### Efficient and compact
Stadtwerke München relies on Fujitsu Blade Server technology coupled with intelligent management software

shaping tomorrow with you

FUJITSU

FUJITSU LIFEBOOK powered by
visibly smart performance

intel inside™
CORE™ i7 vPro™

**Protect.
Manage.**

# Accept no boundaries

## FUJITSU LIFEBOOK
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It's all about survival of the fittest. And that also applies to your notebook. With the 2nd Gen Intel® Core™ vPro™ processor family, the FUJITSU LIFEBOOK T901 delivers best performance in a lightweight convertible notebook. For even the most demanding of applications. The 15.6-inch high-bright LED backlight display is a pleasure to use, while maximum connectivity and an optional second hard disk drive make this an ideal desktop alternative. So nothing can stop you now.

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**lifebook.fujitsu.com**

# FUJITSU

**shaping tomorrow with you**

Claus-Peter Unterberger, Fujitsu Technology Solutions

# Best practice
# across all sectors

**Dear Customers and Business Associates,**

"Best practice" is precisely what you can expect from Europe's leading IT provider; we hold ourselves to the highest standards, we accept no boundaries and we strive to make the impossible possible.

Eager to share our experience with our readers, we have carefully compiled Fujitsu's 2011 landmark projects into this compendium. We invite you to explore our portfolio's full spectrum with specific examples from all business sectors and sizes. For good reason, Fujitsu is positioned as a reliable premium partner in the IT industry for small and medium-sized enterprises and local public services, as well as large corporate customers and national governments.

Fujitsu can draw on its innovative and comprehensive hardware, software and services portfolio to develop personalized solutions for every customer. This is precisely where our strength lies: Fujitsu does not provide off-the-rack IT environments; instead we always find new and ambitious solutions, and together with our customers, develop tailored strategies.

I sincerely thank all our customers, and particularly those who make this compendium of innovative case studies possible by shaping the future in partnership with Fujitsu. On our side we are always ready to realize our brand promise with each of you: we are proud to be "shaping tomorrow with you."

Yours sincerely,

Claus-Peter Unterberger
Chief Marketing Officer

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Fujitsu Best Pract

ice Compendium

# Content

FUJITSU

# From the Zero Client
# to the workstation

Every IT concept eventually reaches the user or endpoint device. And the Fujitsu portfolio offers tailor-made solutions for every scenario: Whereas a company like PRIMA GAS AG was searching for a tablet-convertible notebook solution (LIFEBOOK T5010), the developers at Realtime Technology AG were on the look-out for a high-performance computer capable of meeting the most exacting demands of 3D visualization and have found the perfect match for their requirements in a CELSIUS workstation. With Fujitsu Zero Clients, on the other hand, the total performance is returned to the data center – this innovative concept has made it the perfect choice for LAMY and the education provider IAL.

# Case study
## LAMY virtualizes with Fujitsu Zero Clients

»LAMY has always been very innovative, for that reason the VDI concept with Fujitsu Zero Clients harmonizes very well with us. The performance and the productivity of the users are enormous – and we as the IT team save a great deal of time because now we can manage all of the clients from the data center.«

**Albin Schänzle, Head of EDP/ORG and Cost Accounting, C. Josef Lamy GmbH**

### The customer

With a turnover of over 50 million euros C. Josef Lamy GmbH, seated in Heidelberg, is the market leader in Germany in the manufacture of writing implements. **www.lamy.de**

### The challenge

To replace the existing client landscape with the intention to decrease investment and operating costs. In addition the focus was to reduce energy and maintenance expenditure.

### The solution

With the implementation of Fujitsu Zero Clients LAMY now operates a modern virtual client infrastructure that has lead to radical savings in energy consumption, administration expenditure and purchasing costs.

# Design. Made in Germany.

### Innovative IT for an innovative enterprise

"Design. Made in Germany." For many generations of pupils this slogan has been reflected in a prominent quality product – after all a LAMY pen has always been considered as a status symbol. Of course the company founded in Heidelberg by C. Josef Lamy in 1930 also manufactures writing implements for adults. Annually 6 million articles leave the production line of the family enterprise, sustaining LAMY's market lead in Germany. However, today a highly efficient IT infrastructure is also essential for the success of the company. Hence already in 2008, LAMY invested in virtualization. With that it was possible to consolidate 20 servers to three PRIMERGY RX300 systems. Two years later the issue was how the Desktop Clients could be renewed most economically. For the 180 PC workplaces LAMY services in Heidelberg two priorities were identified: the need to reduce purchasing and administration costs as well as to entrust their proven innovative energy to their own IT system.

### Saving at all levels with Desktop Virtualization

Early on it was clear that LAMY did not want to invest in classical PCs. As an alternative a terminal server solution with thin clients was considered. However, that would have involved too many limitations since LAMY has numerous special applications that are only available to individual staff members. Therefore extensive solution standardization was not possible. As a further possibility, the Fujitsu SELECT partner idicos that has been supporting LAMY for some time already suggested a VDI solution. VDI stands for "Virtual Desktop Infrastructure" and clearly exceeds a thin client concept. With that even more output is stored in the data center: Whereas thin clients still carry their own flash memory and run on a local operating system, the Client within the VDI solution no longer requires these features. Fujitsu has developed the Zero Client as the optimal VDI endpoint device of a completely new generation. The Fujitsu Zero Client is only composed of a monitor, a mouse and a keyboard – connected via Ethernet to the servers in the data center. Here lies the bundled performance of all company desktops.

»We now administer from the data center. The quality is totally different from what we could achieve at the workplace. As a result my IT colleagues save a lot of time and can finally devote themselves to projects that were otherwise neglected during the workday.«

### Conversion to user pages is not necessary

In the case of LAMY the Zero Client solution was especially appropriate because this system is specially geared to virtualization solutions from VMware. And since LAMY has already virtualized the data center with VMware vSphere, there were no problems with implementation. Dr. Michael Melter, CEO of idicos GmbH, explained the advantage of a VDI environment with Zero Clients as follows: "Every employee can log in from any workplace in the company and has their usual Windows interface at their disposal which allows access to their individual software. Therefore the look and feel remains the same; there is no need to adapt." At LAMY the start-up was all the easier because there was so much free server capacity due to the previous server virtualization project that the first 50 Zero Clients could be connected without substantial data center updating. The memory system had to be enhanced by six additional hard disks. In addition the purchase costs

of the Zero Clients each comprised of hardware plus virtualization license was approximately one third of the price of traditional PCs.

### No more maintenance at the workplace

With that however there are still vast cost advantages to be exploited: "The best incarnation of a VDI environment results from the Zero Clients in the infrastructure because nothing more has to be administered from the workplace," Dr. Melter fills in. "In case there is need for maintenance, I can replace the Zero Client like a piece of wood." Of course there is a certain one-off expenditure for implementation i.e. to embed the virtual Clients in the infrastructure. But all things considered, it is clearly less expensive than installing conventional PCs in a company separately. Further there is the security aspect: In a VDI environment with Zero Clients the operating system, programs and all data remain in the data center and are safeguarded against theft and data loss.

| The benefit |
|---|
| ■ Clearly lower TCO due to a longer lifecycle and the elimination of maintenance costs<br>■ Significant savings through radically lowered energy consumption |

| Products and services |
|---|
| ■ Clients: 50 x Fujitsu Zero Client D602, 130 x Fujitsu Zero Client DZ22-2<br>■ Servers: 5 x PRIMERGY RX300<br>■ Desktop virtualization: VMware vSphere 4.1 |

### More time for the IT staff

"idicos put us in the picture about the advantages of a Zero Client environment," says Albin Schänzle, Head of EDP/ORG and Cost Accounting at LAMY. "What is more the Fujitsu brand simply harmonizes well with us. Just as Fujitsu we produce our products in Germany and consider ourselves as a driving force in innovation in our branch." He certainly knows how to appreciate the resulting decline in maintenance costs: "We now administer from the data center. The quality is totally different from what we could achieve at the workplace. As a result my IT colleagues save a lot of time and can finally devote themselves to projects that were otherwise neglected during the workday."

Even the LAMY employees save time. On the one hand this is due to the high performance provided to the desktops by the Fujitsu PRIMERGY RX300 servers from the data center. What is more booting is much faster than with a PC: "A Zero Client needs a maximum of 30 seconds before it is available to work," explains Albin Schänzle. "All in all that has made this frontend device very popular. Already the first test users in our company would no longer be willing to part with their Zero Clients."

### Fast amortization thanks to declining electricity costs

In the second step LAMY ordered 130 more Fujitsu Zero Clients so that then all 180 IT workplaces could be integrated into the virtual infrastructure. For this the Heidelberg enterprise had to equip the data center with two more PRIMERGY RX300 servers plus a storage upgrade. The ROI phase for this will be very short: "The reduced energy costs alone have already made this project worthwhile for us," according to Schänzle. If you take into account that a Zero Client with its integrated 22-inch LCD monitor consumes just about 27 Watts, but a PC definitely consumes 150 to 200 Watts, this results in annual cost savings on electricity for LAMY amounting to a five digit figure. Albin Schänzle is very satisfied in any case: "All in all, also regarding conception and consulting, Fujitsu and the SELECT partner idicos deserve a top score."

**Partner**

**idicos**

www.idicos.de
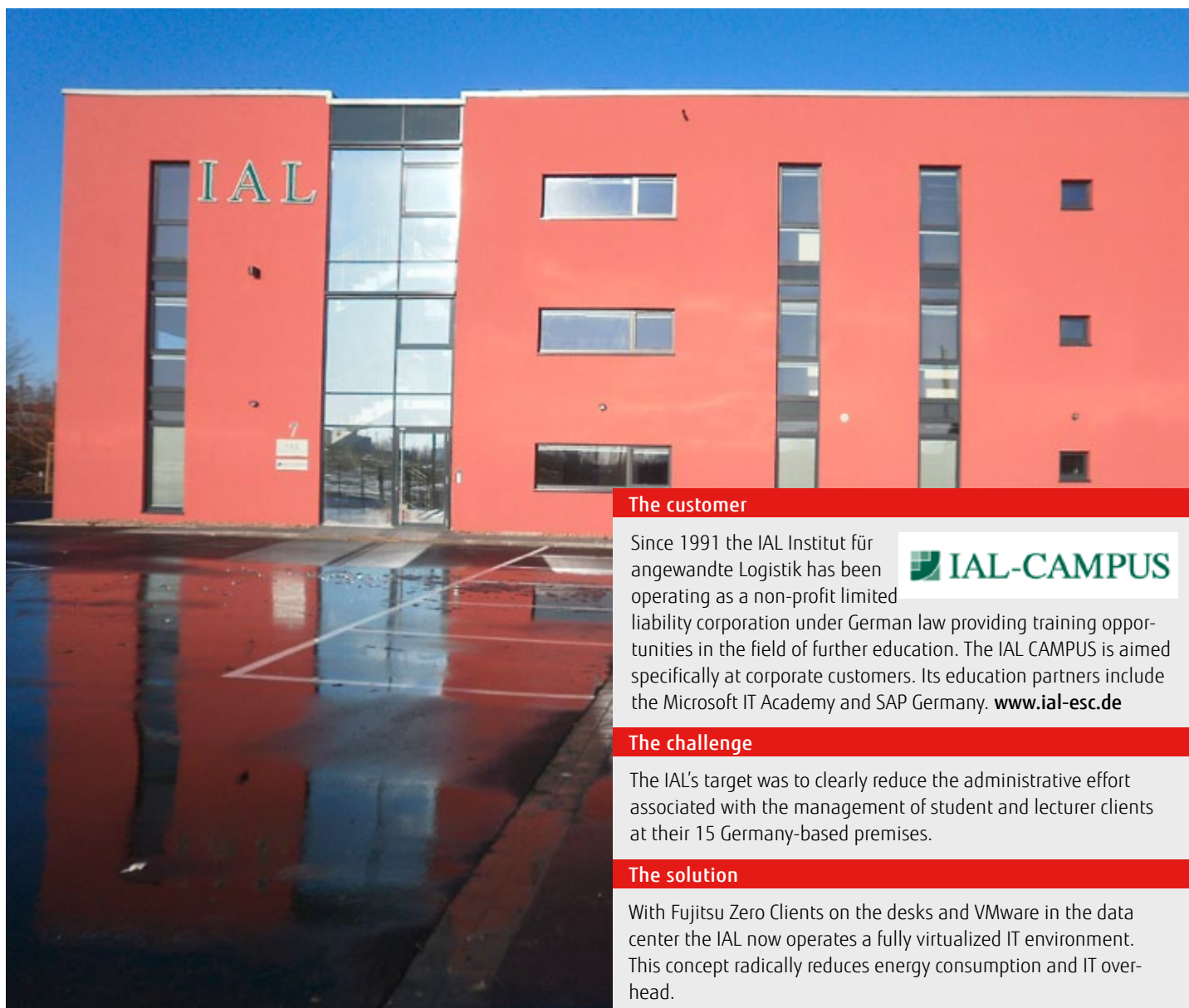
# Case study
## Education provider IAL switches to virtual clients powered over Ethernet

»Fujitsu Zero Clients have truly optimized our training conditions. Our students benefit from a less noisy learning environment and a more comfortable climate in the seminar rooms – factors that certainly help improve concentration. And besides, we are able to achieve tremendous energy savings.«

**Franz-Dieter Esser, CEO, IAL gGmbH**

### The customer

Since 1991 the IAL Institut für angewandte Logistik has been operating as a non-profit limited liability corporation under German law providing training opportunities in the field of further education. The IAL CAMPUS is aimed specifically at corporate customers. Its education partners include the Microsoft IT Academy and SAP Germany. **www.ial-esc.de**

### The challenge

The IAL's target was to clearly reduce the administrative effort associated with the management of student and lecturer clients at their 15 Germany-based premises.

### The solution

With Fujitsu Zero Clients on the desks and VMware in the data center the IAL now operates a fully virtualized IT environment. This concept radically reduces energy consumption and IT overhead.
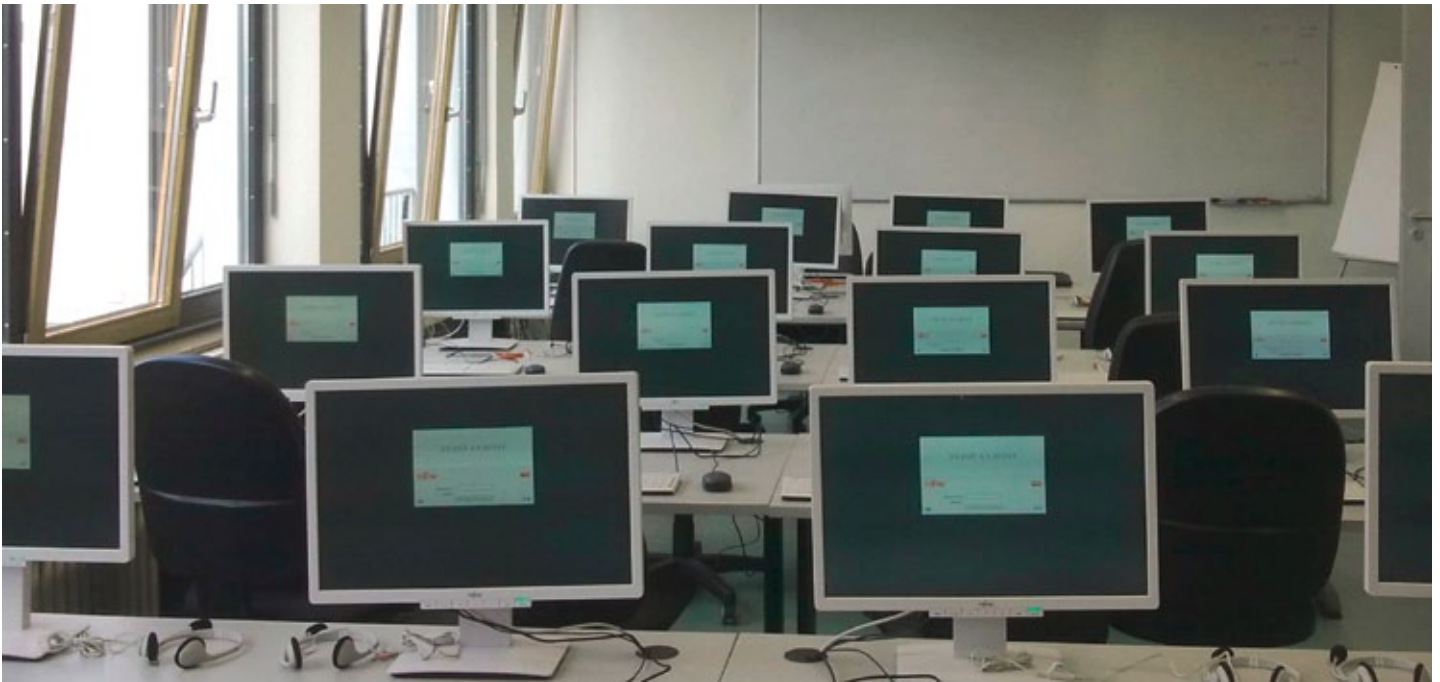
# Freed up desk space and noiseless operation with Fujitsu Zero Clients

### Continuing vocational training

Approximately 1,500 participants per year seize the training opportunities offered by the IAL. The IAL consists of 15 campus locations in North Rhine-Westphalia, Rhineland-Palatinate and Bavaria. The training offer comprises IT qualification programs as well as training and retraining courses in business management and in the commercial-technical area. In the IT field the institute focuses on SAP training, as the software company SAP Germany is one of the official education partners of the IAL. Another special strength lies in its comprehensive training concept for corporate customers, also known as IAL CAMPUS. As a strong partner from the very outset the Federal Employment Agency 'Agentur für Arbeit' plays a prominent role – not least in the development of training offers and the assurance of the institute's high demands on quality.

### Hands-on training at the PC

"We generally provide computer-aided instruction. In practice, this involves fully integrating the required IT tools in our courses," explains Franz-Dieter Esser, CEO at the IAL. "Therefore the training participants have their individual IT workstations." All in all, the seminar rooms on the different campus locations are equipped with a total of 1,200 desks including one PC tower and monitor each, i.e. with an average of 15 to 20 units per room. "With normal PCs the room temperature increases by 4 to 10 degrees when a course is fully occupied," Franz-Dieter Esser knows. "As we approached the topic of a new client infrastructure, one of our main concerns was to implement a sustainable solution that would alleviate our adminis-

trative burden. It was, however, equally important for us to improve the training conditions by banning excess heat and noise from the seminar rooms."

### Virtualized client infrastructure

Thomas Wysk, sales representative at Keppel Data-Systems, was able to witness the former conditions firsthand. He attended several SAP training courses at the IAL and finally advised the institute to switch to a virtualized client infrastructure where Fujitsu Zero Clients serve as endpoint devices on the desks that obtain the full scope of applications, data and performance straight from the data center – technically speaking, even the power supply.

### Client performance straight from the data center

Starting with the Bonn-based premises the IAL has begun to equip all seminar rooms of the 15 institutes with Fujitsu Zero Clients. To start with the IAL ordered 20 Zero Clients that are supplied via a PRIMERGY TX300 tower server. Whereas the students only have a monitor with a keyboard and mouse in front of them, all course-relevant data and applications are stored on the server. "A Fujitsu Zero Client has no fan, no hard drive and no CPU," Thomas Wysk explains. "All it takes is an Ethernet cable to connect the endpoint device." The students can access their individual Windows environment by simply entering their user name and password. The former PC hard drive is located virtually on the server that quasi accommodates the entire previous PC hardware. storage capacity and performance are provided according to individual needs.

»One of the key assets of Fujitsu Zero Clients is the improvement of the indoor climate through the reduction of heat and noise development in the classrooms. Bulky PCs and cabling have served their time – the new desk concept comprising merely a monitor, a mouse and a keyboard is comparatively slim.«

**Peter Schaarwächter, Head of IT, IAL gGmbH**



## Power over Ethernet

Along with data, electrical power also passes safely on Ethernet cabling. With the IAL project the IT service provider Keppel Data-Systems GmbH from Bergisch Gladbach has, for the first time, implemented a "Power over Ethernet" concept (PoE) in cooperation with Fujitsu on a large scale. The underlying technology implies that the Fujitsu Zero Clients are exclusively powered over Ethernet, which has the advantage that the endpoint device only requires a customary Ethernet cable, a trusted component the IAL is already well acquainted with.

However, the only additional devices that come into play here are the so-called power injectors. In the server room they inject sufficient power for 10 Zero Clients each at the network's head end. "We have simply reutilized the existing network cables and switches," says Thomas Wysk. "However, this new concept has made the numerous multiple sockets in the seminar rooms redundant. They are definitely a thing of the past."

## Zero maintenance

Keppel Data-Systems successfully implemented the first 20 Zero Clients including server installation and power injection in little less than a working day. One major advantage is the immediate elimination of maintenance: "Computer failures used to be a time consuming affair with downtimes of up to one week before a new and readily installed PC was back on the desk," Peter Schaarwächter, Head of IT at the IAL, remembers. "However, if a Zero Client or related functions quit, any IAL staff member can replace the device and simply plug in the network connector – without even calling on an IT specialist."

## Central administration of the virtual clients

Thus the IT department of the IAL is no longer concerned with intensive involvement in situ. Via the Zero Client Manager that runs on the virtualization software (vSphere by VMware) the administrator can manage the entire Germany-wide network no matter where he is located: "With the Zero Client Manager we can create a new course profile, that comprises, for instance, 20 user profiles for a new SAP course," Peter Schaarwächter explains. "To be more precise, we create a single course profile and the Zero Client sets up the 20 user profiles as individual virtual PCs. The students attending that specific course simply log in and have access to all data and programs that are required for their training." Through the virtual client infrastructure the administrative overhead has been dramatically reduced for the IAL

ZERO CLIENT

administrator. Instead of setting up each PC individually, the administrator creates one basic profile per course and shifts it to the server of the respective campus. Subsequently, duplication and availability are ensured by the Zero Client Manager. "This advancement in technology has helped us cut down on IT overhead by respectable 80 %," Peter Schaarwächter estimates.

### Advantages for IT training

The course participants of the IAL now benefit from generously dimensioned 22-inch screens with integrated Fujitsu Zero Clients technology. And the virtual environment has particular advantages, too: "For training and testing purposes in IT specialist training, for instance, it is possible to quickly set up a new virtual environment where the students can solve their tasks," Peter Schaarwächter explains. "They learn how to set up a network and allocate resources under realistic conditions. When the course is over you simply click it away." The decision to go virtual has also proved worthwhile in terms of working atmosphere. Peter Schaarwächter praises the "improvement of the indoor climate through the reduction of heat and noise development in the classrooms". This highly positive effect is not least owed to power supply via Ethernet:

"Since Fujitsu Zero Clients are supplied with 39 watts via network cable, additional heat input over power supply units is now a thing of the past. This goes together with a radical cut in the system's total energy consumption – without performance shortfalls of the individual workstations. And the benefits of simplified maintenance and central manageability of the systems are twofold: We have been able to enhance our service quality hugely while reducing our TCO at the same time."

### Double life cycle

Due to the enormous savings effects the IAL expects that its investment costs will have amortized already as of the second year: "Less electricity, less maintenance, longer life cycle – this optimal interplay has ultimately convinced us," says CEO Franz-Dieter Esser. "If we consider that a normal PC is used for a period of three years and we can expect life cycles of up to five to six years with Fujitsu Zero Clients, that is decision making made easy."

### Meager yields for burglars

A positive side-effect is the risk minimization in the event of theft. Education providers hosting a great number of PCs are normally a popular

target for burglars. The temptation is, however, decreased when the seminar rooms are equipped with Zero Clients. Naturally these slimmed down endpoint devices per se do not protect companies from theft, but material damage is limited. After all, it is not possible to steal data and not necessary to carry out any reinstallations. If such a damage event occurs the situation can be easily remedied connecting a new Fujitsu Zero Client to the Ethernet cable. In addition, the replacement value is a lot less compared to a conventional PC.

### Full-scale extension planned

The IAL is planning to implement a virtualized client infrastructure in its new premises in Munich and Cologne as well. All in all, that would add up to 1,500 Fujitsu Zero Clients that run on 30 PRIMERGY TX300 servers with 6-Core processors and are powered over 150 power injectors. Franz-Dieter Esser truly welcomes this landmark steps towards a fully virtualized IT future: "During a course I recently looked over the shoulders of my students – and I was amazed to see that looking into the monitor of a Zero Client does not differ from a normal PC, as the students see their familiar user interfaces. And besides, the working atmosphere is much more pleasant than before."

**Partner**



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Ein Unternehmen der Haubner Gruppe

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51465 Bergisch Gladbach
www.keppel.de



Green IT

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| The benefit |
|---|
| ■ Extremely reduced IT overhead for Client environments |
| ■ Significant savings through radically lowered energy consumption |
| ■ More comfortable indoor climatic conditions for trainees and trainers |

| Products and services |
|---|
| ■ Clients: 1,500 x Fujitsu Zero Client DZ22-2 |
| ■ Servers: 30 x PRIMERGY TX300 |
| ■ PoE power supply: 150 x MICROSEMI PD-9512G |
| ■ Virtualization software: VMware vSphere |

# Case study
## PRIMAGAS

»The electronic contract and the use of Fujitsu Tablet PCs help us to concentrate
on what is most important – our customers.«

**Thomas Landmann, Sales Director, PRIMAGAS**

### The customer

For 60 years PRIMAGAS has been sup-
plying homes, businesses and public
authorities with environmentally friend-
ly liquefied petroleum gas. The family enterprise in Krefeld, Germa-
ny, serves more than 80,000 customers and generates some EUR 200
million in revenue, making it one of the country's largest suppliers
of liquefied petroleum gas.

### The challenge

- Contract closings without media discontinuity: Replacing paper
  documents with the electronic contract for processing and signing

### The solution

- Converting the contract process to an electronic procedure –
  from start to finish
- Use of "e-Contract" developed by PenFORM® for a legally secure
  digital workflow
- Hardware: 65 LIFEBOOK T5010

### Contract worklflow without any media discontinuity

PRIMAGAS GmbH serves its customers in Germany through an exten-
sive sales network. Until recently the contract process was based en-
tirely on paper documents. The use of paper, together with the typi-
cal time needed for postal deliveries and internal analog procedures
in the company, meant that some five days were required to process
contracts before they could be declared closed and legally binding.
The contract process sometimes took even longer due to mistakes,
illegible writing or ambiguous information in the documents.
PRIMAGAS thus decided to convert the basis of its entire contract
workflow to electronic information technology, without any media
discontinuity. The company defined the requirements for the new
application as follows:

- To ensure the fast and successful deployment of a digital applica-
  tion, the sales force must be supplied with an easy-to-use, secure
  and mobile device for preparing and closing contracts.
- The design of the contracts should remain unchanged.
- A notebook must not create a barrier between the sales represen-
  tative and the customer during a sales talk.
- A digital signature must be acceptable as proof of a formal con-
  tract agreement, without any need for additional time or effort
  on-site.
- At the end of the process the online transmission of information
  must ensure that the further processing of all collected data is
  handled faster and securely.
- Further digitization of upstream and downstream processes must
  also be possible.

### Fujitsu LIFEBOOK with "e-Contract"

A project team comprised of sales representatives and IT managers
specified these requirements in detail and received comprehensive
support from PenFORM® right up to the completion of the project.
The requirements were fully met using Fujitsu LIFEBOOK Convertible
PCs and a product called "e-Contract" developed by StepOver GmbH
based on Microsoft® InfoPath® and eSignatureOffice Tablet-PC
edition.

## The benefit

- OPTIMIZED WORKFLOW – legally secure electronic contract processing without media discontinuity providing optimal support for discussions involving sales representatives and customers
- LOWER ERROR RATE – higher quality in data acquisition and further processing
- EASY – fast and easy use for sales consultants and customers as well as for further contract processing
- ECONOMICAL – considerable savings in terms of printing, copying, telefaxing, scanning and archiving
- FOCUS ON CORE BUSINESS – sales consultants can give their full attention to the customer

## Products and services

**Application**
- "e-Contract" by PenFORM

**Hardware**
- 65 LIFEBOOK T5010

**Software**
- Microsoft InfoPath – for designing forms
- Microsoft Access – for offline data management
- eSignatureOffice – for digital signatures and creation of PDFs
- XML and PHP development

### The electronic way to conclude contracts quickly and securely

PenFORM is a specialist when it comes to developing intelligent software solutions for Tablet PCs. Applications developed by PenFORM are based on Microsoft InfoPath. The results are remarkable because the solutions support a unique user experience: Electronic processing of forms that is almost identical to the processing of paper documents.

Contract management is at the heart of the solution for PRIMAGAS. This is where the different kinds of contracts, variants, workflows and data sets are managed. Users just simply click on the type of contract they want and a window with the appropriate contract form opens up on the display. In subsequent steps the contract management solution monitors and guides the contract procedure by focusing on the current contract status, the customer's signature, countersigning and approval from the sales director, contract processing in the ERP system and contract archiving. The user can see the current processing status at any time. Additional functions are also provided for copying, sorting, converting and searching for documents, along with various print views of the contract forms. Intelligent contract templates support complete and fast contract processing.

Microsoft InfoPath is a software solution for creating forms and recording data that enables every kind of organization to manage and process sophisticated electronic forms. Microsoft InfoPath supports pen-based handwriting recognition in the LIFEBOOK Convertible PC so that users can write on intelligent contract templates as if they were paper documents. The forms are intelligent due to the various data interfaces and verification processes running in the background. These functions assist users in filling out the forms by automatically providing addresses, postal codes, bank codes and various types of product information that are inserted directly in the forms. These helpful features and functions ensure that contract forms are filled out completely and correctly. This in turn helps speed up downstream processing in ERP systems. Forms that are incomplete, illegible or contain incorrect data are a thing of the past, as is post-processing revision work.

What's more, the solution also has a drawing editor. Clear, correct and legible plans or technical drawings can be created quickly, and digital images can be uploaded and labeled in writing.

When a contract is complete, the customer can sign the electronic form directly on the Tablet PC. The component "eSignatureOffice Tablet-PC edition" from StepOver GmbH is integrated in "e-Contract" and ensures that a signature written on the Tablet PC is valid and legally binding. It also makes sure that signed documents and contracts cannot be modified after the fact and, due to the detailed recording of the signature, it can even be used to identify the signer if subsequent legal proceedings take place. This verification is analogous to that performed by a sworn handwriting expert in court.

### Work as usual – only better

The LIFEBOOK is the ideal tool for PRIMAGAS sales representatives. Thanks to its design the Convertible PC does not create a barrier between the customer and the sales consultant. The customer can watch how the consultant uses a pen to enter handwritten information on the screen, just as if paper documents were being used.

www.penform.de/e-contract02.htm

**Partner**



www.penform.eu



www.stepover.de

# Case study
# Realtime Technology AG (RTT)

»With its first-class technology Fujitsu makes a major contribution to our 3D visualization solutions, and it complements our own expertise with excellent technology and process know-how.«

**Otmar Kratzer, Project Management, RTT**
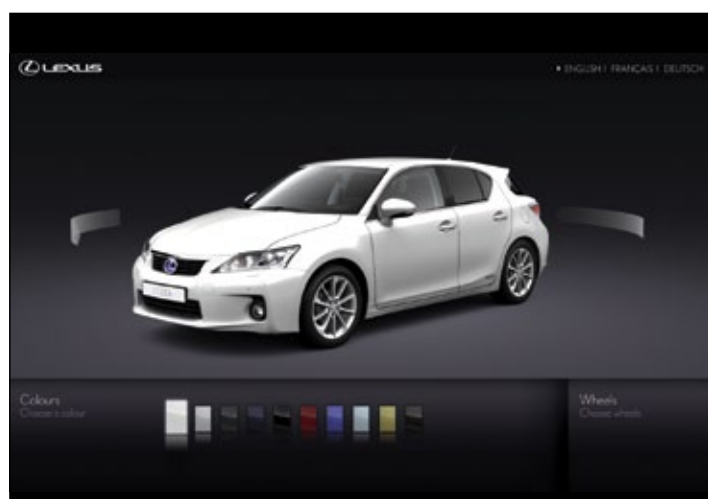


Options for the Lexus CT 200h can be selected in various combinations using the car configurator, which provides a 360-degree view of the vehicle.

## The customer

- Business: Software
- Founded: 1999
- Headquarters: Munich, Germany
- Employees: 500
- IPO: 2005
- Internet: **www.rtt.ag**

## The challenge

Realization of a car configurator for use at the point of sale (POS) in authorized dealerships and for integration in the home pages of carmakers.

## The solution

Global rollout of 1,220 CELSIUS workstations, including 950 CELSIUS M470 Power models with NVIDIA® Quadro™ FX 4800 high-end graphics cards – individually customized for markets in specific countries.

## RTT – challenging reality

Realtime Technology AG – known as RTT – creates fascinating high-end visualization solutions in 3D. The company is headquartered in Munich, Germany, and maintains offices in Stuttgart, Hamburg, Paris, Milan, Brussels, Valencia, Los Angeles, Detroit, Shanghai and Tokyo. Renowned business enterprises around the world rely on expertise from RTT, for example Adidas, Airbus, Audi, BASF, BMW, Daimler, Electrolux, Eurocopter, Ferrari, General Motors, Harley-Davidson, Lexus, Miele, Nissan, Porsche, Samsung, Sony Ericsson, The North Face, Toyota and Volkswagen. RTT's mission is to showcase products in realtime using methods of orchestration that are more than just informative – the ultimate objective is to create inspiring product experiences. RTT supports its customers throughout the entire product lifecycle – from development and design to marketing and sales. Design data from product development serve as the basis for building a solution. A computer-generated 3D model, or virtual prototype, enables designers to transform their ideas and concepts into compelling product images. The central elements in the RTT business model are the company's own RTT DeltaGen software suite, which is constantly subject to further development, and the know-how RTT can offer for process consulting, support and training.

## Core solution for carmakers

As the leading vendor of 3D high-end visualization solutions for the automotive industry, RTT works very closely with its customers and quickly recognizes changing trends and new requirements as they arise in this segment. It was this keen observation of the automotive market that inspired the so-called Car Configurator Project. RTT recognized the fact that car dealers have limited showroom space and cannot possibly display all the models in the ever growing range of new vehicles being introduced by manufacturers. What's more, dealers must contend with rising costs because each vehicle on display ties up capital and thus reduces profitability. RTT envisioned a flexible solution that would address this challenge and meet the demands of this market in various countries, with easy and efficient updating in this particular product field. With this objective in mind RTT developed the creative idea of the car configurator, a core solution that would support the web presence of carmakers and also serve as a point of sale (POS) tool for virtual presentation of vehicles in showrooms to promote sales.

»Fujitsu has been a reliable cooperation partner for many years and has successfully completed a large number of IT projects together with RTT. Fujitsu has convincing product quality, process expertise and the technology know-how to handle complex projects.«
**Otmar Kratzer, Project Management, RTT**

## A workstation with pedigree

Once the idea of a car configurator was born, the next step involved designing the technology needed to implement this new concept. In this endeavor RTT had a trusted and reliable cooperation partner at its side: Fujitsu. RTT was looking for a computer system that was easy to install and scalable enough for distribution and use in various dealer networks around the world. In addition, RTT placed great importance on having a standardized system with an automated update and maintenance process as well as optimal user support. The ultimate selection was a workstation with pedigree – the CELSIUS M470 Power. With this workstation from Fujitsu's advanced product segment, RTT could be sure of the outstanding performance from a system that could be tailored to meet specific needs. The CELSIUS M470 Power was specifically configured to function as a POS car configurator in conjunction with the special software solution from RTT. The CELSIUS M470 Power workstation combines the best components in terms of processors, memory, hard disks and graphics cards to deliver strong performance. But RTT benefits from much more than just a first-class hardware system. Thanks to Fujitsu's customizing services the customer has a workstation tailored to his specific requirements – a system that leaves the factory with the operating system and RTT software already installed. What's more, each workstation built for RTT has a special label showing the serial number and an e-mail with system ID as input for the customer's license server.

The systems are shipped directly to RTT's customers, namely the car dealers, where they can finally be unpacked. The preconfigured CELSIUS workstations can be put into operation immediately. In some car configurator projects an additional Fujitsu hardware component comes into play – a Tablet PC that is used as a remote controller for visualization.

## Innovation at the POS

RTT is the single-source supplier for auto manufacturers who want to support their authorized dealers with a POS solution. The package includes the software, the CELSIUS workstation and a screen. The interactive RTT DeltaGen data model serves as the basis for the sales process and for all content production. The application offers customers and prospective buyers all possible vehicle configurations and pre-sales options available. The modern touchscreen and the CI-compliant user interface creates an interactive, emotional POS brand experience.
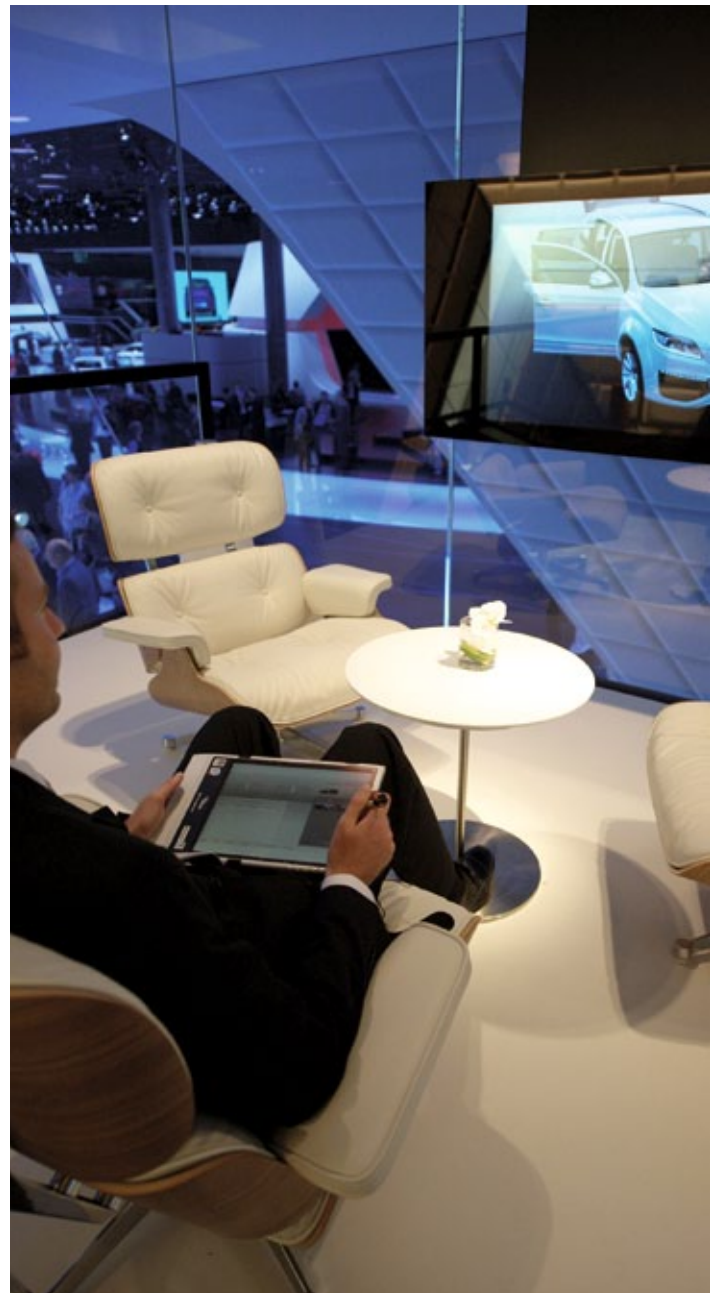


**The visitors of the Audi Quattro Exclusive Lounge could configure various models using the Audi PoS System (ACC 3D) at the IAA.**

>In this comprehensive Realtime Technology project we contribute more than just innovative technologies with high value added for demanding customer applications – thanks to the outstanding cooperation with this customer, we were also able to customize the point of sale solution very quickly.«

**Rajat Kakar, Vice President Workplace Systems, Fujitsu**
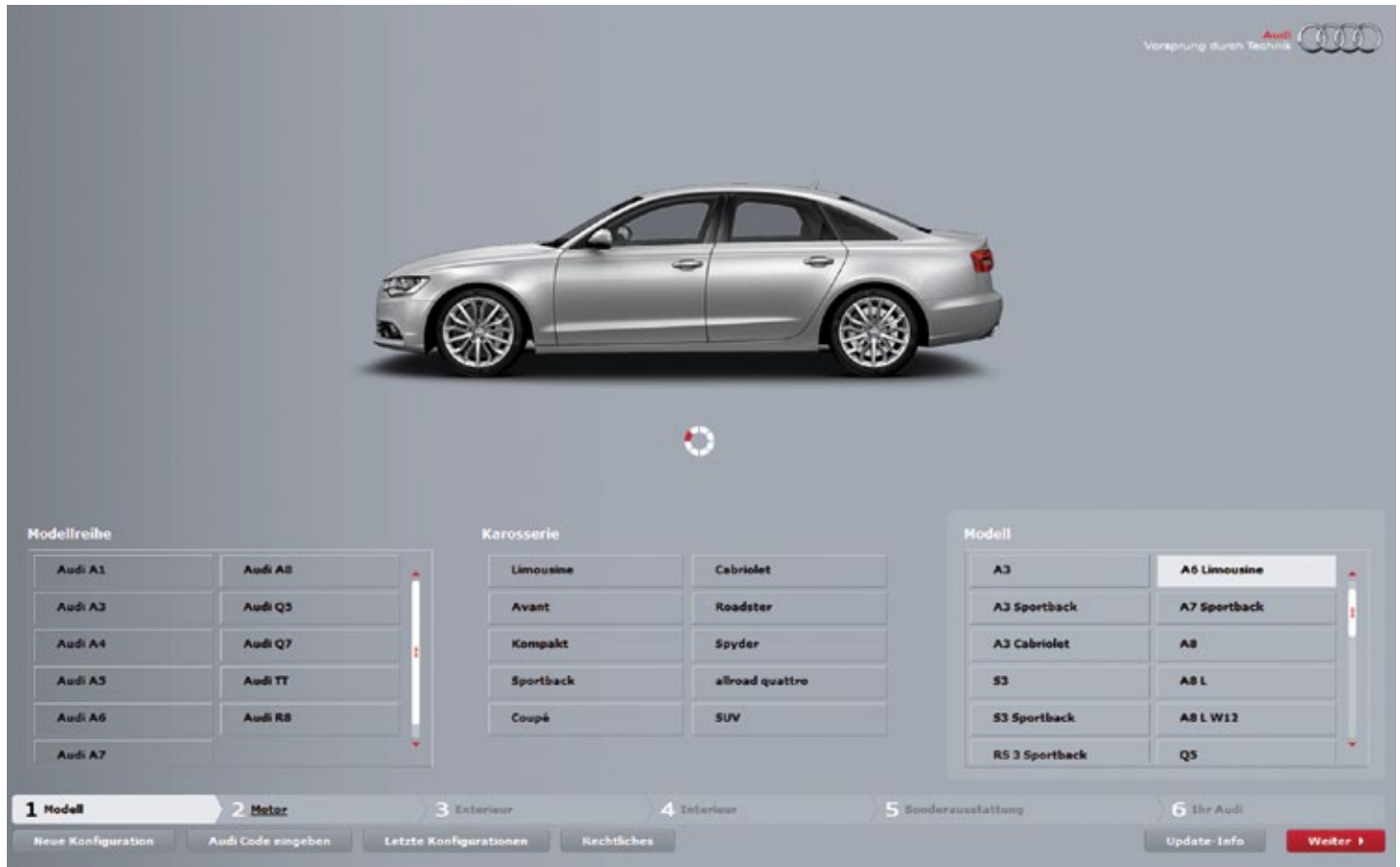


The AUDI Car Configurator (ACC 3D) displays the complete line of models and body styles available so that the customer can configure his own vehicle.

In order to elevate existing product lines to a similarly high level of infotainment, the touch-screen solution can be delivered retroactively to all participating dealers worldwide. And when it comes to utilizing synergies, the POS systems can be used to generate and make contents available for the web car configurator.

**Success in practice**

The car configurator is not only innovative, but also extremely cost-efficient. The system setup from a single source stabilizes the cost situation because the update process can be carried out quite easily online. Furthermore, this kind of "automatism" also helps reduce the resources and capacities needed for the duplication and distribution process.

**Impressive figures**

The POS solution from RTT based on the CELSIUS workstation from Fujitsu has a lot going for it. Carmakers using this solution can be sure of results that really pay off. According to initial evaluations, the car configurator shortens the typical sales cycle at the POS by 25 percent. Even more impressive is the time saved – the rate for closing a sale at the dealership increases by up to 40 percent. What's more, the many vehicle configuration options offered by the solution help promote sales: For example, sales of high-margin extras and accessories can be increased by up to 70 percent. Dealers will certainly appreciate such figures, but even more important is the art of turning a prospective buyer into a loyal customer: This happens

## The benefits

- POS solution increases showroom sales efficiency
- Inventory of demonstration vehicles no longer necessary
- Dealers benefit from reduced capital commitment
- Infotainment is inspiring and appeals to customers
- Very convenient solution for prospective car buyers
- Easy-to-use tool even for inexperienced salespeople
- Positive promotion of the brand
- Easy updates worldwide from a central system

## Products and services

- **Workstations:**
  950x CELSIUS M470 Power
  120x CELSIUS M440/450
  120x CELSIUS M440/650

- NVIDIA® Quadro™ FX 4800 high-end graphics cards
- Software: RTT DeltaGen/ POS solution
- Operating system: Windows XP Professional 64-bit
- Services: solution customizing

20 percent to 40 percent more often in dealerships using the POS presentation as opposed to those dealers who do not rely on the car configurator.

### Superior and high-performance workstation

CELSIUS workstations from Fujitsu are an excellent choice for those wanting to invest in future-centric hardware platforms and high performance to handle innovative applications. These workstations are equipped with the latest Intel multicore processor technology and support 64-bit operating systems and applications. This high-performance hardware platform is ideal for 3D modeling, animation, real-time visualization of product data and simulation analyses. It should come as no surprise that the leading makers of next-generation vehicles rely on CELSIUS workstations for design and development because these systems are known for their outstanding graphics performance.

### Unsurpassed graphics performance with high-end components

The NVIDIA® Quadro FX 4800 high-end graphics cards can handle even the most demanding tasks. The NVIDIA® graphics processors with 192 parallel CUDA cores deliver high graphics and computing performance for the interactive analysis of complex multivariate data. The load on the CPU is reduced by shifting compute-intensive tasks to the graphics processor. Operation of up to two high-resolution 30-inch screens (2560 x 1600 at 60 Hz) per Quadro FX 4800 graphics card is possible using NVIDIA® nView™ multiscreen management with its user-friendly functions.

# Content

# Storage Solutions in the ETERNUS product family

From SMEs to large enterprises – companies of all sizes and from all sectors rely on safe data storage and archiving solutions. With ETERNUS, Fujitsu has launched a multifaceted product family on the global market. The following pages feature case studies from various customers including, among others, a housing company, a large law and tax firm and one of the world's leading camera manufacturers.

# Case study
# European Southern Observatory

»A space telescope places extremely high demands on a storage system. After the comparison of different systems, the unrivalled performance and cost-benefit ratio of the ETERNUS DX models made the scales tip in favor of Fujitsu.«  Alessio Checcucci, ALMA Archive, European Southern Observatory

### The client

The European Southern Observatory (ESO) is the pre-eminent European science and technology organization in astronomy and operates the scientifically most productive observatory in the world. **www.eso.org**

### The challenge

To create a safe harbor for valuable research data captured, for instance, by the ALMA network of radio telescopes in the Chilean Atacama desert. The site produces one Terabyte per day requiring fast replication.

### The solution

Disk storage systems from the Fujitsu ETERNUS DX400 S2 series.

# Reliable storage systems for data from distant galaxies

### The Cosmos in focus

With its world-class observing facilities the European Southern Observatory plays a leading role in cutting-edge astronomical research. ESO is an intergovernmental organization with 15 member states: Austria, Belgium, Brazil, Czech Republic, Denmark, Finland, France, Germany, Italy, Netherlands, Portugal, Spain, Sweden, Switzerland and Great Britain. ESO is headquartered in Garching near Munich where it harbors the most important scientific and technical departments including the organization's administration. The annual contributions of the ESO member states amount to approximately 140 million euros. Presently the organization has about 700 employees. The design, construction and operation of pioneering astronomical facilities and instruments places high demands on the organization's scientists, technicians and engineers and, at the same time, opens up unique opportunities to cooperate with the industry and promote technology transfer.
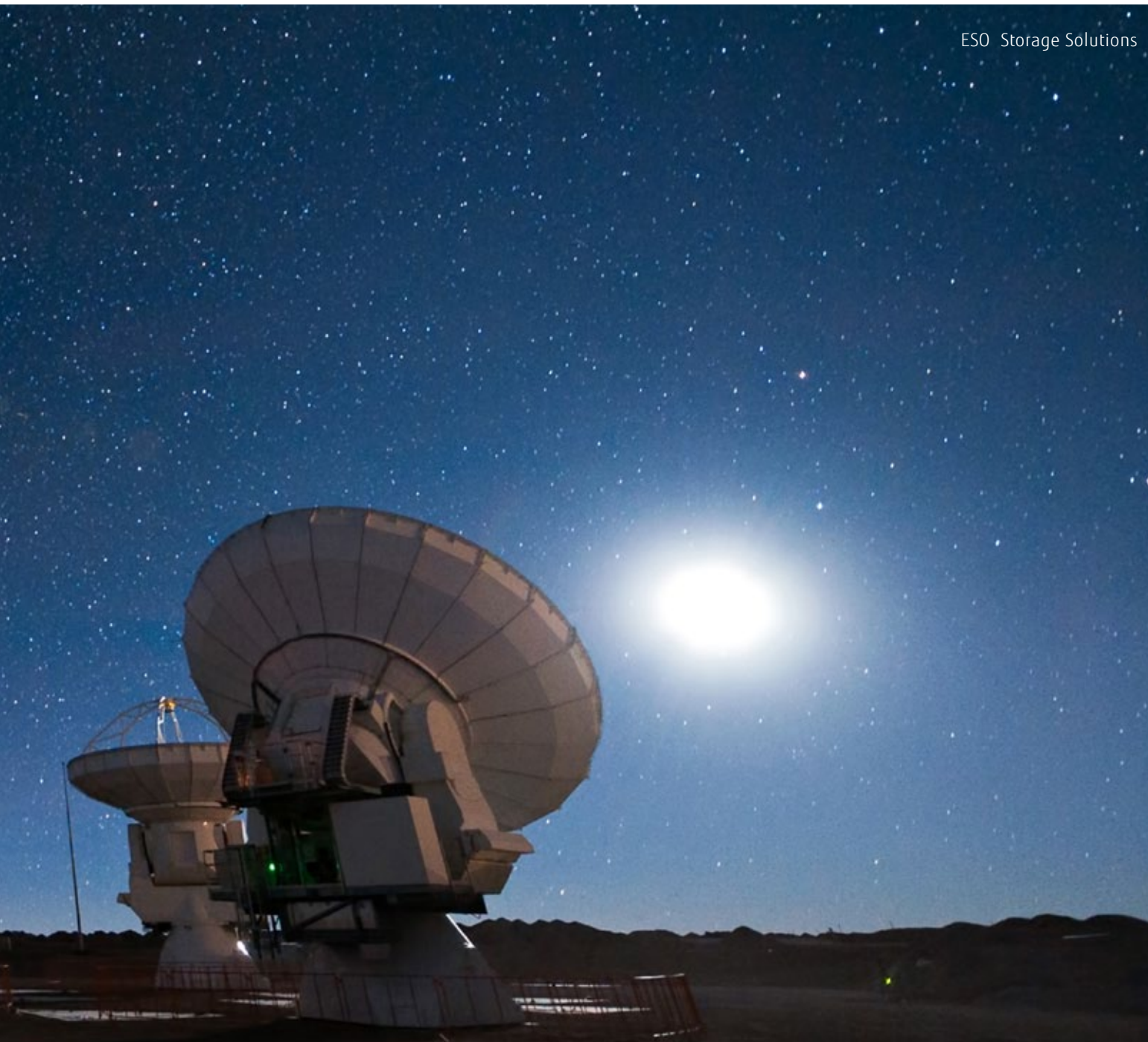
## Powerful storage systems for space information

In Garching the space data captured by ESO's telescope networks runs together. On the Paranal site in Chile, for, instance, ESO operates the sophisticated Very Large Telescope (VLT), based on latest technologies. It is an array of four unit telescopes, each with a main mirror of 8.2 meters in diameter and four additional 1.8-meter movable auxiliary telescopes with the option to use it as a giant optical interferometer. In this mode the telescope can snap images with an angle resolution within the range of thousandths of an arc second. To put it another way, images of such powerful resolution theoretically make it possible to capture a car on the moon and distinguish its two headlights from our planet. It is obvious that the telescopes generate immense and very valuable data volumes night after night. To make the space images and technical data accessible to its members the ESO operates various Sybase databases. "Astronomers from the member states and all over the world regularly retrieve observation data from our scientific archive," explains Dieter Suchar, Head of the Operations Technical Support Department at ESO. "In order to deliver data reliably we use fast-access storage solutions."

## Outstanding performance and easy administration

"To meet the different requirements we distribute our data on high, middle and low performance storage," explains Dieter Suchar. "In the middle performance segment we had already gained positive experience with the Fujitsu ETERNUS DX90 series. However, when it came to high performance storage, we decided to have a completely new look at the cutting-edge technologies on the storage market – and opted for Fujitsu once again." After a trial installation of several months the scales clearly tipped in favor of the ETERNUS DX440 S2 series, Fujitsu's second generation of ETERNUS DX disk storage systems. Its redundant components and RAID protection make this storage system a true data safe. Owing to its superior scalability the ETERNUS DX440 S2 scales flexibly to 960 2.5-inch disk drives enabling the organization to keep pace with intensive data growth. ESO deploys the system with a storage capacity of 50 TB. "We are highly satisfied with the outstanding performance of our ETERNUS DX440 S2," Dieter Suchar is pleased to note. "And also the ETERNUS SF Storage Management Suite goes down extremely well with our system administrators. It ensures maximum configuration flexibility and flawless administration."

»We are highly satisfied with the outstanding performance of our ETERNUS DX440 S2. And also the ETERNUS SF Storage Management Suite goes down extremely well with our system administrators. It ensures maximum configuration flexibility and flawless administration.«

Dieter Suchar, Head of the Operations Technical Support Department, European Southern Observatory



### Shared storage for ESO science users

In addition to the images the telescopes capture it is also necessary to store the Meta data. "When it comes to the analysis of our data it is important to determine under which circumstances the images were grabbed," Dieter Suchar explains. "This includes factors such as wind speed and temperature at the telescope sites. Since the data is collected and stored throughout the night, it is clear that every single one of our observatories has to be able to keep pace with the massive data growth." The Fujitsu storage system mastered the field trials at the Garching-based ESO headquarters brilliantly:

"The data flow is run through the ETERNUS DX440 storage system which is connected to our Sybase database server at a speed of 2,500 Mbit per second. The performance of the ETERNUS DX440 as shared storage is extremely high. When other applications access the system at the same time we are still able to offer our science users 1,400 Mbit per second."

### World's biggest network of radio telescopes

ALMA is one of the most recent and largest astronomy projects the European organization ESO has embarked on with North America, Eastern Asia and Chile. ALMA, the Atacama Large Millimeter Array, is the most complex ground-based astronomy observatory on Earth. By 2013, i.e. after the completion of the largest expansion phase, ALMA will be comprised of a giant array of linked 12-meter and 7-meter antennas. The new network of telescopes will capture light in the Cold Universe at submillimeter wavelengths and hunt its hidden secrets between the threshold levels for infrared and radio radiation. However, when passing through the earth atmosphere the waves are markedly weakened through the water vapor in the atmosphere. Since a high and dry site is crucial to millimeter wavelength operations the array is being constructed on the Chajnantor plateau in the Chilean Atacama desert at 5,000 meters altitude. The world's highest observation position is thus located 750 meters above the Mauna Kea observatories (Hawai) and 2,400 meters

## The benefit

- Reliable and safe storage of valuable research data
- Non-stop data availability
- Non-disruptive capacity upgrades
- Superior scalability
- Fast access times

## Products and services

- **Storage systems:**
  1 x ETERNUS DX410 S2 with a storage capacity of 10 TB
  1 x ETERNUS DX440 S2 with a storage capacity of 50 TB

above ESO's Very Large Telescope (VLT) on the Paranal (Chile). ALMA's 66 individual precision antennas will form a single revolutionary network of telescopes – with a resolution that tops the capacity of the Hubble Space Telescope tenfold. With ALMA astronomers will be able to explore the composition of stars, planetary systems, galaxies and even the basic building blocks of life more closely.

### Data storage at 2,900 meters altitude

ALMA's first scientific observations were initiated already in 2011. "Our operations generate a continuous data stream," explains Alessio Checcucci, who is in charge of the ALMA Archive at ESO. "The observatory produces approximately one Terabyte research data per day." Alessio Checcucci, who also works at the ESO headquarters in Garching, was involved in situ at the ALMA site in Chile for about 6 months. "The data we accumulate at an altitude of 5,000 meters is transferred 40 kilometers downhill via four fiberglass lines." Day after day the raw data that is captured by the telescopes runs together at the control center that is situated at an altitude of approximately 2,900 meters. "For this purpose we need a storage system that meets the highest demands," says Alessio Checcucci. "And that is why, after the comparison of various systems, we opted for Fujitsu." While EOS in Garching deploys an ETERNUS DX440, the slightly smaller version ETERNUS DX410 that scales flexibly to 480 2.5-inch disk drives and provides a rich set of connectivity and interoperability choices from FC and FCoE to iSCSI host interfaces best suits the needs of ALMA. "The unrivalled performance and cost-benefit ratio of the ETERNUS DX models made the scales tip in favor of Fujitsu," Alessio Checcucci is pleased to report.

### Optimal support in Chile

"To start with, we put the system to the proof in Garching. After successful testing Fujitsu got the go-ahead for Chile," Alessio Checcucci continues. "The Fujitsu experts gave us excellent support and assisted us greatly with the installation on site." The ETERNUS DX410 S2 deployed at the ALMA site in Chile is provided with a total capacity of ten TB. The system is connected to a cluster with four Fujitsu PRIMERGY servers. From here the data is transferred to the main data center in Santiago de Chile and replicated in the regional centers of the ALMA partners in Germany, the United States and Japan. Remote replication to offsite locations is a key component of the ETERNUS DX systems – and truly indispensable for maximum data protection.

### Non-disruptive upgrades

Whether in Garching or in the Chilean Atacama desert, the ESO IT managers have the possibility to upgrade their respective ETERNUS DX systems with different 2.5-inch, 3.5-inch, SAS, Nearline SAS and SSD hard drive types, even in mixed configurations. Non-disruptive capacity upgrades are supported just by adding the hard drives with zero downtime. After all, the telescopes never take a break either – they observe the Cosmos all year round and require storage systems that do not take the back seat when it comes to staying power and reliability.

# Case study
## Olympus

»Fujitsu's ETERNUS DX was a convincing solution for our high demands in terms of reliability, performance and efficiency for storage management.«

**Hartmut Hahn, General Manager Information Systems, Corporate Division, Olympus**

### The customer

Olympus is one of the world's leading manufacturers of optical and digital products such as cameras and audio devices, as well as microscopes and endoscopes for medical and industrial applications.
www.olympus.de

### The challenge

Replacement of high-end disk storage systems; implementation of new systems at two data center sites.

### The solution

- ETERNUS DX8400, the data safe for large enterprises
- Services: consulting, planning, implementation, data migration

## SAN unable to meet expectations at Olympus

In 1919 Olympus was founded in Japan and today stands for more than 90 years of pioneering spirit and innovation leadership. As an innovator of new technologies Olympus developed the first microscope in Japan as well as the world's first endoscope. The company has also played a leading role in manufacturing lightweight compact cameras and a new generation of mirrorless cameras.

In order for Olympus to efficiently and effectively focus its innovative expertise on the market, the company needs a high-performance and extremely reliable IT infrastructure. In principle Olympus has been using such an infrastructure for many years: The server environment is essentially virtualized on the basis of VMware ESX Server, and the entire infrastructure is designed around two data centers with separate fire zones. To date the central components in the SAN included two storage systems and FalconStor Network Storage Server (NSS) as a virtualized storage solution for mirroring the data between the data centers, plus a transparent failover. However, to the customer's surprise, the central storage systems proved to be a weak spot during operations:

- System performance and scalability were inadequate.
- Numerous hard disk defects resulted in frequent service and maintenance downtimes.
- Production shutdowns occurred due to serious hardware problems.

## Olympus implements the high-performance ETERNUS DX8400 platform in Germany

To eliminate these frequent problems in the SAN once and for all, Olympus once again demonstrated its innovative character. In January 2011, in close cooperation with Fujitsu and its partner Concat AG, Olympus decided to replace the storage systems and carried out a smooth migration even as operations were running – and now the company's IT benefits from the proven high reliability, performance and efficiency of ETERNUS DX8400 storage systems. The implementation of a storage infrastructure based on ETERNUS DX eliminated the weaknesses in IT operations and has improved overall reliability.

## ETERNUS DX8400 decisively improves storage at Olympus

ETERNUS DX8000 storage systems are specially designed to meet the requirements of large enterprises. With more than 2.7 petabytes they offer maximum capacity as well as maximum performance with the 8 Gbit/s Fibre Channel host interface and fast quad-core processors. This has also been proven with the SPC Benchmark-1™ Test, in which the ETERNUS DX8400 delivered excellent I/O performance and cost-efficiency results. And it was tests such as these that convinced the IT managers at Olympus to implement the Fujitsu high-end storage system in Germany as well. Hartmut Hahn, General Manager Information Systems at Olympus, says:

"The proven reliability and performance of the ETERNUS DX8400, along with its outstanding price-performance ratio, were important factors that influenced our decision. But it was also the close partnership between Fujitsu and Concat, with mutual trust and commitment to our project, along with in-depth know-how transfer, that really impressed us."

The replacement of the old systems, carried out while IT operations were running, was the first challenge the partners had to face.

### The benefit

- SAN infrastructure with maximum availability and extremely high performance
- Fail-safe data center environment with transparent and automated failover processes
- Excellent I/O performance for databases and business-critical applications
- Long-term investment protection due to outstanding scalability of storage system capacity and performance

### Products and services

**2 ETERNUS DX8400 – each with the following configuration**
- Base and extension cabinet, 5x drive enclosure sets for max. 300 disk drivers with 200 TB of total capacity with RAID 5 security, 256 GB cache, 32 host connections with 8 Gbit/s Fibre Channel

**Software**
- ETERNUS SF Storage Cruiser Software

**Services**
- Installation services
- Maintenance and Support

### Smooth project implementation

The SAN infrastructure at Olympus covers two data centers and includes an existing FalconStor NSS environment. Thanks to this storage virtualization, the old systems could be replaced by two ETERNUS DX8400 systems without any downtime, and the data was migrated during normal business hours. During the first project phase, an old system and one new ETERNUS system were run in parallel in data center 1, then the FalconStor appliance was used to transfer the transparent mirror for a smooth migration, and after that productive operations were switched over to the ETERNUS DX8400. The second phase involved the same procedure in data center 2, along with setting up the mirror between both data centers. The migration of 60 terabytes of enterprise data took place during running operations without any interruption – and was completed within an unbelievable record time of 1.5 days.

### A perfect match: ETERNUS DX8400 and FalconStor NSS
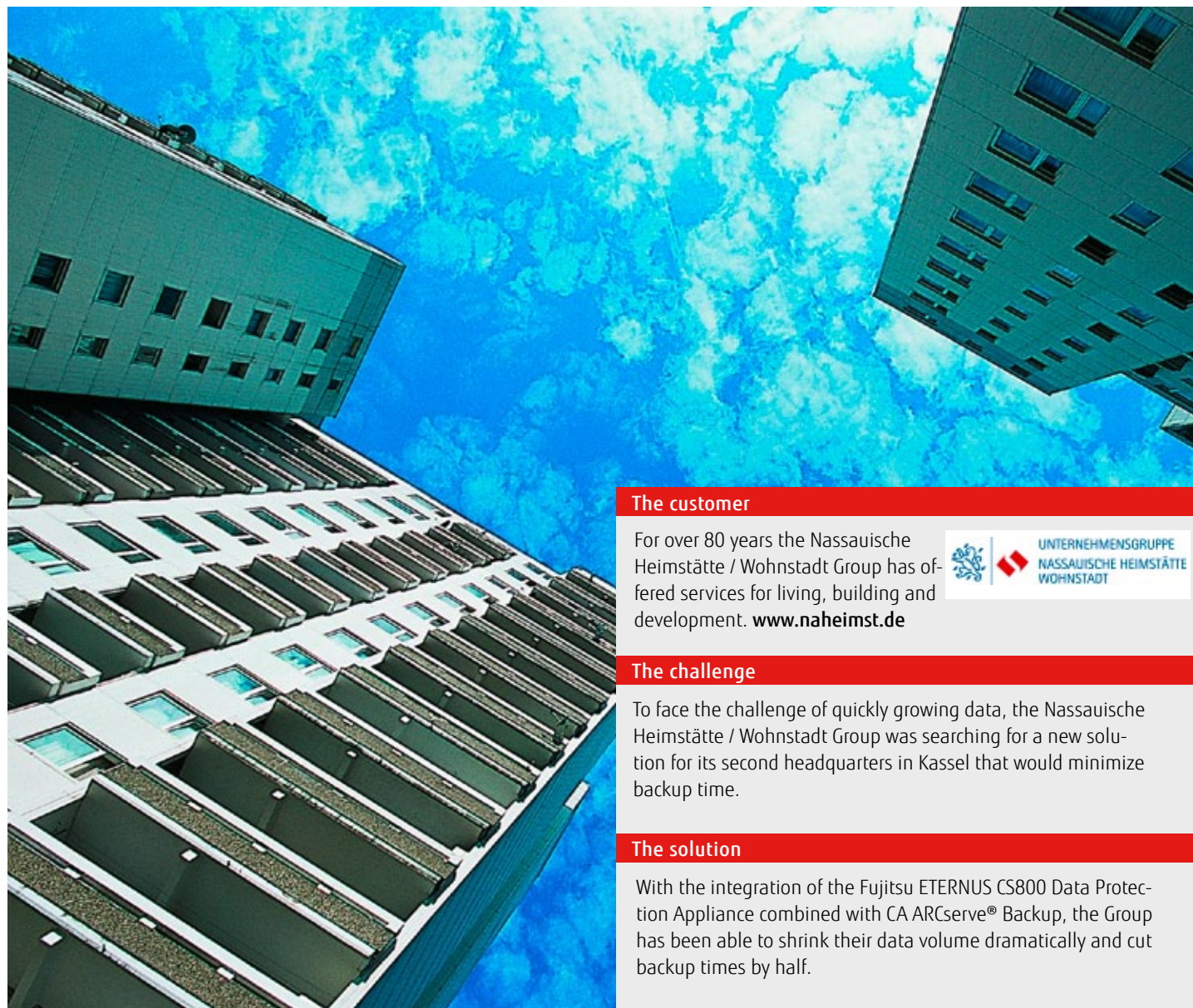
With ETERNUS DX8400 and FalconStor NSS Olympus now has a completely virtualized SAN infrastructure that combines maximum availability with extremely high performance. Innovative functions in ETERNUS DX, for example Data Block Guard for data consistency, data encryption or ETERNUS SF Storage Cruiser Software for easy monitoring and ensured business continuity, ideally match and complement the functions of the FalconStor appliance. With this solution Olympus has not only implemented a transparent mirror of its VMware environment, but also and above all high-availability operations throughout its entire infrastructure, with the option of migrating data at any time without interrupting business and IT processes.

# Case study
## Nassauische Heimstätte / Wohnstadt

»With the deployment of ETERNUS CS800 Data Protection Appliance we have been able to increase our backup speed significantly – we now manage with half as much time. In addition, the deduplication technology has made it possible to shrink our data volume drastically.«

**Mario Friedrich, Information Systems and Services Division, Nassauische Heimstätte / Wohnstadt Group, Germany**

### The customer

For over 80 years the Nassauische Heimstätte / Wohnstadt Group has offered services for living, building and development. **www.naheimst.de**

### The challenge

To face the challenge of quickly growing data, the Nassauische Heimstätte / Wohnstadt Group was searching for a new solution for its second headquarters in Kassel that would minimize backup time.

### The solution

With the integration of the Fujitsu ETERNUS CS800 Data Protection Appliance combined with CA ARCserve® Backup, the Group has been able to shrink their data volume dramatically and cut backup times by half.

| The benefit |
| --- |
| ■ High data availability due to accelerated backup and recovery<br>■ Radically minimized backup volume thanks to deduplication<br>■ High disk performance and reliability<br>■ Easy on-site scalability<br>■ Easy configuration via an intuitive web-user interface |

| Products and services |
| --- |
| ■ Storage system: 1 x ETERNUS CS800<br>■ Backup software: CA ARCserve® Backup<br>■ Maintenance & Support |

## Hesse's biggest accommodation provider

The core activity of the Nassauische Heimstätte / Wohnstadt Group is renting out around 65,000 of its own apartments at over 150 locations throughout the Federal German State of Hesse. Besides the associated tasks of administration, modernization and portfolio maintenance, building high-quality apartments is one of the key concerns of the Group. Other focal points relate to the sectors of urban planning, redevelopment agency work, municipal building construction and implementing private property measures. The Group came into being in 2005 as the result of a merger of the predecessor companies Nassauische Heimstätte GmbH with its headquarters in Frankfurt am Main, Germany, and Wohnstadt GmbH in Kassel, Germany. Both companies avail of eight decades of experience in real-estate management and in all areas of planning and building in the Federal States of Hesse and Thuringia and in numerous countries of the European Union.

## Optimizing backup windows with ETERNUS CS

It was necessary to modernize the backup system for the second headquarters of the Group in Kassel, Germany. It was also necessary to rethink the backup concept. As Mario Friedrich, Server, Storage and Communication Systems Administrator at the Nassauische Heimstätte / Wohnstadt Group sums up: "Our main question was: How do we get to grips with backup times – and, of course, how do we get to grips with data capacity? On the one hand, data quantities are on the increase all the time and, at the same time, there is less time available for data backup." It quickly became certain that network storage with deduplication would be the best way to reduce the data quantity and optimize the backup window. After comparing the competing solutions, the Group opted for the ETERNUS CS800 Data Protection Appliance from Fujitsu, because both the performance features and the price-performance ratio were convincing.

## Two terabytes of backup data

The computing center of the Nassauische Heimstätte / Wohnstadt Group in Kassel, Germany, has over 40 servers, and three further branch offices are also linked up to it. Mario Friedrich estimates that the quantity of data to be backed up has now grown to around two terabytes. It comprises conventional office correspondence, the ERP system and CAD data and extensive redevelopment plans – because the day-to-day tasks of the Group also cover urban redevelopment and building new apartments. The fact that the Nassauische Heimstätte / Wohnstadt Group opted for a Fujitsu backup solution was also attributable to positive experiences in the past: As Mario Friedrich says: "The quality of the Fujitsu servers is just what we need. Furthermore, the quality of service when implementing systems or if there is a problem is irreproachable. We have firm maintenance contracts and everything runs great."

## The deduplication factor of success

The obvious step was to take a closer look at ETERNUS CS800 S2. As Mario Friedrich explains, "We wanted to simplify our backup procedure and reduce the quantity of tapes. We would have needed bigger and bigger tape drives and more vault space to store the tapes. So the concept of putting our backup on network storage was an important step for us. The deduplication technology of the ETERNUS system is optimal for reducing data volume." In order to do this, space-saving reference pointers are set and these take the place of the redundant data blocks within the backup files. This means that ETERNUS CS800 S2 is able to spot redundant data and eliminate it – so only the data added or changed between the backup phases is saved. This is why ETERNUS CS800 provides the ideal basis for making full backups in a space-saving way. In case of disaster, the Group can thus quickly jump back to the last status and does not need to take recourse to individually restoring incremental backups plus the last full backup, which would take more time and would be more error-prone.

## Greater data reduction than expected

The Nassauische Heimstätte / Wohnstadt Group uses the "NAS Basic" version of ETERNUS CS800 S2, i.e. the Network Attached Storage System version that is supplied as standard with 16 terabytes of disk storage. The Group also ordered an expander unit, so that the overall capacity is now 32 terabytes. The system could be scaled still further to 160 terabytes. The advantages of the system soon became clear to Mario Friedrich:

"Already after the first few weeks, using ETERNUS CS800 S2 led to a greater data reduction than Fujitsu led us to believe. Fujitsu said we could assume that the data volume would be cut in the ratio 10:1 – but we actually achieve a factor of 11:1. This is an outstanding result."

## Accelerated backup speed

This new margin now means greater data integrity and security. As Mario Friedrich adds, "It allows us to keep more data available, without having to overwrite it. So our backup now covers a longer period – and therefore is of higher quality." An additional factor which must not be underestimated is the time advantage. "Our backup times are now around half what they were. That has really speeded things up," Mario Friedrich judges. The same applies to the restore times because, after all, access to data on hard disks is far faster than would be permitted by tape media. But Mario Friedrich still doesn't want to do without tapes entirely. The weekend full backups are written to ETERNUS CS800 and also backed up on tapes. "But we can confidently remove the tapes from the system and put them in a vault," Mario Friedrich sums up.

# Case study
## P+P Pöllath + Partners business sites under efficient data protection

»The ETERNUS CS800 is much more than a simple backup system. In a matter of minutes we are able to replicate data or even entire virtual machines beyond location boundaries. The bigger truth is that we're rather talking about a backup data center here. Its features are so powerful that I'm almost inclined to create a fan club for this product!«

**Marcus Märthesheimer, Head of IT, P+P Pöllath + Partners**

### The customer

Domiciled in Berlin, Munich and Frankfurt, P+P Pöllath + Partners provide state-of-the-art legal and tax advice in specialized practice areas.
**www.pplaw.com**

**P+P**

### The challenge

To implement a centralized backup concept with network-efficient data replication at the business sites in Berlin and Munich that would enable permanent data mirroring.

### The solution

P+P Pöllath + Partners have been able to implement a secure and time saving backup concept by opting for the Fujitsu ETERNUS CS800 S2 data protection appliance combined with Symantec Backup Exec.

### Top lawyers and tax advisors

When it comes to legal or tax-relevant processes, data security is of paramount importance. P+P Pöllath + Partners work in both fields. The firm provides solution-oriented, creative and innovative expertise as well as independent legal and tax advice on transactions and investments, more precisely in the field of venture capital, mergers & acquisitions, private equity, alternative assets, real estate and family office, to name but a few. The firm operates with 33 partners and a total of almost 100 lawyers and tax advisors in Munich, Berlin and Frankfurt. According to established rankings and market standards P+P advisors constantly rank among the "leading" or "highly recommended" lawyers and tax advisors in their fields of expertise. P+P are not affiliated with any other firm or group, but freely cooperate with leading experts in other firms or local counsels in other jurisdictions.

### When backup is the thief of time

The impulse for a new and efficient backup concept was provided by the introduction of a document management system. The prime objective of the lawyers and tax advisors was to be able to digitally consolidate all documents related to a process or transaction at the touch of a key. "This made it necessary to find a central storage solution for the data of all three sites," explains Marcus Märthesheimer, Head of IT at P+P. "So far, we have always only made local backups of our data." The data that would accumulate at one site within a single day had long challenged the limits: "We knew that it would have taken at least 16 hours to create off-site copies." That is why, in the past, Märthes-heimer confined replication transactions from Munich and Frankfurt to Berlin to carefully selected data. In order to enhance the backup level a new solution had to be found. And this is where the professional support of Fujitsu's long-standing sales partner HORN & COSIFAN Computersysteme GmbH from Frankfurt on the Main comes in. "The firm has extremely high storage requirements, since each document has to be held available in various versions," says Gunter Horn, manager of the Fujitsu SELECT Partner. "If, in addition, the data volume grows by 20 percent every year, the backup window will eventually exceed 24 hours and more."

| The benefit | Products and services |
|---|---|
| ■ High data availability due to accelerated backup and recovery times<br>■ Radically minimized backup data footprint through deduplication<br>■ High disk performance and reliability<br>■ Easy scalability<br>■ Network-efficient off-site replication of shrunk data | ■ Storage systems: 2 x ETERNUS CS800 S2 with 16 TB disk storage each<br>■ Backup software: Symantec Backup Exec<br>■ Virtualization software: VMware vSphere 4<br>■ Maintenance & Support |

## Innovative backup technology with deduplication

HORN & COSIFAN has recommended the deployment of the Fujitsu ETERNUS CS800 S2 data protection appliance. "It is not so much a matter of storing large data quantities," says Gunter Horn. "The strength of ETERNUS CS800 lies not least in the fact that the system can store data in a heavily compressed manner, thus enabling significantly accelerated backup times across location boundaries." Strictly speaking, it is not a matter of "compressing" data in the classical sense. The technology that improves backup effectiveness is referred to as "deduplication". The system virtually looks within a file and breaks it up into individual blocks while retaining only those unique blocks that have not yet been saved in the storage area of the ETERNUS CS800 data protection appliance. "Thanks to deduplication P+P were able to cut their data volume in a reduction ratio of 10:1 already after the first backup run," Horn notes with satisfaction. "And this reduction ratio improves dramatically with the increase of the data volume stored."

## Automatic data synchronization

The customer benefits from this in many ways, as data deduplication even proves useful when sufficient backup capacity is available. P+P have configured both ETERNUS CS800 systems with a usable capacity of 16 TB each. "However, P+P synchronize their data bi-directionally between Munich and Berlin, their two primary sites," explains Gunter Horn. And the less data has to be matched, the faster the process. Moreover, the network is not excessively burdened and cost-intensive WAN bandwidth requirements can be avoided." The synchronization process is fully automatic. Each ETERNUS CS800 system is provided with a master and slave architecture according to which the master system runs in Berlin and the slave system runs in Munich. Whenever a change is made in Berlin, this change is automatically synchronized in Munich. In a second area the master and slave system is reversed, i.e. Munich functions as the master and Berlin as the slave. A third area hosts the respective local data that is less relevant and thus does not require mirroring or double storing.

## Recovery in a matter of minutes

The ETERNUS CS800 systems are incorporated in P+P's virtualized IT environment where they provide valuable services that go beyond pure backup: If need be, Markus Märthesheimer is able to transfer an entire virtual machine (VM) onto an ETERNUS CS800 since it has been backed up here through VMware snapshot technology (VCB-Ghetto). If necessary, it would even be possible to boot the VM from the data backup appliance. And what is more: "In the event of a total IT failure at one of our sites, all I need to do is to boot up the replicated system from another site on the ETERNUS CS800," Märthesheimer sums up. The Head of IT Systems at P+P is thrilled:

"This system is simply brilliant. It delivers much more impact than we had originally anticipated and clearly surpasses our expectations. Before the deployment of ETERNUS CS800 our recovery times ranged up to several hours; now we are merely talking about a matter of minutes."

## High scalability

P+P operate the ETERNUS CS800 S2 as an NAS option, i.e. as a network-attached storage system. This basic version starts at a storage capacity of 16 TB and scales up to 160 TB. Thus Markus Märthesheimer can confidently rely on his ETERNUS data protection appliances for quite some time to come: "Thanks to deduplication only a tiny fraction of the actual data volume is moved back and forth between our business sites. Consequently we are able to replicate a complete backup on a daily basis – without excessively burdening the WAN bandwidth requirements – and thus dispose of double data safety. I think this is terrific!"

Partner

**HORN & COSIFAN**
Computersysteme GmbH

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**vmware**®

**Symantec.**

# Case study
# Austrian heating systems manufacturer Hargassner relies on ETERNUS backup systems

»Our new PRIMERGY servers have significantly increased the speed of applications. Performance has been increased by at least 50 %. Using the ETERNUS LT40 for our backup has also proven to be a real time saver, as this is now all done automatically.«

Karl Sattlecker, Head of IT Organization and Process Management, Hargassner GmbH
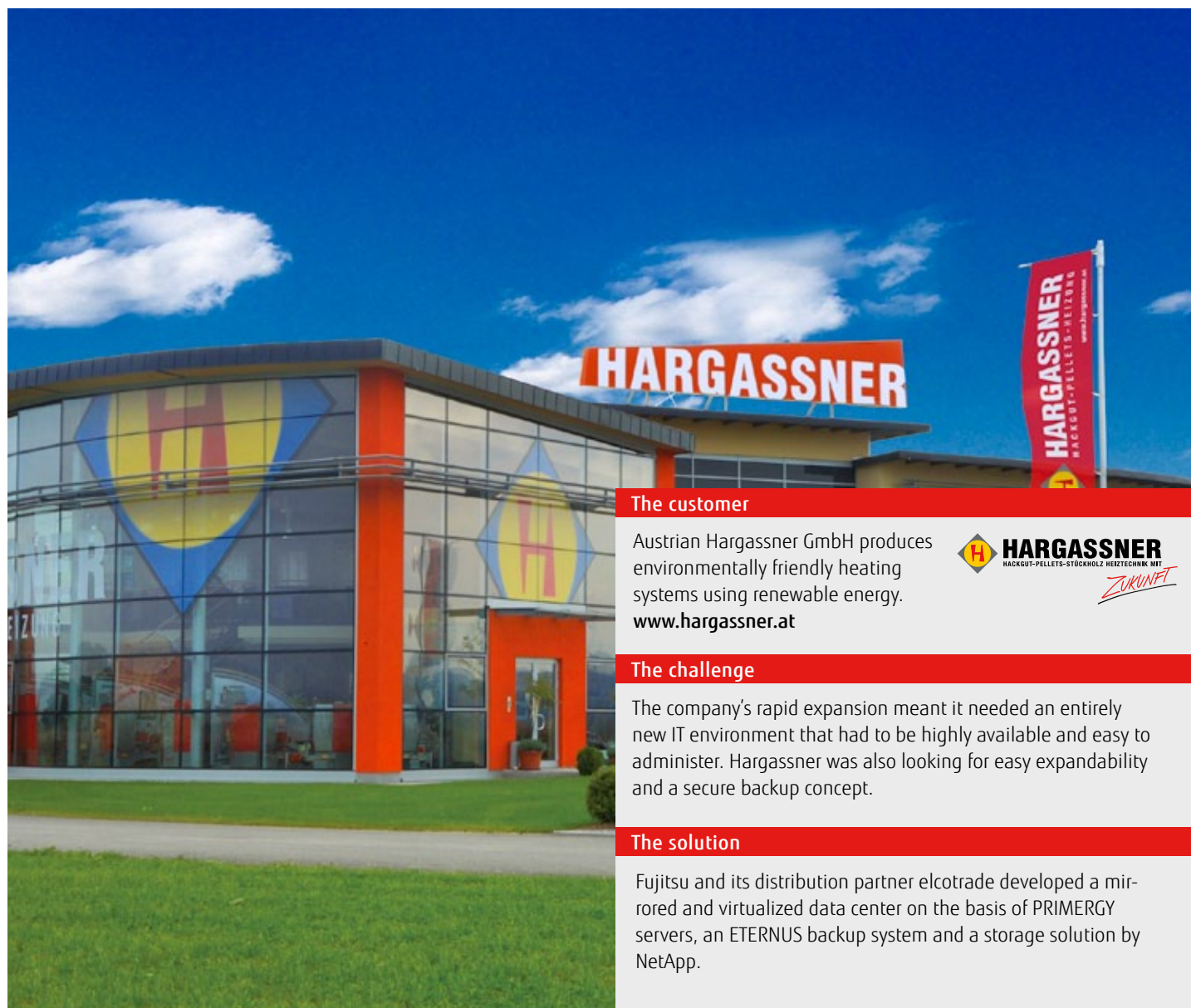
### The customer

Austrian Hargassner GmbH produces environmentally friendly heating systems using renewable energy.
www.hargassner.at

### The challenge

The company's rapid expansion meant it needed an entirely new IT environment that had to be highly available and easy to administer. Hargassner was also looking for easy expandability and a secure backup concept.

### The solution

Fujitsu and its distribution partner elcotrade developed a mirrored and virtualized data center on the basis of PRIMERGY servers, an ETERNUS backup system and a storage solution by NetApp.

# When it comes to heating technology or servers
# Hargassner and Fujitsu both rely on eco-friendly systems

### Sustainable heating technology made in Austria

Eco friendliness is beneficial. Since its foundation in 1984 Hargassner has excelled as a pioneer of environmentally friendly heating using renewable energy. This kind of organic heating is not only good for the environment; it also protects the user's budget. After all, the pellets (made from wood chips, timber trimmings etc.) used in the company's boilers have been cheaper than heating oil for many years. In the past 25 years the family-owned company based in Weng near the river Inn (state of Upper Austria) has equipped more than 45,000 customers with en environmentally friendly heating system. Hargassner offers wood chip and pellet boilers ranging from 9 to 200 kWh. That means lowest possible emissions combined with maximum efficiency. By now 170 employees produce more than 6,500 wood chip and pellet heaters a year. There is an external sales force for Austria and Bavaria reaching the final customer via installers. The export is done via branches and representatives in various countries. 60% of total sales are generated by exports and the number is increasing steadily.

### Needed: an adaptable IT environment

This rapid growth necessitated a comprehensive overhaul of the IT environment. Hargassner wanted to significantly increase the automation of its boiler production. Furthermore a new fully automated high-rack storage, additional robotic controls, automated conveyor technique and a powder coating plant were utilized. A further increase of production capacities is currently being planned. Plus, our 45,000 customers make an effective ERP system essential. Both need server performance and hence the creation of a professional data center. Hargassner turned to its long-standing IT support partner elcotrade GmbH from neighboring Andorf. Together with system architects from Fujitsu, a fully developed concept for a virtualized environment with servers, a storage system and a secure as well as automated backup system was created.

### Natural means of cooling in the data center

"Given our rapid growth at the moment, we need a highly scalable IT environment," explains Karl Sattlecker, Head of IT Organization and Process Management at Hargassner GmbH. "Therefore we have chosen virtualization, as this concept makes us flexible. We can do updates and increase capacities during ongoing operations." Founder and company boss Anton Hargassner designed the data centers so that they did not need air conditioning – this of course goes hand in hand with the company's philosophy: protecting nature and the environment and using resources carefully. As a manufacturer of heating systems, finding unusual solutions is nothing new. Both the main data center and the default data center draw fresh air from the company's cool cellar. Via ventilation flaps and channels the air is guided through the rooms of the data center ensuring a sufficiently low temperature even in summer. "The air circulation is done by means of normal ventilators," Karl Sattlecker points out, "however, these use much less electricity than ordinary air conditioning systems."

### Eradicating security deficits

High availability. That point was very high on the company's wish list. "We were lacking redundancies and our existing backup solution could simply no longer fulfill the new requirements," the Head of IT admits. "The new concept has balanced these deficits. The new data center is mirrored; the default data center is located in a different fire compartment. Both rooms have expansion potential, so we can extend our IT gradually together with the growth of the company.

»We now operate twice the number of systems as before and benefit from an overall performance boost. Unbelievable but true, this whole new solution requires less energy than our old servers.«

**Karl Sattlecker, Head of IT Organization and Process Management, Hargassner GmbH**



### Saving energy thanks to Fujitsu servers

Virtualization using VMware means valuable benefits in terms of security. Hargassner is using three PRIMERGY RX300 systems as ESX servers. In case an ESX host is unavailable, the virtual machines (VMs) are moved to the two remaining servers. Fujitsu offers another sustainable advantage given the energy savings its powerful servers offer. "Together with the storage and backup systems, we now operate twice the number of systems as before. But our energy consumption is still notably below what it was using the old servers."

### Increased performance - consistent main storage

However, economic efficiency is of course not everything. "We benefit from an increased performance throughout and have better processors." Karl Sattlecker estimates that the performance has been increased "by as much as 50 % while the storage requirements of the virtualized server systems remain unchanged. This has exceeded

our expectations by far." This has resulted in another cost reducing effect apart from the energy savings. "Originally we had planned to port the old physical servers to the newest system platforms," says Sattlecker. "Given the immense performance increase, this intermediate step became dispensable. We now have the newest generation of servers and we migrate our application and database systems step by step."

### Scalable storage system by NetApp

Another novelty at Hargassner was a new storage system: NetApp FAS2020A is a preconfigured system with a potential total capacity of 68 TB. "Our previous storage system did not allow for any further extensions," Sattlecker explains. "We have had no previous experience with NetApp, but fortunately we can always turn to Fujitsu support services since they have experts for NetApp products. I think that is very convenient, as we have a one-stop service solu-

tion for Fujitsu and NetApp systems. And high availability plays a very important role in this context, since the storage system is redundantly connected via two FC switches by Brocade to the three ESX servers.

### Backup at its most secure

In order to complete the new IT environment, Hargassner has created a comprehensive backup concept for the company's needs and implemented this technically fully developed solution. It consists of a PRIMERGY TX300 S6 tower server and an ETERNUS LT40 band storage system with a LTO-5 drive, also connected via Brocade switch to the fibre channel environment. "Up until now the backup was running via integrated band drives in the servers," explains Sattlecker. "This had the disadvantage that we had to check with every server whether the backups had run successfully." Apart from this time consuming process, there was the added disadvantage of using different media. "We were using LTO-3 and LTO-4 drives which made handling the various generations of bands even more complicated," explains the Head of IT. The new ETERNUS LT40 band storage system with its twelve band slots is a central backup system for Hargassner that has been rolled out and that has made all procedures much easier. "Nowadays I go to our backup room once a month and I simply exchange the tapes – and that's it." The regular daily and weekly checks are fully automated and the robot changes the tapes. "The whole process saves a lot of time", says Sattlecker. "The monitoring

is done via Symantec BackupExec. Should anything happen, I receive an automated message. Apart from that I get daily system reports informing me about successfully completed backup jobs. It's just great how it works."

### Simplified recovery

In order to deal with the needs of the company's different departments, Karl Sattlecker does snapshots of the file server every four hours. "This enables us to recover data online up to three months back – without having to use the tapes. The users themselves can recover data up to two days back. Recovery has been simplified." Hargassner's Head of IT offers a very positive summary: "This investment is a perfectly tailor-made solution for the needs of our company. The aims performance increase, scalability, energy savings and secure IT operations were totally reached and realized. On the whole Fujitsu has offered us great support with the design and implementation. And elcotrade, the Fujitsu SELECT Expert partner from Andorf, has played a major role in the successful implementation of the overall solution."

**Partner**



| The benefit |
|---|
| ■ Reduced energy costs as systems decrease consumption |
| ■ Faster and automated backup |
| ■ Virtualization reduces administrative effort |
| ■ Mirrored data center and redundancies ensure high availability |

| Products and services |
|---|
| ■ Servers: 3 x PRIMERGY RX300 S6, 1 x PRIMERGY TX300 S6 |
| ■ Storage systems: 1 x NetApp FAS2020A |
| ■ Backup: 1 x ETERNUS LT40 with LTO-5-drive |
| ■ Network: 3 x FC-Switch Brocade 300 8/24 |
| ■ Virtualization software: VMware vSphere 4 |
| ■ Backup software: Symantec BackupExec |

# Case study
## Financial services provider EOS benefits from a virtualized storage environment

»When it came to the renewal and virtualization of our SAN environment the price-performance ratio of the PRIMERGY servers and ETERNUS storage systems genuinely convinced us. And Fujitsu's overall professionalism most certainly impacted the project success positively.«

**Volker Haack, CIO, EOS IT Services GmbH**

### The customer

The globally operating EOS Group ranges among Europe's leading providers of financial services outside of banking and insurance transactions subject to licensing. www.eos-solutions.com

### The challenge

EOS required capacity expansions in the Storage Area Network (SAN) coupled with a decrease in energy and maintenance costs. Top requirements were also imposed on high availability.

### The solution

Due to storage virtualization with DataCore on the basis of ETERNUS DX80 storage systems and PRIMERGY servers, EOS now benefits from performance enhancement, the highest security standards and reduced maintenance efforts.

### The EOS Group directs worldwide activities in over 20 countries from its Hamburg-based headquarters

For every company, data of all kinds naturally constitute an important basis worthy of protection. The EOS Group regards security as a key issue, and a glance at its activities shows why: EOS is a globally operating financial services provider with more than 40 subsidiaries and associated companies in over 20 countries and offers a comprehensive portfolio of services that involves qualifying and processing customer-sensitive data pertaining to customer acquisitions, accounting, arrears billing, debt collection and debt purchase. Moreover the EOS business model comprises customized solutions dealing with marketing information, risk information, receivables management and payment services. More than 5,000 employees all over the world offer services to the customers of the Otto Group-owned EOS Group. In Germany, which is the largest market, the Hamburg-based EOS Group has a workforce of approximately 1,700 employees.

### Future-proof SAN virtualization

As a subsidiary company EOS IT Services GmbH, based in the Hanseatic city on the Elbe river as well, is in charge of the IT concerns of the EOS Group. As many as 100 employees operate and manage the group's data center, are in charge of IT development and support, run a printing center and are responsible for address investigation processes in cooperation with partner companies. EOS IT Services GmbH draws upon long-standing experience when it comes to the efficient processing of large data volumes, the management of debt collection systems and the development of tailor-made IT systems. To be able to cope with the ever growing amounts of data EOS was searching for a scalable and easily manageable storage solution. After the strong growth in recent years the hardware of the two Hamburg-based data centers had started running against its capacity limits, making massive expansion and modernization measures necessary. For Dr Thorsten Kleinwort, Data Center Manager at EOS IT Services GmbH, it was clear that only a storage virtualization solution would ensure sustainable benefits. It is the technical flexibility of the storage area network (SAN), virtualized with a DataCore solution on the basis of energy-efficient server and storage systems by Fujitsu, that offers EOS the future reliability it requires.

| The benefit | Products and services |
|---|---|
| ■ Boosted application performance<br>■ Reduced maintenance efforts<br>■ Simplified administration through integrated analysis tools<br>■ Significantly lower energy costs | ■ Servers: 4 x PRIMERGY RX600 S4<br>■ Storage systems: 8 x ETERNUS DX80 with 288 TB disk capacity<br>■ Switches: 4 x Brocade FC-Switch 5300 48/80 Port<br>■ Virtualization solution: DataCore SANsymphony 7.0<br>■ Management software: ServerView Suite, ETERNUS SF Express |

## Savings target exceeded

Dr Thorsten Kleinwort's team no longer manages only 30 TB: The new SAN now disposes of a net capacity of 288 TB and is optimally prepared for the steady data growth of the EOS Group. This massive expansion is based on eight ETERNUS DX80 storage systems with 36 TB disk storage capacity each and four PRIMERGY RX600 servers. "We chose the Fujitsu systems because they are in the right ballpark," explains Jens Böhm from Fujitsu SELECT Partner antauris. "These redundant systems are noted for their expandability and performance. But also in terms of manageability they clearly outperform other systems – and all at a very reasonable price-performance ratio – hence, our genuine recommendation to our customer." And that's not all: Dr Thorsten Kleinwort has been able to meet the objectives of the group management, i.e. to cut energy consumption by at least 30 percent. An easy challenge with Fujitsu systems, Volker Haack, CIO at EOS IT Services GmbH, is pleased to summarize:

"The efficiency of the Fujitsu hardware is trailblazing. With rival systems our energy consumption would easily exceed our present values by as much as 45 percent. In addition we are very satisfied with the assistance, the service and the personal support provided by Fujitsu. That is also true for Fujitsu's SELECT Partner antauris from Hamburg."

However, their energy efficiency alone is not the only advantage of the PRIMERGY servers and ETERNUS DX disk storage systems. Both the servers and storage systems feature top manageability tools (ServerView and ETERNUS SF Express) that enable quick installation and simplify administration. In case of power outages the ETERNUS systems even save the Cache content in a flash memory – and thus ensure the highest possible level of data security and a quicker recovery of data than conventional systems.

## Virtualization with DataCore

To make sure that the existing hardware can be used even more flexibly and efficiently EOS relies on storage virtualization with DataCore. Due to the SANsymphony storage virtualization software all physical storage devices are now freely scalable and can be combined under a common, centrally managed storage architecture. Capacity allocations can be performed without disruption, resulting in improved workloads. However, SANsymphony has even more to offer, as the solution boosts productivity. Together, the servers and the DataCore software form a dedicated appliance, the so-called Storage Domain Server (SDS), which is located directly in the data path between disk and application. DataCore provides not only the virtualization services, but also a certain Cache intelligence, which results in enormous performance boosts of the underlying storage systems.

## On the agenda: synchronous mirroring

In order to obtain an even higher level of security and remain operable in the event of disaster or large-scale IT outages EOS is planning to move away from asynchronous mirroring towards fully synchronous data replication. After all, a key functionality of SANsymphony lies in mirroring data over long distances, as the software automatically creates updates of identical virtual storage devices located on different drives at any distance. Thus the five kilometers separating the two Hamburg-based EOS data centers that are connected via Fibre Channel are no obstacle. EOS will deploy the hardware equipment for the data center expansion so that each location is provided with four ETERNUS DX80 storage systems and two PRIMERGY RX600 servers. "The outage of a data center will no longer involve the risk of data loss and we can keep our applications running with little to no disruption," says Volker Haack. "In the future this will enable us to offer our customers within the rapidly growing EOS group scalable and highly available IT services."

**Partner**



**Your IT Solution Partner**

www.antauris.de

# Case study

## TOX® PRESSOTECHNIK benefits from ETERNUS DX80 disk storage systems for highest performance

»Thanks to the virtualized IT environment based on Fujitsu systems combined with DataCore and VMware solutions, our administrative workload has been reduced significantly. At the same time we are delighted to record remarkable improvements in performance that enable us to speed up operations within our SAP environment by as much as 50%.«

Alfred Möhrle, IT, TOX® PRESSOTECHNIK GmbH & Co. KG



### The customer

TOX® PRESSOTECHNIK, based in Weingarten near Ravensburg, Germany, is the market leader in press drive systems and joining techniques. TOX® PRESSOTECHNIK employs a total of 700 people worldwide. **www.tox-en.com**

**TOX® PRESSOTECHNIK**

### The challenge

To renew the hardware in the two data centers located at the Weingarten headquarters and implement a virtualized server and storage infrastructure in order to simplify administration and increase failsafe reliability.

### The solution

PRIMERGY servers, ETERNUS storage systems and virtualization solutions from VMware and DataCore.

## World market leader from Weingarten

TOX history began in 1978 with the development of the TOX Powerpackage product line. The first product to be launched by the Weingarten-based technology company, TOX® PRESSOTECHNIK, was a pneumo-hydraulic cylinder for industrial sheet metal processing. The most recent models are provided with press forces up to 2,000 kN. After all, it is not for nothing that the company ranks among the leading global manufacturers of clinching and pressing systems for the efficient production of sheet metal parts. TOX® PRESSOTECHNIK remains the undisputed number one in the field of joining systems (clinching) that have made the use of filler materials and thermal treatment obsolete. The German headquarters employ a team of approximately 320 people of the group's 700-strong global workforce. TOX® PRESSOTECHNIK's worldwide network offers its customers everything from a single source, from technical advice and support in all service areas up to the complete tooling and fitting of production facilities. The TOX® teams work in 37 countries around the globe. Their production units are located in Germany, China, the USA and India.

## Simplified administration through virtualization

At its headquarters in Weingarten the medium-sized company operates two data centers that are located in different fire compartments. Along with the server renewals the customer required a concept that would simplify the entire handling of its IT environment. Due to the hardware age (4 to 5 years) and outdated technology it was no longer possible to meet the current performance and availability requirements. After all, all the important central services of the international company run on the servers in Weingarten: "At our headquarters we operate our SAP, CRM and CAD systems that are accessed by all of our subsidiaries in the USA, China, India and Europe," explains Alfred Möhrle from the TOX® PRESSOTECHNIK IT Department. "Especially within our SAP environment the performance left much to be desired. In addition, our previous Microsoft Cluster services involved considerable administrative effort." That is why Fujitsu's local distribution partner TechniData IT-Service GmbH from Markdorf recommended a comprehensive virtualization project for the server and storage systems.

## Server virtualization makes IT environment more robust

Alfred Möhrle puts the IT requirements of an internationally operating company in a nutshell: "High availability has always been a key issue for us, as our colleagues who operate in different time zones in Europe, America and Asia require access to our database round the clock." A total of ten servers are being used as productive systems in the two mirrored data centers. TechniData has recommended Intel standard servers from Fujitsu. Six truly efficient and extendable PRIMERGY RX300 S6 systems have been deployed as a basis for the server virtualization with VMware and provide the necessary performance for a virtualization project with 6-Core-CPU and 96 GB RAM. The storage systems flexibly scale to 192 GB, and it is possible to integrate up to twelve SAS, SATA or SSD drives. Meanwhile the IT environment at TOX® PRESSOTECHNIK consists of 50 virtual servers. What Alfred Möhrle appreciates most is the decisive plus in high availability: "We are able to economize administrative effort and carry out maintenance tasks without interrupting operations. Important processes such as data backup and protection as well as data replication have been significantly simplified. And the system as a whole is less vulnerable."

## Simplified storage management

If the company's main data center were to fail despite all precautions, for

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### The benefit

- Performance boost for all applications
- Simplified administration through virtualization
- Lower energy costs due to efficient systems

Green IT

### Products and services

- ESX servers: 6 x PRIMERGY RX300 S6 with 96 GB RAM
- SANsymphony-V servers: 2 x PRIMERGY TX300 S6 with 24 GB RAM
- Backup server: 1 x PRIMERGY RX300 S6 with 6 GB RAM
- Storage systems: 2 x ETERNUS DX80 2.5" with a total storage capacity of 48 TB
- Switches: 4 x Brocade 8 GBit/s-FC-Switch 300
- Storage virtualization: DataCore SANsymphony-V
- Server virtualization: VMware vSphere

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instance in the event of a disaster, the failover would run over a mirrored Fujitsu storage system. In the course of the storage virtualization project one PRIMERGY TX300 S6 server with 24 GB RAM was linked to one ETERNUS DX80 storage system each. And this is where SANsymphony-V by DataCore comes in: Due to the storage virtualization solution it is now possible to monitor and manage all physical storage units centrally and provide for permanent data mirroring – and these features have clearly "facilitated the job of our administrators," as Alfred Möhrle points out. Before launching the project the IT Department of TOX® had gone to the trouble of comparing storage systems from different manufacturers: "Fujitsu came out on top," says Möhrle. "The combination of ETERNUS DX80 and DataCore provides extremely fast and highly available data." The two ETERNUS DX80 systems at TOX® PRESSOTECHNIK dispose of 24 TB disk storage capacity each. Due to their generous scalability it is possible to increase the capacity tenfold, i.e. up to a total capacity of 240 TB. "However, what has convinced us is the impressive quality of the hardware and the high quality of advice provided by TechniData," Alfred Möhrle is pleased to note.

## Performance boost for SAP environment

Upon installation the first positive impacts of the new IT environment were noted. After only one week in productive operation the IT Department at TOX® was pleased to report: "After we had installed a Windows 2008 R2 server and a Microsoft SQL 2008 R2 database on our new virtualized SAP system, the database shrunk to a quarter of its size." But that is not all. The performance was boosted rapidly, namely by as much as 50 per cent – for Alfred Möhrle a record breaking figure:

"By combining the DataCore solution with ETERNUS DX80 storage systems we are able to achieve sensational results. According to our SAP consultant the average dialogue response time is between 500 and 600 ms. Our new IT environment records an average dialogue response time of 200 to 230 ms over the day."

**Partner**

**TECHNIDATA IT SERVICE**
www.its-technidata.de

# Case study
# PAALGROUP relies on PRIMERGY servers and ETERNUS storage systems

»We enjoy double benefits with Fujitsu server and storage systems because they are both efficient and powerful. With the heavy demands on our IT infrastructure this goes easy on our budget and makes our virtualization project extremely efficient.«

**Ralph Ober, Authorized Representative and Commercial Director, PAAL GmbH (PAALGROUP)**



### The customer

PAALGROUP is Europe's leading manufacturer of high-performance balers for the waste disposing and recycling industry. **www.paalgroup.com**

**PAAL®**
**PAALGROUP**

### The challenge

In order to satisfy the highest security requirements with regard to fail-safety and data security, PAALGROUP was searching for a powerful IT environment for its branch in Germany that would be suitable for data center mirroring.

### The solution

Through the combined solution of Fujitsu servers and storage systems along with VMware virtualization software PAALGROUP attains the highest possible redundancy and fail-safety.

### Global player in the recycling industry

PAAL GmbH started business in 1854 as a publishing house in Osnabrück, Germany. However, only a few decades later entrepreneurial foresight and pioneering spirit geared the company towards waste paper management. Already around 1900 PAAL manufactured balers that could compress mountains of paper into stackable squares; and back then nobody could have predicted how important bale compressing technology would become for the recycling industry one day. In 2002 PAAL's merger with FAES (Spain), DICOM (Great Britain) and COMDEC (France) turns the now multinational group of companies into a global player who concentrates on the design and manufacture of waste recycling machinery. The high performance balers, for instance, are designed to achieve maximum availability while keeping operating costs to a minimum. Today PAALGROUP is Europe's leading manufacturer in this market segment. In the course of their joint history the PAALGROUP companies have delivered more than 30,000 machines to customers from Scandinavia all the way down to South Africa. In Germany PAAL GmbH employs 116 people who generate an annual turnover of approximately 25 million euros. In the meantime the headquarters have been moved to Georgsmarienhütte near Osnabrück.

### Mirrored data center for enhanced security

The central data center of PAAL GmbH stores not only data from customers worldwide, but also construction drawings that provide valuable design and engineering details – hence the company's extremely high data security requirements. PAAL GmbH thus decided to approach Fujitsu's SELECT Partner OSMO-Anlagenbau GmbH & Co. KG, also based in Georgsmarienhütte. From this cooperation resulted a sophisticated concept designed to modernize the company's data center and, for security reasons, to supplement it by a duplicate data center. "The mirror site is located on the PAAL GmbH premises, however, in a separate fire compartment about 200 meters away from the original data center," explains Oliver Bergmann, Consultant at OSMO-Anlagenbau. "Storage synchronization between the two data centers is performed on the basis of ETERNUS storage systems by Fujitsu – this guarantees the highest possible data security."

## The benefit

- Fail-safety due to data center mirroring
- More flexibility and higher productivity through virtualization
- Lower energy costs due to efficient server and storage systems

Green IT

## Products and services

- Servers: 5 x PRIMERGY RX300 S6
- Storage systems: 2 x ETERNUS DX90 with a total of 10.8 TB
- Backup: 1 x ETERNUS LT40
- Network: 4 x Brocade 300 FC-Switch 8 Gb/s
- Virtualization software: VMware vSphere 4 Advanced
- Management software: Fujitsu ServerView Suite
- Backup software: Symantec Backup Exec

### All-round efficiency

To help ensure PAAL's specific requirements OSMO has recommended the deployment of the ETERNUS DX90 storage system. "Especially in a fibre channel environment Fujitsu storage systems prove to be highly efficient and failsafe," Oliver Bergmann clarifies. "With the controller-based mirroring of two ETERNUS DX90 systems our customer is provided with the perfect approach to implementing a cost-efficient high-availability solution in two fire compartments." Also in terms of energy savings ETERNUS DX90 is trailblazing, as certain services that are not required during the night "can be switched into the stand-by mode or shut down completely – and that saves a great deal of energy," Bergmann praises the overall functionality.

### Remote maintenance lowers service costs

The Fujitsu PRIMERGY RX300 S6 servers range among the most efficient systems in their power class and thus serve as a stable and reliable basis for PAAL's recently virtualized IT environment. "Thanks to these extremely energy-efficient systems PAAL GmbH is able to cut its energy expenditure by as much as 40 %," Bergmann, who previously carried out a comprehensive TCO analysis with his customer, is pleased to state. "We appreciate the confidence of PAAL GmbH as their full service provider. For one thing PAAL has entrusted us with consulting and financing. And due to the sophisticated server management solution provided by Fujitsu ServerView we are also able to offer the company cost-effective servicing via remote maintenance. This software enables us to react proactively in the event of potential failures, as ServerView issues early warnings in case of suspicious incidents in the data center."

### High-availability environment

On the part of PAAL GmbH Ralph Ober, Authorized Signatory and Commercial Director, has been responsible for the implementation of this major project: "Now that our IT environment is virtualized via VMware we achieve true added value," Ralph Ober explains. "The positive consolidation effect is plain to see: We manage efficiently with only half as many productive servers as before. Thus the step towards a mirrored data center wasn't that big after all." And, as Ralph Ober is pleased to note, the new IT environment fully satisfies the company's expectations regarding fail-safety:

"We are genuinely satisfied with the powerful Fujitsu PRIMERGY servers. These systems function smoothly in our redundant IT environment. However, we wanted to test what happens in case of a system failure: When the servers in a data center fail to react, the mirrored data center assumes its tasks within a matter of seconds."

### A storage solution that grows along with demand

In terms of data storage PAAL has made sufficient provisions. Each of the two ETERNUS DX90 systems housed in the two data centers is provided with twelve disks with 450 GB each, i.e. with 4.5 TB per system. "However, our storage solution is scalable up to 120 disk drives with a capacity of 2 TB per disk, and the two ETERNUS DX90 systems are designed to grow along with the needs of our business for quite a while," says Ralph Ober. Regarding its backup solution PAAL relies on Fujitsu as well. And this is where the ETERNUS LT40 tape library system with Symantec Backup Exec software comes in. With the ETERNUS LT40 that features cutting-edge LTO technology PAAL has opted for another flexible solution scaled to its needs. Presently PAAL has licensed this system for the base configuration with one tape drive including 12 slots. Based on the growth of the company's data volume the storage capacity of the tape library is easily upgradable by activating an additional tape drive and slots via a software license.

Partner

OSMO

www.osmo-kommunikation.de

Symantec.

BROCADE

# Content

# Server Virtualization

True consolidation means efficiency – and its measurable impact has already convinced a number of companies. However, the valuable assets of data center server virtualization extend well beyond this: Bundled with virtualization software by best-in-breed partners such as VMware and Microsoft, Fujitsu has created a powerful IT architecture that ensures the single-point management of all server resources and easy expandability without impacting operation. The following examples of best practice show how Fujitsu brings server virtualization solutions to the entire enterprise, from a bio hotel to an Italian IT service provider.

# Case study
# The best bet for bwin.party is technology from Fujitsu

»Even in the world of gaming you need to have something that is not a gamble. PRIMERGY server technology from Fujitsu gives us absolute security and more performance in handling daily business. Thanks to the new solution, risks were significantly reduced, and we are well on the way to achieving our business objectives with this technology.«   **Mark Sellors, Director of IT Infrastructure and Operations, bwin.party digital entertainment**



### The customer

bwin.party was established from the merger of bwin Interactive Entertainment AG and PartyGaming Plc with the goal of becoming the world's largest market-listed online gaming provider. **www.bwinparty.com**

**bwin.party** digital entertainment

### The challenge

Installation of a new database platform in connection with the optimization of the storage environment.

### The solution

PRIMERGY RX900 and RX600 rack servers based on Intel® Xeon® X7560 processors, plus an ETERNUS DX80 storage solution.

### On the way to market leadership

bwin.party digital entertainment plc is the largest market-listed online gaming corporation in the world. The new company was established in March 2011 through the merger of bwin, a sports betting firm founded in 1997 in Vienna, with PartyGaming Plc of Gibraltar. The goals of the merger were to position the Group to take advantage of future regulatory changes in Europe as well as to leverage potential synergies and expand the core business segments sports betting, poker, casino and bingo.  The business model is based on IT to a very high degree. Therefore it came as no surprise that optimization of the company's enterprise IT was at the top of the agenda when the new business model was launched. Changes were necessary in the database environment: bwin.party operates one of the largest Microsoft® Windows® SQL Server® installations in Europe and is a reference customer for Microsoft. The platform architecture was still based on Itanium processors, which Microsoft no longer supported. This was an additional reason why the IT managers needed to find an alternative technology that was found in Fujitsu PRIMERGY rack servers.

### Tested live and rated the best

Decisive factors in the selection process were a detailed feasibility study and benchmark tests that were conducted in the Fujitsu data center in Paderborn, Germany, and at Microsoft in Redmond in the United States. The online gaming company left nothing to chance when it came to choosing the best IT. The requirements for the system platform on which bwin.party runs its Microsoft SQL Database are extremely high. And these requirements continue to rise. The new systems had to be able to process billions of requests every day. Some 30,000 different kinds of bets daily, 3,000 bets per second and 45,000 poker players in simultaneous games are an indication of just how high the workloads are and how much top performance the bwin.party IT must deliver. That performance is now provided by PRIMERGY RX900 and RX600 servers from Fujitsu. The highly scalable eight-socket RX900 rack server is predestined to handle such high levels of data processing. With this PRIMERGY model bwin.party has chosen a platform that maximizes the economic benefits of the x86 industry server. The RX600 model series is the perfect addition to this scenario due to its huge storage capacity and integrated high availability.

| The benefit | Products and services |
|---|---|
| ■ Successful migration to servers having Intel® Xeon® processors<br>■ Innovative technologies<br>■ Improved performance of 50 percent compared to the previous system<br>■ Lower maintenance costs<br>■ Close and trustful cooperation with Fujitsu in product tests and implementation | ■ Server Group I: 3x PRIMERGY RX900 S1 (8x Intel® Xeon® X7560 CPUs, 512 GB RAM, 2x Fusion-io drives 640 GB); 7x PRIMERGY RX600 S5 (8x Intel® Xeon® X7560 CPUs, 256 GB RAM, 2x Fusion-io drives 640 GB)<br>■ Server Group II: 4x PRIMERGY RX900 S1; 8x PRIMERGY RX600 S5<br>■ Operating system: Microsoft® Windows Server® 2008 R2 64-Bit<br>■ Storage: ETERNUS DX80<br>■ Database: Microsoft® Windows Server® 2008 R2<br>■ Services I: Presales and performance test by team Paderborn<br>■ Services II: Configuration, design and installation by team Vienna |

### Fujitsu wins the performance test

bwin.party initiated a Proof of Concept with seven vendors for its migration from the Itanium IA64 to the Intel Xeon x86 database environment for Microsoft SQL Server 2008 R2. Due to Microsoft's imminent end of support for the Itanium processors, the customer needed an alternative technology. The customer expected the new hardware to deliver the following:
■ Higher performance
■ Innovation
■ Future viability
■ Efficiency and economy

bwin.party was particularly impressed by the great cooperation among the development teams, especially their openness to innovative solutions and their integration competence in the area of Fusion-io cards. These cards are mounted directly on the computer's bus and deliver speeds that nearly match those of DRAM modules, thus reducing the time needed for compute-intensive operations considerably. The Fusion-io cards are especially suited for use with all database and data warehouse applications. Following the prequalification phase, testing began in the Fujitsu Performance and Benchmark Lab in Paderborn. The first candidate was the PRIMERGY RX600 server, designed to handle heavy workloads. And the test results proved this: The server's extraordinary database performance truly convinced the bwin.party IT decision-makers. The customer was especially interested in the PRIMERGY RX900 server based on the Intel Xeon 7500 Processor Series, which is setting new performance standards. The customer requested that this system be tested live at Microsoft in Redmond. Although the server had not yet been officially released, Fujitsu complied with this request and took care of all matters related to customs regulations in the United States. The pre-production PRIMERGY RX900 was shipped to the US to compete against a comparable machine from a leading competitor.

### Successful all the way

According to the test results there was absolutely no doubt that the Fujitsu system was the winner. The PRIMERGY RX900 server achieved top scores in all disciplines. Its competitive edge in performance, already proven by the TPC_E transaction benchmark, was substantiated with the actual applications run by the customer on a daily basis. The server delivered 50 percent more performance than the old platform based on

Itanium technology. And in the 1:1 duel with the competitor's machine, the PRIMERGY delivered 30 percent more performance by comparison. Some software products that will be released in the years ahead were also run on the Fujitsu server. These tests proved that the PRIMERGY server is ready for the future, which was also a key factor influencing the customer's final decision.

### Future-centric innovation

The online games provider bwin.party has achieved new dimensions in performance by modernizing its database environment with a platform comprised of PRIMERGY rack servers. With the additional integration of the ETERNUS DX disk storage system, known on the market as the flexible "Data Safe," the company also benefits from secure and reliable storage operations. Mark Sellors, Director of IT Infrastructure and Operations at bwin.party digital entertainment, sees the close cooperation with the Fujitsu development team as an important success factor:

*"In addition to the PRIMERGY servers, which passed all the tests wit flying colors, we were also very impressed by the competence and collaborative attitude of the Fujitsu project teams."*

Theory and practice went hand in hand during this project – and the solutions have proven themselves at bwin.party. The customer is fully satisfied with these top-performing systems and can also save money when it comes to system maintenance – an added plus in this solution.

# Case study
## Guttomat Sektionaltore GmbH

»The price-performance ratio and the quality of the Fujitsu server and storage systems are most outstanding. And the remote maintenance option combined with Microsoft System Center Essentials has convinced us as well. This enables us to manage our entire IT environment from a single console.«

**Dipl.-Ing. Nikolaus Kerö, CTO, Guttomat Sektionaltore GmbH**

### The customer

"Guttomat – the door manufacturer" offers garage doors made in Austria. Guttomat Sektionaltore GmbH is specialized in the manufacture of unique garage doors distinguishing itself from the mass market. **www.guttomat.at**

### The challenge

To modernize outdated hardware in the data center to a virtualized, secure and flexible IT environment. The enhancement of system availability and the remote maintenance option for the servers have represented important requirements as well.

### The solution

The complete package comprises Microsoft Hyper-V as virtualization solution, Microsoft System Center Essentials 2010 for the management of the entire IT environment plus Fujitsu server and storage systems.

### Garage doors – made in Austria

The endorsement "the door manufacturer" clearly indicates the special claim of Guttomat Sektionaltore GmbH of positioning itself on the market as "small but smart". The 100 percent Austrian company with its headquarters in Güssing (Burgenland) and its 80-strong workforce confidently leaves the mass market to its competitors. "We focus on custom products made of high-quality materials such as aluminum, stainless steel, glass or wood," Nikolaus Kerö, CTO at Guttomat, says, referring to his company's quality principle. Guttomat develops and produces garage doors for private, commercial and industrial purposes. They are marketed in Austria and internationally mainly in the countries adjoining Austria. To be able to mill the customer logo into a door or create new developments such as a door flush with the facade, an invisible door so to speak, they need a powerful IT system. In Kerö's words: "After all, here we work with sophisticated CAD programs which can only run smoothly on a stable, fast-working platform."

### Guttomat has invested in virtualization with Microsoft Hyper-V and management based on System Center Essentials 2010

In the data center it looked like a real "uncontrolled growth of servers", according to Nikolaus Kerö. He took over the company in 2005 together with his partner Mag. Thomas Hammer and financial investors. "I wanted to get rid of it and invest in a flexible, state-of-the-art and energy-efficient IT environment." It was quickly clear to the graduate engineer, who had studied chip design among other things at Vienna Technical University, that it would not be enough to modernize the hardware alone. That is why Guttomat has opted for virtualization straight away and for a management solution matched to the needs of small and medium-sized businesses. The concept was developed by the Viennese IT specialist Pommer.Net. It comprises Microsoft Hyper-V as the virtualization solution, Microsoft System Center Essentials 2010 for the management of the complete IT environment and several PRIMERGY servers, in addition to an ETERNUS storage system from Fujitsu. The virtualized environment is designed to cope even with the total failure of a server with no appreciable interruption in operation.

| The benefit | Products and services |
|---|---|
| ■ Lower energy costs due to energy-efficient servers<br>■ Easy management of the entire IT environment from a single console<br>■ Fail-safety and flexibility through a virtualized environment<br>■ On the fly expandability of the server and storage capacity | ■ Servers: 3 x PRIMERGY RX300 S6, 1 x PRIMERGY RX200, 1 x PRIMERGY TX150<br>■ Storage system: 1 x ETERNUS DX80 FC<br>■ Network connectivity: 2 x Brocade 300 FC-Switch 8 Gb/s<br>■ Virtualization software: Microsoft Windows Server 2008 R2 with Hyper-V<br>■ Management software: Fujitsu ServerView Suite, Microsoft System Center Essentials 2010 |

## All-in-one monitoring

The "brain", so to speak, of the new IT system at Guttomat is Microsoft System Center Essentials 2010. As Heinrich Pommer, CEO of Pommer.Net explains: "This system management solution contains the administration not only for the network but also for the virtualization environment. It is a compact packaged solution for small and medium-sized businesses like Guttomat. You can use it to do everything, from monitoring the server and client infrastructure through software roll-out in the company to the management of the virtual machines – and all from a single console." At Guttomat, Heinrich Pommer created a Microsoft Hyper-V failover cluster from three PRIMERGY RX300 servers and an ETERNUS DX80 storage system on the basis of Windows Server 2008 R2 Enterprise. Besides that, there is also a PRIMERGY RX200 server as a domain controller and a PRIMERGY TX150 server with a tape drive as a backup system. So, thanks to virtualization, it has been possible to consolidate the previous nine servers into five servers. Incidentally, the ServerView server management solution that Fujitsu supplies for the PRIMERGY systems can be integrated seamlessly into Microsoft System Center Essentials.

## Uninterruptible migration

 "Flexibility and security were the major considerations for us when selecting the new IT environment," Nikolaus Kerö says. "Thanks to virtualization, we can now extend server or storage capacities during ongoing operation. Implementation also went smoothly and completely without interruption. I think that's sensational." There is also another important aspect which is crucial especially for small companies without their own IT department. "We wanted to be able to do as much as possible via remote access. We require not only roll-out of new software but also remote maintenance – and it works great," Nikolaus Kerö explains. After all, Guttomat has only one IT expert who primarily deals with the client infrastructure but not with the data center. Fujitsu's SELECT partner Pommer.Net in Vienna keeps tabs on the entire data center.

## Energy-efficient systems

Economical operation was also a plus factor in favor of Fujitsu. With a power consumption of 280 W the PRIMERGY RX300 S6 servers stand for truly energy-efficient hardware. In the words of Nikolaus Kerö: "We assume that there will be a drastic saving in power costs. The consolidation effect of virtualization lowers the energy consumption substantially anyway and, if the other systems are also particularly energy-efficient, it will pay off twice."

## A storage system that grows with you

Two convincing aspects of the Fujitsu ETERNUS storage system, in particular, were its excellent price-performance ratio and the system expandability. Guttomat started with an ETERNUS DX80 model initially with twelve disks, each with 300 GB, meaning a total of 3.6 TB. This system will now grow for quite a while with Guttomat's storage requirement – because the ETERNUS DX80 is scalable up to 120 disk drives with an overall capacity of 240 TB. Incidentally, Guttomat uses the FC variant of the model, i.e. a fiber channel high-speed link with a speed of up to 8 GB per second. At all events, Nikolaus Kerö has taken a great shine to the quality of the hardware:

"As an engineer, I am thrilled by the professionalism of the systems. The design of the servers is very stable, and the arrangement of the components is also convincing. The PRIMECENTER rack is also an example of perfect workmanship – and that's evident not least on the intelligent cable routing."

**Partner**

**pommernet**

Dipl.-Ing. Heinrich Pommer
IT-Consulting

www.pommer.net

Green IT      Windows Server 2008 R2

# Case study
## ARA Assistance

»The enhanced efficiency, effectiveness and fault immunity of our new virtualized IT environment with PRIMERGY servers and ETERNUS storage systems clearly outperform our former infrastructure. Now we are able to offer our customers an appreciably higher level of service.«

Christian Jäger, Head of IT, ARA Assistance

### The customer

Teamed up with its corporate alliance partners ARCD e.V. and Auto&Reise GmbH, ARA Assistance GmbH provides first-class call center and client management services.

www.ara-assistance.de

### The challenge

Enhanced high availability and less administrative effort for the data centers within the corporate alliance

### The solution

A VMware virtualization solution on the basis of PRIMERGY servers and ETERNUS storage systems combined with a backup concept relying on the ETERNUS tape library solution and software by Symantec.

### Customer management and automobile club

ARA Assistance is typically encountered in the insurance, travel and automobile sector. The comprehensive service portfolio of ARA GmbH – Auto und Reise Assistance (automotive and travel assistance) includes, among others, damage management assistance for insurers over the phone, service management for roadside assistance cover, emergency assistance as well as service management regarding medical and health covers for travels abroad. For this purpose ARA GmbH operates a competence center 24 hours a day, 365 days a year. Another important an well-established company within the corporate association and one of the co-partners of ARA GmbH is the German automobile and travel club ARCD Auto- und Reiseclub Deutschland. Founded in 1928, Germany's first automobile and travel club has over 100,000 members nationwide. The membership fee includes an extensive assistance cover that entitles ARCD members to insurance coverage for travels throughout Europe. Last but not least, the third party in this league, the publishing house and market researcher Auto&Reise GmbH – Verlag und Wirtschaftsdienst, publishes the ARCD club magazine "Auto&Reise", a German car and travel magazine.

### Significantly fewer concerns with virtualization

These three associated companies are provided with IT services from the data center of the corporate headquarters based in the Franconian town of Bad Windsheim. After in-depth consulting by Fujitsu's SELECT Partner Bechtle, ARA Assistance deliberately opted for virtualization. "Although the achievable time savings through lower administrative overhead represented an undeniable benefit in itself, the decisive incentive that led us to implement a virtualization solution was the fact that our IT staff would have significantly fewer concerns," explains Christian Jäger, Head of IT at ARA Assistance. So far, ARA Assistance had been operating ten servers. However, their maintenance became ever more complex and their operation increasingly risky.  In addition, capacity upgrades always involved complex manual interventions. "We are able to achieve immense time savings, especially when making new resources available," Christian Jäger points out. "Installing a new server involves only three mouse clicks now. Before virtualization we had to purchase, install and configure the hardware. What used to require two to three days at times, can now be handled within three to four minutes without interrupting operations, and we benefit from clearly minimized downtime."

| The benefit | Products and services |
|---|---|
| ■ Less administrative effort<br>■ Optimal leveraging of hardware resources<br>■ Higher degree of fault immunity<br>■ Lower energy costs due to efficient systems | ■ ESX servers: 3 x PRIMERGY RX300 S6<br>■ Storage systems: 2 x ETERNUS DX90<br>■ Backup server: 1 x PRIMERGY TX300<br>■ Backup server: 1 x ETERNUS LT20<br>■ Backup software: Symantec BackupExec<br>■ Virtualization software: VMware vSphere 4<br>■ Server management: Fujitsu ServerView suite with iRMC S2 Advanced Pack |

## Mirrored data center

When it came to the renewal of the data center hardware by Bechtle, high availability played an important role for ARA Assistance. "With 24/7/365 availability we must guarantee the seamless operation of our competence center," Christian Jäger explains. "In our business we simply can't afford an IT failure." That is why the group opted for a mirrored data center at the Bad Windsheim headquarters that was planned and implemented by Bechtle. Thanks to virtualization and the enhanced performance of the new systems it was possible to reduce the formerly ten servers to three. Equipped with two Intel 6-Core CPUs with 2.66 GHz and 48 GB RAM each the three PRIMERGY RX300 servers constitute the basis for the VMware virtualization solution. Two servers stand in one data center and the third one in the other.

## Central SAN storage systems

To ensure optimal data storage ARA Assistance operates one ETERNUS DX90 storage system per data center. The 80 employees who access the system generate a data volume of no less than 1 TB. "Data storage management has become a lot easier," says Christian Jäger. "Since all data is now located centrally on high-speed SAN storage systems by Fujitsu, I no longer have to worry about whether or not the data was complete during the backup process – and whether or not its recovery would be possible, should the necessity arise." The backup process runs automatically over the ETERNUS LT20 tape library solution that is connected to the SAN storage systems.

## Enormous consolidation effects

The previously ten servers hosted both data and applications for the entire group. One of the reasons why it was possible to reduce them to only three servers is that it is no longer necessary to physically separate different company networks. "We have jointly virtualized the two networks for ARA GmbH and for the ARCD and Auto&Reise GmbH," Christian Jäger explains. "The networks still have two different domains. With VMware vSphere we can ensure that both networks are detached although they share one physical server. This enables us to achieve enormous consolidation effects."

## Countable energy savings

After cutting down on the number of servers as a result of virtualization the probably fasted measurable impact is that the energy consumption is drastically lowered. "This fact can best be observed by looking at the UPS devices in our two data centers," says Christian Jäger. "The servers used to place heavy demands on the UPS devices, using up to two thirds of their power capacity. Now we're down to less than a third and have been able to reduce our energy consumption significantly. This year we expect our energy costs to drop by as much as 60 percent, not counting the savings on air conditioning costs we are able to achieve by cutting down on cooling capacities."

## Virtualization for more than one good reason

Besides determining the energy savings, Christian Jäger has compared the maintenance and administration costs of the old and the new systems. "When we take a look at the running costs with the new virtualized hardware our savings amount to as much as 55 percent a year with all factors taken into account." These considerable savings are also attained because the group has been able to optimize its hardware utilization, Christian Jäger knows:

"The CPU and storage utilization rate of the old systems was between 5 and 15 percent; in other words, 85 to 95 percent of the resources went unused. With our new virtualized environment we are able to achieve utilization rates of 60 to 80 percent and have thus increased our effectiveness noticeably."

And the great leap forward in terms of availability is something worth looking at, too, the Head of IT is pleased to report: "In the event of a hardware failure it takes only a couple of seconds to shift individual virtual machines and boot them on another physical server."
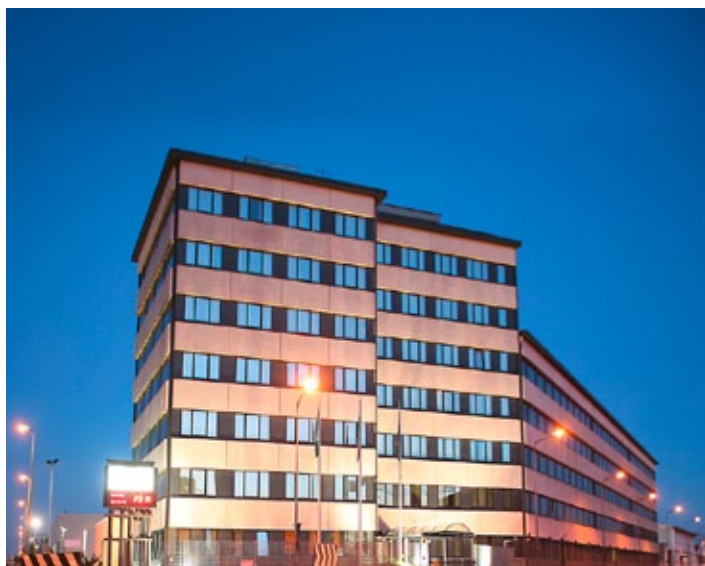
**Partner**



www.bechtle.com

# Case study
## Lombardia Informatica

»Our organization is continually changing and the virtualized environments guarantee flexibility and fast development times impossible to obtain in other ways.«

**Paolo Fornasari, Technologies and Services Director, Lombardia Informatica**



### The customer

Country: Italy
Sector: Public Administration
Year of incorporation: 1981
Employees: 576
Website: **www.lispa.it**

### The challenge

In recent years, Lombardia Informatica has moved towards open systems; this must now be combined with a rationalization of environments. The consolidation and virtualization project includes requirements on regaining space, service continuity and cost savings on the acquisition and running of IT products.

### The solution

The call for tenders for the servers issued by Lombardia Informatica was won by Fujitsu, with a solution which combines high-performance open systems, capabilities extended to the connected software platforms and costs considered attractive.

### Leading "captice" IT company in Italy

Lombardia Informatica is the operating entity of the Lombardy Region which deals with all the region's IT demand and supply activities. The company plays a pivotal role between the demand of the public administration body, the supply of the information & communication technology market and the individuals/businesses using the services. In the last financial year (2010) it handled business worth approximately 200 million euros and, in terms of production and management capacity, this enabled it to become the leading "captive" IT company in Italy. About 60% of Lombardia Informatica's turnover comes from the market through public calls for tender.

### Optimization in public administration

Cost control and resource optimization requirements are pushing public administration bodies more and more towards the consolidation and virtualization of IT environments. In Lombardia Informatica, this trend is combined with the ever expanding use of open systems, based on x86 multicore architectures and the Linux operating system. One physical machine has the power and expandable memory to manage up to 15 virtual systems. More efficient workload distribution is combined with improved service reliability to provide business continuity.

### Reliable solution

Lombardia Informatica's consolidation and virtualization project is leading to the migration to a single physical place of systems which used to be dispersed in various offices. In production areas, about fifteen physical machines now control approximately 180 virtual systems. Entire services, such as the Health and Social Services Information System, are now managed by the new environment. In addition, when activating new services, there is no longer a need to acquire dedicated servers as the services can be allocated to a virtual machine, making the decision-making process more efficient. Fujitsu won the bid "for its ability to combine a technologically reliable solution with appropriate costs," emphasized Paolo Fornasari, Lombardia Informatica's Technologies and Services Director.

| The benefit |
|---|
| ■ Alignment with the overall reorganization of the information system |
| ■ When fully operational, 80% of the physical servers in production areas will have been virtualized |
| ■ The cost of acquiring new hardware and software is expected to fall by approximately 30% |

| Products and services |
|---|
| ■ Servers: PRIMERGY RX300 S6 dual-processor rack server |
| ■ Storarage systems: ETERNUS DX80-iSCSI SAN storage systems |
| ■ Services: Integrated delivery, commissioning and on-site maintenance services |
| ■ Software: Integration of Red Hat Linux and VMware vSphere 4 platforms |

## 200 services for the Lombardy Region

Lombardia Informatica is carrying out a significant renewal of its information system infrastructure. This includes a primary data center based at the head office and a second environment not just for disaster recovery and business continuity but also for the delivery of certain services. The project managed by Fujitsu therefore arose out of the need to bring the environments in line with the new infrastructure configuration. "When the work is complete," explains Fornasari, "Approximately 80% of the physical servers in production areas will have been virtualized." The plan is for this to be achieved by the middle of 2012, when the new secondary data center is completed. Overall, the organization manages approximately 200 services for the Lombardy Region.

## High level of consolidation

As well as the reduction in physical space and resulting energy savings, another tangible advantage of the project is the fall in costs related to acquiring new hardware and software, estimated at around 30%. "On top of this," adds Fornasari, "We should underline the optimization of the time needed to identify malfunctions and the possibility of activating new services more quickly." A recent example is the introduction of the Regional Services Card – already distributed to 9.9 million residents giving them access, also online, to health and public administration services – as a means of obtaining fuel discounts in the municipalities closest to Switzerland. This operation involved more than a million residents. Overall, many services have already been virtualized, from portals for residents (for example to pay taxes) to internal procedures ranging from managing financing to sick notes. One of the first important changes occurred in early 2010 when the Health and Social Security Information System migrated from a peripheral site to the central site. This led to a consolidation from the original 1290 ft2 occupied by the servers to just 12 racks. "The virtualization work which has already started," says Salvatore Bencivenni, Infrastructure Planning Manager, "has led in just a few months to the disposal of approximately 200 physical systems, as well as the optimized redistribution of workloads on the x86 machines. The operation has allowed us to speed up the plan to reduce proprietary systems in favor of open source platforms."

## Respond more efficiently to customers

Generally speaking, a process such as this virtualization process does not merely offer benefits linked to simplifying IT environments, but also makes it possible, especially for public administration organizations, to respond more efficiently to its customers' requirements, "The need to use calls for tenders to make new acquisitions," explains Bencivenni, "makes our procurement process longer than that used in private industry. Starting up a new service, therefore, has always been connected for us to the purchase of new, dedicated physical servers. Now, however, we can activate a virtual machine for the purpose." Some major new consolidation projects for the future are now being examined and these might involve the information systems of all the regional organizations.

## Advanced solution with attractive costs

Consolidation of environments and a general move to open solutions are important elements of the current development of Lombardia Informatica's information system. Fujitsu won the tender linked to the system virtualization project thanks to its capacity to combine a technologically advanced and reliable solution with attractive costs and capabilities not just as regards the hardware platforms but also the software ones (Red Hat Linux and VMware vSphere 4) closely linked to them. The proposed solution, which is still in the implementation phase, has been integrated into the more comprehensive process of rationalizing the IT environments and has already led to tangible results in terms of the disposal of physical systems and the migration of services to virtual systems. Paolo Fornasari, Technologies and Services Director, Lombardia Informatica, draws a positive conclusion:

"Our company is continually changing and the virtualized environments guarantee flexibility and fast development times impossible to obtain in other ways. This is combined with our requirements for efficiency in terms of service delivery and business continuity."

# Case study
# Bayernland

»It's good having a central contact for large projects; they gave us excellent advice before the project started. That's what we like about Fujitsu.«

**Hermann Wild, Head of IT at Bayernland**

### The customer

Country: Germany, with global sales
Business: dairy products
Founded: 1930
Group Sales: 1 billion EUR
Website: **www.bayernland.de**

### The challenge

Fujitsu developed a concept for a new server- and storage landscape and implemented it in partnership with Profi AG. Fujitsu also assumed maintenance and support services.

### The solution

Fujitsu created a redundant infrastructure to provide greater system stability. Additional capacity is available on short notice. The infrastructure will be ready for the future, thanks to ample scalability.

### Bayernland eG

Bayernland eG sells 300,000 tons of dairy products in Germany and abroad each year. Those products may stem from Bayernland's own operations or from dairies belonging to the cooperative. A volume like that makes the cooperative, headquartered in Nuremberg, a leading marketer of dairy products. Bayernland is a modern company with high quality standards, sophisticated logistics, and an efficient system for managing goods. Its information technology is just as modern.

### The search for a comprehensive solution

New demands, plus the need for additional servers and storage pointed to the need for a comprehensive solution as the company's IT underwent an overhaul in 2010. The plan called for completely redesigning the data center. Bayernland wanted a highly available platform that offered the option of furnishing additional resources on short notice, such as when Bayernland acquired or invested in another company. Centralization of e-mail services in Nuremberg also rendered additional capacity necessary. Strong growth of Microsoft Exchange data demanded supplemental resources as well. A conversion to SAP ERP 6.0 running on VMware and Microsoft operating systems required new hardware, which came just as the service contracts on the existing 16 servers were about to expire. The ambitious project aimed at creating a flexible, expandable, and highly available IT infrastructure.

### The entire concept came from Fujitsu

Fujitsu developed an entire concept for a new data center focused on secure and flexible operation. Servers and storage systems are designed for redundancy and can be housed in different buildings if necessary, ensuring greater system stability. Virtualization permits optimum server utilization. It is easy to establish additional capacity on short notice, while the high degree of scalability assures the system's longevity. Fujitsu partnered with Profi AG to install the new infrastructure. Fujitsu will also handle maintenance and on-site support.

| The benefits |
| --- |

- Automatic failover for server and storage systems guarantees secure operation
- Scalability means longevity for the entire system
- Additional capacity is available on short notice
- The entire system is easy to manage
- Servers and storage system can be situated in two separate rooms
- Lower energy costs
- High availability makes for satisfied users
- Virtualization makes for better utilization of server systems
- Optimized data storage, synchronous mirroring of data, flexible and easy to expand, SAS and SATA hard drives help to optimize costs
- SnapShot technology permits fast Backup and Restore
- Storage system supports File Services, Fibre Channel SAN, IP-SAN, and a number of network configurations

| Products and services |
| --- |

- The entire concept for a new data center
- Implementation of the data center infrastructure
- Project management and coordination of the partner by Fujitsu
- On-site maintenance and support by Fujitsu
- Reduction of the number of physical servers from 16 to 6 through consolidation into virtual servers running under VMware and Microsoft operating system
- The latest energy-efficient server technology:
  - One Primergy RX100 as a control server
  - Four Primergy RX300: SAP, VMware and applications, "reserve"
- Creation of a central storage system that can be situated in different locations, plus a backup solution:
  - Two NetApp FAS3140s
  - An ETERNUS LT60 tape library
- Configuration of server- and storage environment into two racks that can be housed in two separate rooms, as needed
- Upgrade of the SAP landscape to SAP ERP 6.0

### A single contact for the entire project

In opting for Fujitsu, Bayernland selected an IT provider that can deliver everything from a single source, from planning up to and including the realization of both the infrastructure as well as the SAP and Exchange solutions. A big plus point for Bayernland is that long-time supplier Fujitsu assumed leadership of the project and coordinated project partner Profi AG.

### From sixteen to six – virtualization is the key

Virtualization is the key to having high dependability, reduced downtime, additional server capacity on short notice, and efficient operations. It's a principle that Bayernland followed successfully. Fujitsu consolidated the existing 16 physical servers into a virtualized environment. What's more, the environment is mirrored, thus guaranteeing protection against downtime. The SAP environment now runs under VMware and Microsoft operating system which permits better utilization of servers. The upshot is that Bayernland only needs four Fujitsu Primergy RX300 servers. All applications run on them but they nevertheless offer reserve capacity. An additional Primergy RX100 server performs a controlling function. Fewer servers also mean less energy. Depending on the scenario, it is possible to save up to 80 percent of the energy needed - per server – compared to the original 16 servers. This, combined with the new energy-efficient Fujitsu racks will result in much lower energy costs for Bayernland.

### Two are better than one – that goes for storage, too

Bayernland's data center features a central storage solution – the NetApp FAS3140 system – which is likewise designed for redundancy. The solution permits synchronous mirroring of data during operation. Should additional storage capacity be necessary on short notice, administrators can obtain it online. Faster backup and rapid recovery are among the additional features of the new storage environment.



"Fujitsu has helped us create a new virtualized platform for our data center, and brought our ERP landscape up to date. We're ready for the future."
Hermann Wild, Head of IT at Bayernland

Bayernland intends to continue consolidating additional decentralized services in Nuremberg. The newly configured server and storage environment makes Bayernland ready for today's challenges and for whatever challenges the future may bring.

# Case study
## Bio-Hotel Stanglwirt

»I aim to make my guests' stay as memorable as possible. I can't afford to have an IT breakdown. Thats's why I rely on top technology by Fujitsu.«

**Richard Alois Hauser, Director, Stanglwirt**

### The customer

The Stanglwirt in Going near Kitzbühel, Austria is both a traditional inn and an ultra-modern 5-star hotel, welcoming celebrity guests from Austria and abroad.
**www.stanglwirt.com**

### The challenge

To design and implement a completely new IT infrastructure that delivers a high degree of reliability

### The solution

Virtualization of the entire applications environment on the Dream Team platform of PRIMERGY RX300 and ETERNUS DX80

### Renowned wellness hotel

The guest is king, especially in the case of luxury hotels such as the renowned Stanglwirt wellness hotel in Going near Kitzbühel, Austria. Director Richard Alois Hauser combines centuries-old tradition with innovative technology. The quaint wooden façade, for example, conceals ultra-modern computer systems by Fujitsu that enable hotel staff to manage appointments for guests, not only at the reception, but also in the spa, in the beauty salon or in the riding academy. Trouble-free processes are imperative in five-star hotels. Whether guests want to reserve a room, make an appointment at the golf training center or arrange for hot-stone treatment in the wellness and spa area, everything needs to go without a hitch. All this places considerable demands on a hotel's information technology. Not only do reservation systems depend on software, but also all the facility management functions including video surveillance and the hotel's innovative energy management program.

### The requirements

Information technology has to be available around the clock since the Stanglwirt's celebrity guests may want to check out at five o'clock in the morning or may want to order a drink to their room late at night.

### Exceptionally trouble-free IT

Virtualization is the key to trouble-free IT at the Stanglwirt Hotel. The hotel's longtime IT partner, Bindhammer EDV, thus developed an appropriate concept together with Fujitsu Austria. All applications are now available in a virtual server environment, from the hotel's Fidelio software, through Microsoft Office, to applications for accounting and personnel. Four PRIMERGY RX300 servers, an ETERNUS DX80 storage system by Fujitsu, plus vSphere virtualization software by VMware furnish the technical basis. Besides good service, Fujitsu offered good value and a tightly meshed partner network. Still another important aspect was the ability to procure all the systems, including PCs and notebooks, from a single source and to have them serviced by a local IT service provider.

The new solution provides exceptionally trouble-free IT. The luxury hotel, moreover, has established itself as a technical trendsetter for the entire hotel industry. The Stanglwirt is among very first hotels in Austria to operate its entire Fidelio environment virtualized.

## The benefits

- High availability of IT systems and applications
- Around-the-clock (24/7) IT operation
- Highly satisfied hotel guests
- Comprehensive IT support of all hotel functions
- Single-source design and implementation (Fujitsu Austria in cooperation with a local partner)
- Support from a local partner
- The manufacturer assures professional support through a service contract.

## Products and services

- Design and implementation of a virtual IT infrastructure
- Consolidation of applications on four PRIMERGY RX 300 systems with an ETERNUS DX80 storage system
- Implementation of the „Dream Team" concept, a combination of proven and certified systems
- Establishment of a virtual server platform for hotel software, Office environment, accounting and personnel based on VMware vSphere
- Software platforms: Windows servers 2008 64bit, Oracle database
- Virtualization of the entire Micros-Fidelio environment: reservations system, cash management, Bellavita (software for wellness, sport and beauty) plus materials control (MC)
- Creation of five parallel networks (one internal, one for guests accessing the Internet, one for video surveillance, one for facility management, and one for hotel and room locks)

### Where celebrities feel at home

What do Vladimir Putin, Franz Beckenbauer and Empress Soraya have in common? They figure in the guest book of the Stanglwirt Hotel just like Reinhold Messner, ex-Beatle George Harrison, Herbert von Karajan or Countess Gloria of Thurn and Taxis. They all appreciate the hospitality for which the hotel in Going near Kitzbühel is renowned.



Founded back in 1609, the Stanglwirt offers its guests a spa and wellness area plus a full array of sports including tennis and horseback riding. The hotel also owns a breeding ranch for Lipizzan stallions and around 100 hectares of farmland. The five-star hotel also hosts some 400 events each year such as a weiswurst party for up to 2,500 guests during the Hahnenkamm downhill ski races. Approximately 100,000 overnight stays annually place this luxurious inn among the top 20 revenue-generating hotels in Austria.

### Continual growth places new demands on IT

Richard Alois Hauser has kept on expanding ever since he took the hotel over from his father in 1998. He added the "Grosser Kaiser-bogen" wing in 2000, consisting of 50 additional rooms and suites. The Hauser family expanded the sport and fitness facilities by adding a 1,200 square meter Turkish bath in addition to Austria's first seawater aquarium located in a hotel. Staff has doubled to around 250 people as a result. But continuous growth also necessitated modifications to the IT system, reason enough for the luxury hotel

to create an entirely new IT landscape. The guiding principle here was simply that the hotel had to operate around the clock and without a hitch.

### Virtualization – trendsetter for Austrian hotels

The hotel's longtime IT provider Bindhammer EDV, in partnership with Fujitsu, opted for a virtualization concept in order to guarantee high availability of any and all applications needed to keep hotel and restaurant running. The concept implied separating various physical systems into logical systems, or what are known as virtual machines. Resources can thus be pooled and furnished to applications flexibly. If a physical server fails or becomes overloaded, virtual machines will automatically migrate to another server. The result is highly available information technology that assures that none of the hotel's and restaurant's processes are interrupted. Bindhammer EDV and experts from Fujitsu not only devised and implemented the virtual environment for all the hotel's applications, but also created five parallel networks – one for internal use, one for guests accessing the Internet, plus additional networks for video surveillance, facility management, and hotel and room locks. All networks run on Fujitsu servers.

"We have an expert advisor on site and we benefit, at the same time, from the know-how and expertise of a leading IT provider."
Richard Alois Hauser, Director, Stanglwirt

Optimized, sustainable processes also help the director of the Bio-Hotel to manage the energy his hotel uses. For example, the facility-management network that Fujitsu and Bindhammer EDV created automatically turns off the heat and shuts off the mini bar once a guest has checked out. The new IT landscape thus benefits the environment as well.

### Partner
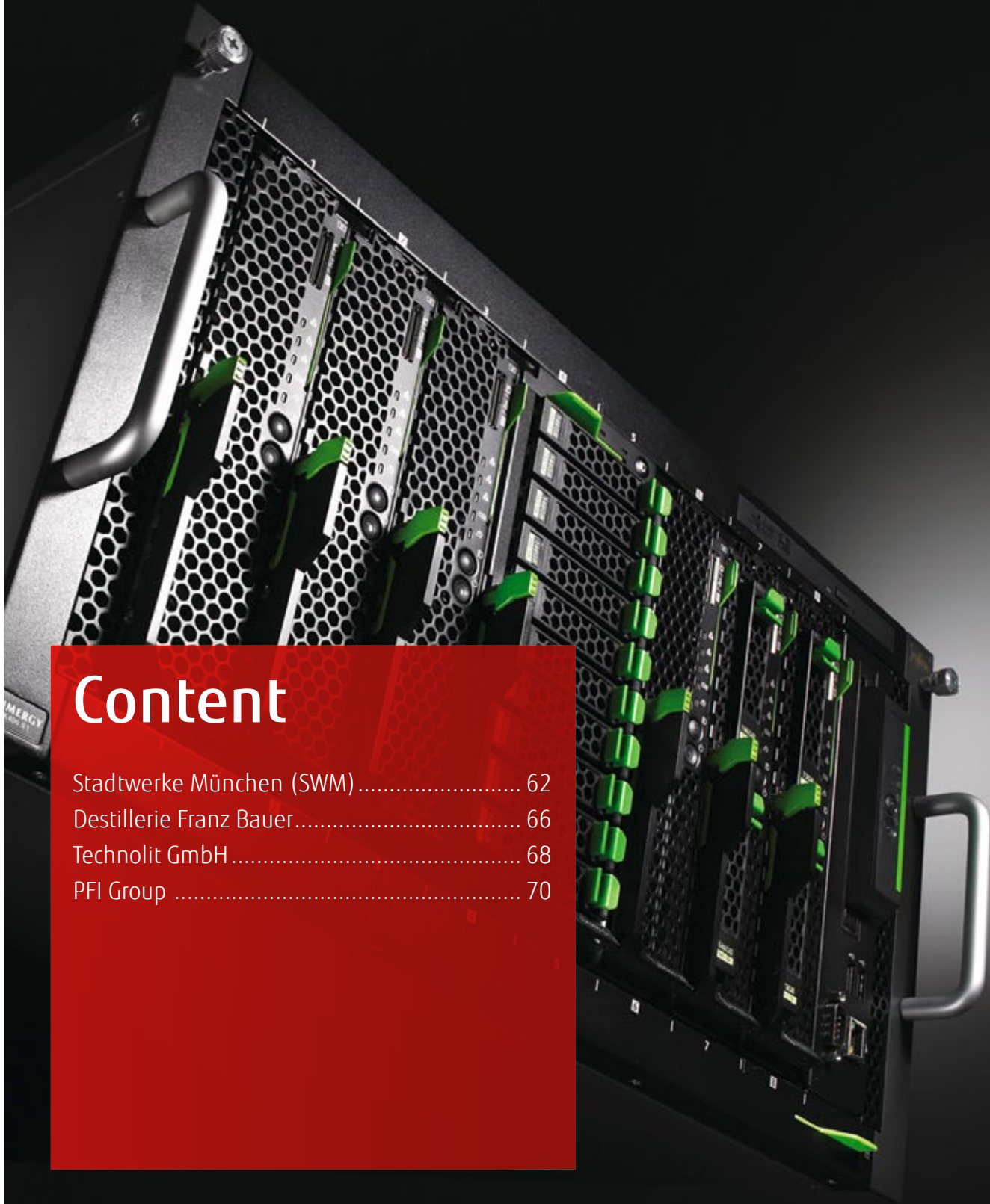
# Content

# Virtualization based on Blade Server systems

Aptly called „data centers in a box" Fujitsu Blade Servers facilitate managing and scaling server resources. Many of our customers rely on Fujitsu blade server technology, particularly when it concerns virtualization projects. While large public utility companies or the Austrian liquor manufacturer Bauer deploy the high-end model PRIMERGY BX900, the specialist for welding technology Technolit GmbH, for instance, is committed to the more compact system PRIMERGY BX400.

# Case study
## Stadtwerke München deploys Fujitsu ServerView Virtual I/O Manager in Blade Servers

»Managing virtualization with a Fujitsu Blade Servers infrastructure gives us even greater flexibility and, at the same time, is a highly available solution for the protection of our business-critical applications and services.«

**Pascal Fuckerieder, Team Leader Database Applications, Stadtwerke München**

### The customer

Stadtwerke München (SWM) is a public utility and service company of the city of Munich and its region. **www.swm.de**

### The challenge

To create and implement an automated disaster recovery concept for several hundreds of servers at two data center locations and to enable rapid and simple hardware upgrading without interrupting operations.

### The solution

To deploy two Fujitsu PRIMERGY BX900 Blade Servers as twin servers in the two SWM data centers plus Fujitsu ServerView Virtual I/O Manager (VIOM) und VMware Site Recovery Manager (SRM) for automatic failover for the entire server environment.

**Electricity, water and public transport for the Bavarian metropolis**

Stadtwerke München (SWM) is a city-owned utility and service company. As a service provider for the capital and its region, SWM plays a central role in providing vital services of general interest to Munich's citizens. For decades, SWM has supplied the Bavarian metropolis with energy (electricity, natural gas and district heating) and fresh drinking water from the alpine uplands of Bavaria and consistently assures the maximum safe and prudent use of resources. In addition to energy production and water catchment, its services comprise grid and network management, sales and distribution – and with 18 indoor and outdoor swimming pools SWM operates one of the most modern bathing environments in Germany. The MVG transport subsidiary is responsible for the underground, bus and tram systems and is therefore a significant pillar in Munich's public transport network. SWM has approximately 7,000 employees, making it not only one of the major employers in Munich but also one of the largest municipal utilities in Germany.

**Two data centers for automated disaster recovery**

In the same way that SWM spurs the implementation of innovative and pioneering infrastructure measures in the Bavarian capital including, for instance, fiberglass grid extensions or expanding district heating, it also invests in state-of-the-art and future-proof IT infrastructure for the company. SWM has been relying on virtualization for some time. However, the new challenge was to create an

automated disaster recovery concept for maximum security – and the construction of a second data center opened up the possibility of its implementation. "We use the second site as a failover data center and are thus able to attain a higher level of availability," explains Pascal Fuckerieder, Team Leader Database Applications at SWM. "At the same time we wanted to achieve convenient scalability for our server landscape." The ability to automatically recover critical business applications is based on a concept that combines easily scalable PRIMERGY Blade Servers with intelligent manageability solutions by Fujitsu and VMware.

## The Dynamic Cube

The PRIMERGY BX900 "Dynamic Cube" is a complete Dynamic Server Infrastructure in a single blade cube. This blade server can be dynamically adapted to different IT requirements, thereby reducing costs while increasing your IT agility. For large enterprise datacenter, the PRIMERGY BX900 can be equipped with up to 18 server blades in a 10U chassis, enabling to react to rapidly changing needs. If you need maximum availability, particularly within a virtualized environment, the PRIMERGY BX900 will meet all your requirements, with the scalability to cope with peak workloads.

"With PRIMERGY BX900 plus ServerView VIOM we have the possibility to remove a defective Blade and replace it with by a new one without configuring any further settings. And for us that was essential. We have been able to reduce our administrative effort and avoid interrupting operations."



## Efficient and compact Blade Servers

The increasing digitalization of work processes within the energy industry places ever greater demands on the IT infrastructure. That is why SWM occupies a 400-strong workforce in its Department of Information and Process Technology with a team 40 computer specialists working in the server section under the lead of Pascal Fuckerieder. He justifies the investment in Fujitsu PRIMERGY BX900 Blade Servers as follows: "One of the decisive factors was the unbeatable efficiency of the systems. The Blade Server PSU's have an extremely high efficiency ratio and, in combination with low-voltage processors and flash memories instead of rotating hard drives, we are able to achieve quite impressive energy savings." The two data centers are both equipped with one PRIMERGY BX900 system with 18 BX922 Server Blades each. "Thanks to the notable efficiency and extremely high performance density of the systems, the server capacity expansions did

not require any modification works on the air conditioning systems of our data centers," says Pascal Fuckerieder, who is enthusiastic about the ultra compact architecture of the PRIMERGY BX900 Blade Servers: "It is amazing just how much performance is compressed in such a small cube. We are talking about 10U here – and that is lower than a normal desk."

## Slim administration with ServerView VIOM

The most remarkable feature of SWM's new IT environment is, however, that is has been split into two data centers. However, what is needed to maximize the resulting benefits is an intelligent manageability solution. SWM relies on an enhanced version of Fujitsu ServerView Suite, namely the Virtual I/O Manager (VIOM). This software virtualizes the specific I/O parameters of a server and makes them available in physically independent server profiles. That spares Fuckerieder's team numerous manual steps and time-con-

suming coordination between the server, network and storage administrators. "VIOM is the key to fully redundant operation between the two data center locations," explains SWM System Manager Michael Drexl, who has been in charge of the technical implementation of the project. "We deliberately opted for Fujitsu ServerView Suite VIOM as it virtualizes physical addresses – and that clearly tops the standard version." It is possible to easily move operating systems and applications between servers without changing network addresses and even hardware upgrades or replacements are facilitated. Pascal Fuckerieder is happy to confirm that the benefits for SWM clearly pay off: "With PRIMERGY BX900 plus ServerView VIOM we have the possibility to remove a defective Blade and replace it with by a new one without configuring any further settings. And for us that was essential. We have been able to reduce our administrative effort and avoid interrupting operations."

## Disaster recovery management by VMware

The Munich headquarters has several hundred servers and its failover data center accommodates 100 servers for database and application mirroring. The PRIMERGY BX900 Blade Server systems and the EMC Symmetrix VMAX high-end storage systems are each identically present. In the event that disaster strikes, SWM is well prepared: The VMware Site Recovery Manager (SRM) manages disaster recovery especially for virtualized environments using VMware. If the main data center fails the SRM accomplishes a complete recovery at the failover data center, hence ensuring high availability. Altogether the new bladed infrastructure that sets standards for highest efficiency and agility perfectly suits the requirements of SWM, as environmental and climate protection are given highest priority in all corporate divisions. In the area of renewable energies, for instance, SWM has set itself the ambitious goal of generating sufficient green energy in its own power stations to entirely cover Munich's energy consumption by 2025.

### The benefit

- Lower energy costs due to efficient servers
- Maximum space efficiency due to ultra compact server architecture
- Simple monitoring of physical and virtual servers through a single console

Green IT

### Products and services

- Blade Servers: 2 x PRIMERGY BX900 with 18 PRIMERGY BX922 Server Blades each
- Storage system: 2 x EMC Symmetrix VMAX
- Virtualization software: VMware vSphere 4
- System management: Fujitsu ServerView Suite (SVS)
- I/O virtualization: Fujitsu ServerView Virtual I/O Manager
- VMware Site Recovery Manager (SRM)

vmware®    ServerView

# Case study
# Eco? Logical! The Franz Bauer Distillery profits from maximum energy efficiency

»Saving energy while increasing productivity – we follow ecological production practices which have resulted in profitability and many other benefits in our business. And for many years now Fujitsu and MBS have contributed to our success with their expertise as our trusted IT partners.«

**Mag. Michael Todor, Managing Director, Franz Bauer Distillery**

### The customer

Since 1920 the Franz Bauer Distillery has been known for fine spirits and alcoholic beverages – in addition to its own products, the company also distributes many popular international brands under license. **www.bauerspirits.at**

**BAUER**

### The challenge

Continued development of the entire IT infrastructure to be ready for future projects and to optimize savings

### The solution

- Continuing data center consolidation with PRIMERGY BX900 blade servers and server virtualization, as well as consolidation of the storage systems
- Initial implementation of desktop virtualization and deployment of ESPRIMO PCs as well as LIFEBOOKs for the sales force

### Franz Bauer Distillery – one of the most modern distilleries in Europe

For more than 90 years the Franz Bauer Distillery has produced high-quality spirits and liqueurs for every taste and is one of best-known traditional businesses in the Steiermark region of Austria. In fact, the distillery – which is one of the most modern bonded distilleries in Europe – has produced Jägermeister for more than 40 years in the city of Graz and sold the popular brand in Austria under license. The location in the Steiermark region ensures that only the finest and freshly harvested ingredients are used. Up to 1.5 million kilograms of fresh fruit are carefully mashed and distilled to produce high-quality distilled beverages. In addition to its own spirits, the Franz Bauer Distillery also distributes such brands as Berentzen, Puschkin, Patrón Tequila, Osborne and the Dark Dog energy drink. Bauer beverages produced in the city of Graz have received many national and international awards. The key to this success is to be found in the heritage of the company and its philosophy: Keep pace with the times and always be at the leading edge. Being a recognized "ecoprofit" business in Graz means that the distillery is environmentally conscious and uses natural resources responsibly, saving water and energy, in addition to avoiding pollutants – and to achieve this the latest innovations are integrated in the company's processes to ensure ongoing improvements.

### The distillery trusts Fujitsu as a source of environmentally friendly IT

"Heat energy recovery, solar energy, the use of regional fruits and the constant optimization of the IT infrastructure: When it comes to saving resources and protecting the environment, we employ the very latest technologies and processes," says Mag. Michael Todor, Managing Director, Franz Bauer Distillery. The source of inspiration for innovative IT has been Fujitsu and Modern Business Systems GmbH (MBS) as trusted and reliable partners for implementing efficient concepts, systems and solutions at the distillery. Working in close cooperation with the customer, both partners recently boosted the efficiency and productivity of the distillery's IT. By implementing the PRIMERGY BX900 Dynamic Cube, the Franz Bauer Distillery now has the most energy-efficient blade server technology available at this time, and the company has begun the transition toward server and desktop virtualization. The new IT technology also includes ESPRIMO PCs for workplaces as well as LIFEBOOK notebooks for the sales force to ensure maximum mobile productivity.

| The benefit | Products and services |
|---|---|
| ■ Improved productivity thanks to server and desktop virtualization<br>■ Additional improvement in energy efficiency of 40%<br>■ Better customer orientation with state-of-the-art technology for the sales force<br>■ Reduced administration and maintenance of the IT infrastructure<br>■ Time savings of 60% in client administration through virtualization<br>■ Establishment of an efficient basis for future projects thanks to the cost-effective scalability of IT capacities | ■ Servers: PRIMERGY BX900 with PRIMERGY BX922 server blades<br>■ Clients: 40 ESPRIMO PCs, 20 LIFEBOOK T and LIFEBOOK E; and in the future: Fujitsu Zero Clients<br>■ Storage: Fujitsu hard-disk storage systems<br>■ Operating system: Microsoft® Windows Server® 2008 R2<br>■ Virtualization: VMware vSphere 4<br>■ Services: Planning and design by Fujitsu and MBS; implementation of desktop virtualization by Fujitsu |

### Environmental responsibility in practice

Responsible use of resources is practiced every day by the employees of the Franz Bauer Distillery – it is second nature to them. "Anything that is not required outside our production times is completely switched off – it is really true – the last person to leave the distillery literally turns off the lights," explains Mag. Michael Todor. At the same time, this energy consciousness is coupled with the principle of ongoing progress and improvement. "IT optimization plays a key role at the Franz Bauer Distillery: We are always looking for innovative ideas, concepts and solutions so that we can constantly improve production," says Ing. Gernot Tauss, IT Manager at the Franz Bauer Distillery. In his view Fujitsu and MBS are an indispensable source of innovation. The customer came up with the idea for the current project at Fujitsu Forum, the annual in-house trade fair, where Ing. Gernot Tauss discovered: "The Zero Client and blade server technologies from Fujitsu, which are intelligent solutions that enable us to reduce administration and electrical energy consumption."

### Partners with proven expertise in IT optimization

Based on Fujitsu server and client technologies, the Franz Bauer Distillery cooperated with its partners Fujitsu and MBS to develop an integrated optimization concept for server and desktop virtualization. Since the customer's installed PRIMERGY BX600 blade servers had reached end of life, the leading infrastructure for server virtualization, namely the PRIMERGY BX900 and VMware vSphere, was chosen as the platform that would meet current and future IT challenges. Demanding applications such as Microsoft Dynamics NAV 2009 and SharePoint were immediately migrated to the system, while other applications such as file services are still running perfectly on an existing PRIMERGY RX300. The PRIMERGY BX900 also plays an important role in the desktop virtualization, which was piloted successfully and is scheduled for rollout in the fall of 2011. Ing. Gernot Tauss is quite satisfied with the results:

"Fujitsu shares our Green IT philosophy. Depending on the workload, the extremely efficient PRIMERGY BX900 reduces our energy consumption by an additional 40%, and the client virtualization enables us to reduce the time needed for administration by 60%. What's more, we have the ideal virtual infrastructure to ensure better support for our production."

Another milestone at the distillery is the improved mobility and productivity of the sales force. When visiting their customers, salespeople now use the LIFEBOOK T convertible notebook and the top-performing LIFEBOOK E.

### Goals achieved – basis for ongoing improvements realized

"Saving energy and increasing productivity – for us that means 'eco-profit.' For years we have been achieving this with Fujitsu and MBS," says Mag. Michael Todor. Measurable increases in productivity are clearly evident in the sales force of the Franz Bauer Distillery. The electronic ordering application is always available on the new LIFEBOOKs so that salespeople are ready to do business when they meet their customers, and – especially in the peak winter season, when the distillery is running around the clock – they can respond even more quickly to customers' needs and demands. Easier administration and better agility with server and desktop virtualization are improvements that benefit the IT team and the company as a whole. Furthermore, these innovations will serve as a sound basis for future IT improvements at the Franz Bauer Distillery in the years ahead – for example when continuing to consolidate servers or implementing Fujitsu Zero Client technology, which is currently being tested by the customer.

**Partner**

MBS
Modern Business Systems

# Case study
## Technolit GmbH optimizes virtualization with Blade Servers and Zero Clients

»We appreciate that the PRIMERGY BX400 Blade Servers offer great value for money. Given its consolidated and centralized design, such a system is more cost-effective than using individual rack servers with the same performance. And on top of that we also save a lot of energy.«

**Dieter Kaupe, Head of IT, Technolit GmbH**

### The customer

Founded in 1979, Technolit® GmbH is renowned as an international trading enterprise for welding technology.
www.technolit.de

### The challenge

Renewing the IT infrastructure, simplifying the administration and reducing energy costs in the server and client environment.

### The solution

A mirrored and virtualized data center with PRIMERGY BX400 Blade Servers by Fujitsu and NetApp-storage systems as hardware basis plus Fujitsu Zero Clients.

### Technolit – the workshop expert

Apart from welding technology which is its core competence, Technolit GmbH also offers a wide range of quality products for grinding and separating, chemically technical products, tools and machines as well as workshop supplies for trade and the automotive industry. Technolit GmbH operates internationally and has more than 1500 employees. The head office is based in Großenlüder near the Hessian city of Fulda. Over 550,000 customers from trade and industry receive products as well as services using Technolit. By now the range encompasses about 50,000 items stored in a high rack warehouse equipped with special logistics. Innovative computer systems ensure constant availability of all items. Internal organisation and logistics have been optimized to such a degree that any item is delivered within 24 or 48 hours of receiving an order.

### Reducing energy consumption and admin efforts

To make sure these high standards can be met permanently, Technolit GmbH has been applying virtualization in its mirrored data center for some time. All server resources – with the exception of ERP applications – are virtualized on the basis of VMware vSphere. Until now there used to be two dedicated physical servers per data center for resource planning applications apart from the four ESX servers for the virtualized environment. "On the one hand we wanted to reduce energy consumption in our data centers", explains Dieter Kaupe, Head of IT at Technolit. "On the other hand we wanted to simplify the administration and build up a better performing server environment."

### Virtualized IT environment up to the desk

Scalability was another key argument for drawing Dieter Kaupe's attention to the advantages of the Blade Server technology. Technolit ordered two PRIMERGY BX400 Blade Servers from Fujitsu and two NetApp FA3240 storage systems that are now delivering their mirrored services at the headquarters in Großenlüder. In order to continue the virtualization, Technolit has also launched a VDI concept, i.e. a virtualized client environment.

| The benefit | Products and services |
|---|---|
| ■ More efficient energy use in terms of power and cooling<br>■ Perfect addition to server virtualization with increased flexibility, efficiency, fewer cables and a joint infrastructure<br>■ Dynamic resource management of servers, storage and network<br>■ Improved business continuity with low-cost HA and DR options<br>■ Simplified installation, administration and management | ■ Blade Servers: 2 x PRIMERGY BX400 with altogether 6 BX920 S2 server blades<br>■ Storage systems: 2 x NetApp FAS3240 with 100 TB of total storage capacity<br>■ Clients: 50 x Fujitsu Zero Clients DZ22-2<br>■ Virtualization software: VMware vSphere<br>■ Management solution: Fujitsu ServerView Suite |

### Warehouse logistics around the clock

A total of 350 IT-work places access the data centers at Technolit headquarters. "We are mainly dealing with trade and warehouse logistics for the 50,000 items Technolit stocks", Dieter Kaupe points out. "In any case, having a sound server platform is very important – after all we do business internationally." Remaining technically up-to-date is therefore even more important. "Our servers and storage systems were simply out-of-date", Kaupe continues. "We were specifically looking for hardware with an optimum focus on virtualization and on an environment that partially still consists of purely physical servers respectively."

### Managing virtual and physical resources centrally

Fujitsu's PRIMERGY BX400 Blade Servers offer what Technolit was looking for in this respect. "Obviously saving energy was one of our demands," explains the Head of IT, "as well as good value for money. Both these conditions are fulfilled by the Fujitsu Blade Servers." There is now a PRIMERGY BX400 Blade Server chassis in each of the two data centers at Technolit with each of them containing two ESX server blades for the virtualized resources and one server blade for the ERP system that is kept running physically. Five plug-in positions remain available and can be used for either further server blades but also for storage blades. In Dieter Kaupe's opinion the investment makes perfect sense:

"The PRIMERGY BX400 Blade Servers have enabled us to locate all physically and virtually run server resources in one chassis. Everything can easily be managed via one platform using the management console of Fujitsu ServerView Suite. Configuring either switches or the fibre channel network has also become much easier."

### Virtualizing clients

In terms of virtualization the company goes even further. Renewing the data center hardware has also included a virtualized client infrastructure which relieves the desks: "We wanted to get away from standard pc workplaces altogether so that we could say goodbye to any hard drive and main board defects once and for all," René Wolf, in charge of infrastructure management at Technolit, outlines his aim. "We also want to avoid setting up new operating systems individually in the future." Technolit has chosen a VDI environment with Fujitsu Zero Clients. These contain no more moveable parts and get all storage and processing resources from the

data processing centre. Such a client essentially consists of a 22 inches screen with USB and Ethernet plug-ins. "In case of a fault we only have to exchange the client that is affected – and work can continue immediately," René Wolf praises the extremely low-maintenance concept. "Another advantage is the high degree of amortization as we will benefit from noticeable energy savings."

### Familiar environment remains intact

A VDI concept makes no difference to the user since all functionalities are fully preserved. "If a member of staff moves internally, she only has to log-on to the client in the new room – her Windows environment shows up on the screen immediately," Head of IT Dieter Kaupe sums up. "Nobody has to move any data back and forth." Technolit already has sufficient capacities for the first 50 work places in the data center. In the near future the remaining 300 IT work places will be virtualized as well. When that happens resources can be added to both the servers and the storage systems without a new chassis being needed.

**NetApp®**
Go further, faster

# Case study
# PFI Group benefits from compact PRIMERGY BX400 Blade Server

»Thanks to our Fujitsu Blade Server we benefit from noticeably performance and we have the possibility to scale and centrally manage our server and storage resources. The amount of consolidation is also enormous. We save a lot of space and energy in our data center.«

**Stefan Bold, Information Technology Manager, PFI Group**



### The customer

The PFI group tests, optimizes and certifies with its accredited laboratories, its intersectional engineering and its certification offices. **www.pfi-germany.de**

### The challenge

Modernization, consolidation and virtualization of the data center hardware to achieve greater flexibility and fail-safety.

### The solution

Fujitsu PRIMERGY BX400 with Windows Server 2008 as the operating system, an ETERNUS DX80 storage system and an ETERNUS LT40 Tape Library as the backup system plus VMware vSphere as the virtualization solution.

### PFI: Researching, testing and certifying

After having been founded to serve the needs of the shoe industry, Prüf- und Forschungsinstitut Pirmasens e.V. (PFI) has long since established itself in many other industries. It focuses on testing technology and product analysis based on analytical chemistry and microbiological examinations. Since its foundation in 1956 the internationally renowned service and research center has had its headquarters in Pirmasens (Germany) and today the PFI Group runs institutes in Turkey, China, Hong Kong and Ethiopia. PFI not only conducts examinations, it also awards the CE, GS and SG labels to various groups of products and it certifies the quality and environmental management of companies. Furthermore the engineering department at PFI develops testing machines including software and steering technology.

### Virtualization using the Blade Server

Since highly sensitive and confidential research and testing data are created at PFI on a daily basis the IT faces tough demands. The institute wanted to take a giant leap towards the future in terms of data protection and availability and was looking for a hardware base for a virtualization project of the PFI data center in Pirmasens. PFI turned to IT-HAUS GmbH in Föhren, a licensed Fujitsu Channel Partner. „We developed a convincing concept," explains Dennis Jacobi, Sales Key Account HW/SW at IT-HAUS GmbH.   „We were able to replace the existing eight servers at PFI with one PRIMERGY BX400 Blade Server that we had fitted with three Server-Blades. That is good consolidation indeed." This means major electricity savings as only one server needs to be powered and not eight, as was the case previously. „The institute also has less waste heat which results in reduced cooling needs," Dennis Jacobi adds. „A Blade Server's compactness quickly pays off." Given the virtualization using VMware vSphere the IT environment's availability is also increased enormously.

| **The benefit** | **Products and services** |
|---|---|
| ■ Top space efficiency due to ultra compact and modular design<br>■ Easy and centralized monitoring of server, storage and network resources<br>■ High availability and flexibility<br>■ High scalability and state-of-the-art technology<br>■ Lower energy costs | ■ Blade Server: 1 x PRIMERGY BX400 S1with 3 x PRIMERGY BX920 S2 Server Blades<br>■ Storage system: 1 x ETERNUS DX80 FC<br>■ Backup: 1 x ETERNUS LT40<br>■ Operating system: Windows Server 2008 R2 Datacenter<br>■ Management software: Fujitsu ServerView Suite<br>■ Maintenance: Service Pack offering a 4h response time |

## More simple and compact IT thanks to Blade Technology

Owing to the PRIMERGY BX400 Blade Server, PFI can now extend processing power flexibly on a relatively small floor space while minimizing its energy consumption. High bandwidth is another asset as the Blade Server by Fujitsu uses, amongst others, 8Gb FC Technology. PRIMERGY BX400 offers a compact system that combines server, storage and network as a pre-integrated unit. Stefan Bold, Information Technology Manager at PFI, is very satisfied with this Blade system that was specially designed for the needs of medium-sized companies:

„Our IT has become noticeably faster. Due to this homogenous solution, we are now able to monitor everything centrally. Managing the system has become much easier. In addition it requires less space and fewer cables. Our data center looks great now."

The secret of PRIMERGY BX400 lies in a special edition of the server management solution ServerView that is included. It links the element managers for the Server Blades, the integrated network switches and the virtual storage unit thus allowing an integral look at the entire infrastructure. Everything from user management and IP address setup to storage integration can be combined using drag&drop. This clearly simplifies installation and administration.

## Resource extension made easy

„Exchanging hardware and extending it is made a lot easier given the combination of Blade Technology and virtualization," Stefan Bold says. „We have the possibility to add on another five Server Blades to the existing three – and we can do so while the system is running. The virtual machines can move from one Blade to another – without any problems whatsoever." This is when the improved energy management comes into its own as this PRIMERGY Blade Server allows for individual operation of the power input to the individual blades as well as to the main frame thus making the whole system even more cost efficient and flexible.

## Data security with SAN storage

By the way, the PRIMERGY BX400 Storage Blades would have also enabled the use of an integrated virtual storage appliance. However, PFI has chosen a greater, external storage solution: ETERNUS DX80 by Fujitsu, which is linked to the blade system via fibre channel. It is home to a comprehensive Oracle database, office and terminal server applications as well as the laboratory information and management system (LIMS) where PFI scientists can enter and administer their measuring and research results. „Just for performance

reasons we wanted to move from a pure disc solution to a real storage system," explains Stefan Bold. „The increased data security and the scalability effect are added values."

## ETERNUS grows with its storage tasks

ETERNUS DX80 by Fujitsu offers both. PFI initially equipped this storage system with six hard drives at 1 terabyte each and an additional six hard drives at 300 gigabyte each, in other words: 7.8 terabyte all in all. A total of 120 hard drives with a total capacity of 240 terabyte are possible. „What has convinced us is the possibility of an 8Gb fibre channel connection and the great price performance ratio," Bold states who also trusts in Fujitsu when it comes to his backup strategy. „Initially we create a backup-to-disk on a disk storage and then a backup-to-tape," explains Stefan Bold. To do the latter PFI has acquired an ETERNUS LT40 Tape Library, which is also connected via fibre channel and can be expanded to up to 24 tapes. „We have finally left the old and insecure hardware behind," the PFI IT-manager sums up. „These days I sleep very safely and soundly."

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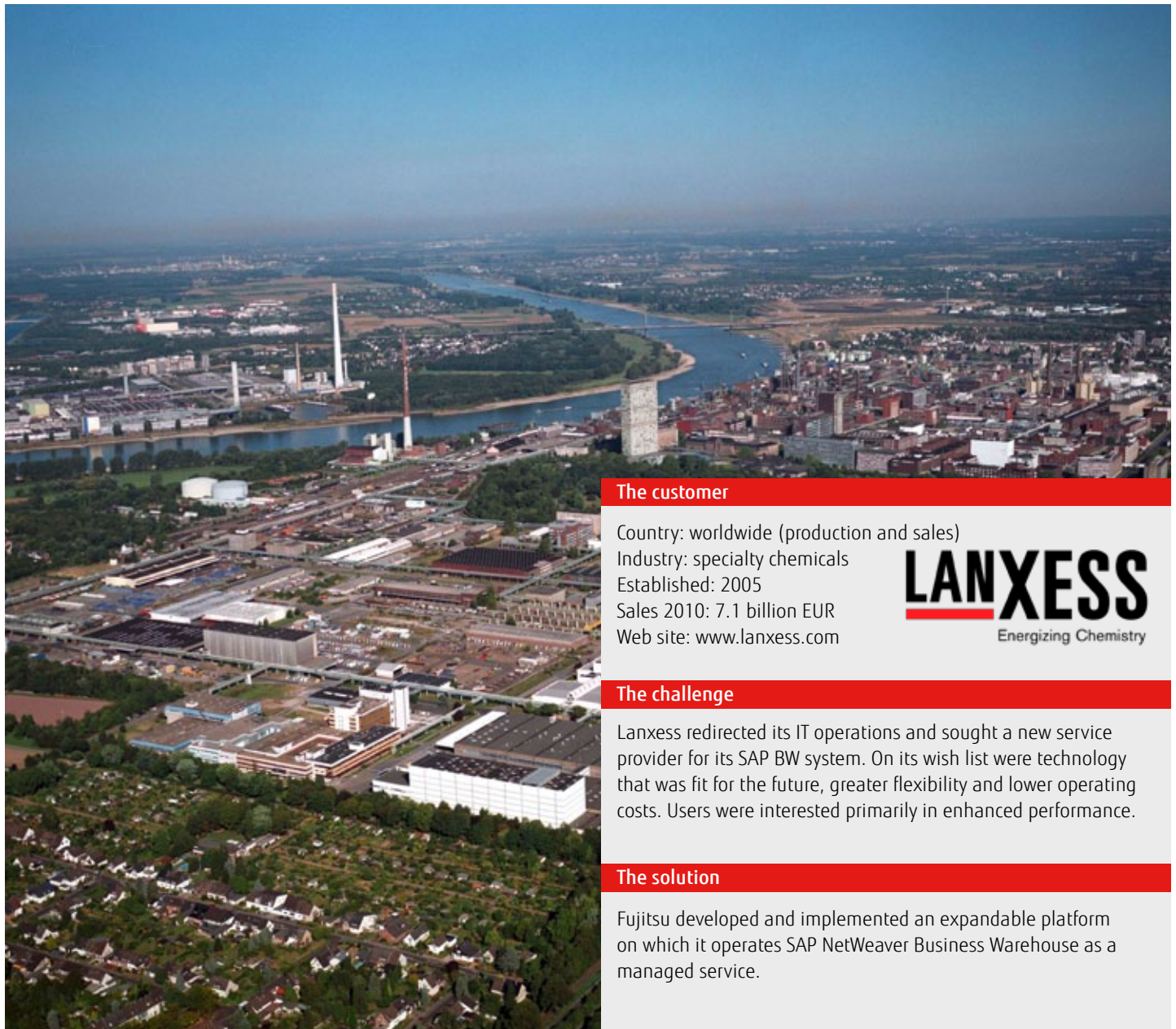# Content

# Services from the
# client to the data center

Whether the task is to quickly fuel IT workstations with software, store data safely on a cloud or design a high-tech data center – the services provided by Fujitsu are truly multifaceted.  On the following pages you can find out how insurance associations, a specialty chemicals group and companies from the construction industry have benefited from this.

# Case study
## Managed SAP BW for LANXESS

»We were convinced that Fujitsu completely understood our needs and what we wanted. The BW platform has been running flawlessly. Our users are very happy.«

**Heiner Hömberg, Head of Reporting Systems, LANXESS**



### The customer

Country: worldwide (production and sales)
Industry: specialty chemicals
Established: 2005
Sales 2010: 7.1 billion EUR
Web site: www.lanxess.com

### The challenge

Lanxess redirected its IT operations and sought a new service provider for its SAP BW system. On its wish list were technology that was fit for the future, greater flexibility and lower operating costs. Users were interested primarily in enhanced performance.

### The solution

Fujitsu developed and implemented an expandable platform on which it operates SAP NetWeaver Business Warehouse as a managed service.

## LANXESS

LANXESS is a leading producer of specialty chemicals. Nearly 15,500 employees in 30 different countries working at 46 production facilities assure that the company is present in every major market throughout the world. LANXESS is listed on the Frankfurt Stock Exchange and posted sales of 7.1 billion euros in 2010. Its core business is the development, manufacture and sale of plastics, rubber, specialty chemicals and semi-finished products.

### A new direction for IT

The reporting systems department reexamined how it was operating its SAP NetWeaver Business Warehouse (abbreviated SAP BW) system as part of a strategic reorientation of LANXESS IT. Several factors motivated the change and led to the engagement of a new service provider. LANXESS wanted to run its SAP BW systems with more flexibility, innovative technologies, and lower operating costs – without sacrificing service quality. Expectations also ran high in the line departments. Here, the demand was for better performance and around-the-clock availability.

### Managed SAP NetWeaver Business Warehouse

Fujitsu's approach was to develop up-to-date, innovative technology to create a scalable SAP BW platform. Fujitsu also furnished and installed the necessary hardware. SAP NetWeaver Business Warehouse runs as a managed system. Servers, storage and backup platforms with sensitive company data remain in LANXESS's own computing centers. Fujitsu operates the server infrastructure and provides storage and backup as needed. Fujitsu subsidiary TDS furnishes the basic SAP BW operation. The new platform means that LANXESS is ideally equipped to adopt new technologies. Fujitsu designed the hardware infrastructure so that it can serve as the basis for additional cloud services in the future.

### LANXESS - a young company with a long history

The history of LANXESS goes all the way back to 1863, the year in which Bayer was established. As part of its reorganization in 2005, the Bayer Group spun off most of its chemical business and about one third of its plastics business in the form of the newly established LANXESS. With its extensive portfolio, the spin-off focuses on premium products. Its core business comprises the development, manufacture and sale of plastics, rubber, specialty chemicals and intermediates. In addition, it supports its customers in developing and implementing made-to-measure system solutions. In these areas, which are at the very heart of the chemical industry, LANXESS has core expertise in the form of chemical and application-related know-how, flexible asset management and customer proximity. It aims to create added value for customers and for the business through innovative products, streamlined processes, and fresh ideas.

### Ready for continuous improvements

LANXESS: the name says it all. The name comes from combining a French word "lancer" – meaning to launch – with the English word "success". Together, the two words stand for the will to succeed and a readiness to renew constantly. The maxim runs like a thread throughout the entire company, touching upon every division – including IT.

### Modern numbers storage: SAP NetWeaver Business Warehouse

Monthly consolidated financial statements, budgets, projections, fore- casts, plus any number of reports – all the key figures of specialty chemicals maker LANXESS revolve around analyses by SAP NetWeaver

Business Warehouse. This is where all the information that is needed for consolidation and planning, from subsidiaries spread across the world, comes together. Around 1,700 users in 24 countries have access to the system and they demand rapid response times and high availability of their SAP BW systems.

As part of its strategic redirection, LANXESS reassessed the work performed by its previous IT service provider. Management highlighted three aspects in its invitation to tender. Modern technology, lower operating costs and more flexibility formed the criteria for the adaptability of the platform, the services, and the service levels. Users also entertained great expectations: enhanced performance, quicker response times, and a highly available system.

### Trust is everything

Fujitsu was by no means an unknown quantity for LANXESS. Both companies have a long and successful track record of cooperation, both in service and in consulting projects. Moreover, Fujitsu assumed responsibility for the entire European storage infrastructure at LANXESS in 2010 under a managed storage agreement. The positive experience from the past provided a solid foundation for partnering with Fujitsu again for the SAP BW platform and operations.

### A feeling of security: servers with sensitive data stay on site

LANXESS opted for managed services. Under this scenario, a service provider assumes responsibility for designing, furnishing, integrating and maintaining SAP BW. Fujitsu guarantees the operation of SAP BW, manages and maintains the SAP system base and databases. As part of the contract, the provider also assumes responsibility for backing up and recovering data after a system failure. And LANXESS can breathe easy: hardware with sensitive company data stays put in its data center. Fujitsu and TDS employees service the systems remotely. In case there is a problem, the staff is available around the clock, even outside the business hours of LANXESS headquarters in Germany. They speak whatever languages are necessary to assist within the scope of the service level.

# Interview with Heiner Hömberg
# Head of Reporting Systems, LANXESS



## »Fujitsu proved to be an expert and dependable partner in this project.«

*How important is the SAP BW system for LANXESS?*

The BW system represents the central reporting platform for the LANXESS Group all over the world. We also use it for consolidating and planning. The company considers it business critical.

*How does LANXESS use the SAP BW system on a global basis? Can you give us one or two examples of typical queries?*

The spectrum runs from detailed daily reporting to highly condensed reporting for top management. Most use revolves around reporting for the supply chain and for finance and accounting. We also use the system to determine the monthly consolidated financial statements, to do budgeting, and to make forecasts. SAP BW also serves as a major data hub in the company's global systems landscape.

*How many users are there and in how many countries?*

Currently approximately 1,700 users in all the different LANXESS subsidiaries and holdings worldwide have access to the system.

*What is genuinely important for you when it comes to operating the SAP BW system?*

That's easy: data quality, 24/7 system availability and performance.

*Why do you think it was necessary to adopt a new approach to the SAP BW solution?*

The previous solution was no longer up to date for three reasons: technology, service flexibility, and operating costs.

*Can you describe your strategic objectives?*

We wanted to standardize and modernize the server infrastructure with an eye to slashing our operating costs and making the system, the services, and the service level more adaptable to the constantly changing demands of our business.

*Why did you opt for Fujitsu?*

During the selection process, we were convinced that Fujitsu completely understood our needs and what we wanted. Their solution took our needs into account the best.

*What specifically are the benefits of the 'managed' approach for LANXESS?*

The system is located at the center of the global LANXESS network. As such, it has 'business critical' status. We were able to reduce significantly the imponderables and the risks that are associated with an external computing center such as the availability of sufficient bandwidth during high import and export volumes. We don't need to devote any LANXESS personnel to run the system professionally. The system that was set up for the SAP BW system, moreover, creates potential for synergy in that it is expandable and we can use it for hosting other systems. And you really can't overstate the feeling of security that the systems with sensitive company data stay on our facilities.

*What enhancements do you expect from the new systems and the managed services?*

For one thing, we are already seeing more efficient business processes due to greater flexibility and better performance, which has led in turn to greater acceptance among users. For another, we are doing our part to lower IT costs.

*How about the initial user reactions? Are the users happy with the way the project has turned out?*

The project ran absolutely according to plan. Any challenges that popped up in the course of the project were quickly settled thanks to the expertise of the people from Fujitsu. The feedback from users has been entirely positive. The median response times have diminished significantly; they are now one third of what they used to be under the old system. As a result, user satisfaction with the BW system has risen significantly. We have also been able to shorten time-critical loading processes to a third of what they used to be. As a result, data availability has improved considerably.

*What is your assessment of the collaboration with Fujitsu?*

Working with Fujitsu was very constructive and gratifying throughout the entire project, from the initial contact through the project itself to the operating phase today. Fujitsu also proved to be an expert and dependable partner in this project.

# »The feedback from users has been entirely positive.«

## Greatly accelerated business processes

Depending on the extent and the type, a query can take anywhere from a few seconds to several hours in SAP BW – a real test of patience under some circumstances. With the new solution, everything goes a lot faster. Users at LANXESS all over the world – whether in the USA, Brazil, Australia, China or at headquarters in Leverkusen – now benefit from response times that are only one-third compared to before on the average. Often a time-critical procedure, data loading now proceeds three times as quickly as before. Users around the globe enjoy enhanced performance as attested to by their unanimously positive feedback. They now benefit from shorter response times even during peak periods such as month-end or annual accounting periods when the system is particularly in demand.

## Ready for the cloud – the infrastructure also supports cloud services

The new platform is currently configured exclusively for the SAP BW system. However, the hardware infrastructure is so scalable that it can host other applications as needed. And should LANXESS wish to obtain SAP service from the cloud at some future date, the new platform will be able to handle that as well. In fact, it's cloud-ready even today.

## Pay as you go

Fujitsu also bills flexibly. Invoicing proceeds on a dynamic basis in the case of managed storage and managed backup services. The client pays per gigabyte consumed and a monthly flat rate per server used.

## Quality management included

LANXESS has a clear idea of any services rendered thanks to the monthly report that Fujitsu furnishes. The report covers such items as maintenance of the service level or down times. Fujitsu delivers the reports at monthly meetings that also provide a forum to discuss burning questions or talk about needed improvements..

## Just two months to get started

Fujitsu got the nod in August 2010 and the green light for the five-year project was given in October. Fujitsu experts installed the server and storage platforms in two computing centers at the LANXESS facilities in Leverkusen, Germany, guaranteeing high availability of the SAP BW system. Should one computing center not be available, the other center will assume operation of the SAP BW system. Once the databases were migrated from the old platform to the new system and testing was concluded, it was time for the moment of truth: the new platform went live on December 6, 2010

### The project at a glance

**Hardware Platforms**
- 2 x PRIMERGY BX900 Blade Chassis
- PRIMERGY BX924 S2 Blade Technology
- 2 x ETERNUS DX410 Storage Systems
- Scalar i500 Tape Library

**Software**
- SUSE Linux Enterprise Server
- SAP BW 3.5 + SAP SEM 4.0
- Oracle 10.2

| The benefit | Products and services |
|---|---|
| ■ Faster business processes<br>  ■ Response times cut by two thirds (on average)<br>  ■ Time-critical data-loading processes run three times faster<br>■ Greatly increased user satisfaction<br>■ Greater flexibility<br>■ System is available around the clock<br>■ Lower IT operating costs<br>■ Innovative IT platform can serve as base infrastructure for cloud services | ■ Managed SAP NetWeaver Business Warehouse Services, consisting of:<br>  ■ Server operation<br>  ■ Storage<br>  ■ Backup/Restore<br>  ■ SAP BW base operation<br>■ Design and implementation of a future-proof infrastructure platform, consisting of:<br>  ■ Blade chassis and blade servers from the PRIMERGY BX900 Series<br>  ■ ETERNUS DX410 storage systems |

**Expandable infrastructure saves money**

Should LANXESS require more performance in the future, it won't be a problem. The dynamic platform allows enough flexibility with dimensioning as needed. Even additional storage capacity can be added automatically while the system is up and running as soon as a predefined threshold has been exceeded. LANXESS pays only for as much storage capacity as it actually needs.

The use of ultra-modern server and storage technology also lowers energy costs and the $CO_2$ footprint. That's even more good news for an environmentally responsible company like LANXESS. Back in 2007 the company had set a target to reduce emissions of harmful gases in Germany by 80 percent by the year 2012. This goal was achieved ahead of time in 2010.

# Case study
## Cloud Services at VBH

»We calculated that a cloud service from Fujitsu is about 25 percent cheaper than operating the infrastructure ourselves.«

**Oliver Maisch, CIO, VBH Group**



### The customer

Country: Germany, sales worldwide
Industry: Distribution of construction fittings
Established: 1975
Sales: 880 million EUR
Website: **www.vbh.de**

### The challenge

Global growth required the VBH Group to update its IT infrastructure. However, expanding its IT landscape with new hardware coupled with opening new offices would have led to much higher fixed costs and a major overhead for IT administration.

### The solution

Fujitsu now operates the server, storage and security systems as cloud services based on PRIMERGY, ETERNUS and NetApp systems. VBH has saved 25 percent of its costs compared to running its own IT operation and has a flexible, scalable solution that is easy to roll out to their offices throughout the world.

### Hardware dealer VBH: "Simply everything. Everything simple"

Metal fittings are the business of VBH Group. For more than 35 years, the market leader in the distribution of construction fittings has been supplying manufacturers and builders with everything they need to make and install windows and doors. Today the company is represented in 40 countries with 3,000 employees working in 130 offices. Hence, the organization of global IT is a major factor in their success. VBH used to operate its own data center which served both Germany and its many offices abroad. However, the more its business grew, the more apparent it became for VBH that they just didn't have the personnel and hardware resources needed to keep pace. New IT capacities were required to support the existing and future business in a flexible and reliable way. According to their slogan „Everything simple", the IT management was supposed to be operated with minimal resources.

### Cloud services for flexible and affordable growth

In order to cut its fixed costs and keep its IT infrastructure flexible for future growth, VBH opted for cloud services instead of expanding its collection of servers. The major argument in favor of the decision was an internal ROI calculation showing that cloud service would be approximately 25 percent cheaper than operating its own IT infrastructure. The fact that VBH also wanted to expand its business to countries such as Italy and Russia was another factor in favor of the agile cloud service. In this case, the company would have had to employ skilled IT people at each site, train them, and invest heavily in local infrastructure. Therefore, VBH opted for the strategy to centralize its worldwide IT and entrust it to the cloud.

### IT Infrastructure-as-a-Service from Fujitsu

VBH now obtains its cloud-base server, storage and security services from Fujitsu. Fujitsu's bid was successful thanks to its convincing concept. It allows for the small IT team at VBH to maintain authority over business-critical in-house ERP applications. Fujitsu partner Raber+Märcker is responsible for application management of Dynamics NAV (Navision), Exchange and Web Shop as well as for second-level support, and acts as central contact for VBH. Currently 400 people at the European offices of the wholesaler work with the new infrastructure in the cloud comprising 60 servers. In accordance with the "Pay as you grow" principle, VBH will only have to pay for the capacity it actually needs for growth.

| The benefit | Products and services |
|---|---|
| ■ 25% cheaper than running its own infrastructure<br>■ Reduced fixed costs: buy services instead of new hardware<br>■ "Pay as you grow": only pay what you actually need for growth<br>■ Centralization of IT in a secure "trusted cloud"<br>■ More flexibility for growth without the need for more manpower<br>■ Simple connection of new offices in other countries<br>■ Capacity can be expanded at any time<br>■ Freeing up of personnel and financial resources<br>■ Concentration on core business<br>■ Business-critical knowledge remains in house<br>■ Conversion does not impinge on operations<br>■ Standardized services with constant quality | ■ Server as a Service: 60 virtual servers based on PRIMERGY and VMware<br>■ Storage as a Service based on ETERNUS and NetApp V-Filer<br>■ Backup as a Service: full backup in accordance with service levels<br>■ Security services: anti-spam, anti-virus, Web mail, etc.<br>■ Application management for such ERP applications as Navision, Exchange, WebShop, etc. (handled by Raber+Märcker)<br>■ Citrix XenApp server farm for 400 users with mobile worldwide access (handled by Raber+Märcker)<br>■ Flexible IT infrastructure in the cloud<br>■ Storage systems provided for the migration<br>■ Consulting, design and implementation in close cooperation with Raber+Märcker |

## Smooth migration thanks to virtualization and service

The fact that VBH already operated the Navision application, plus all the servers it required, on a completely virtualized platform was good preparation for the migration of data from the old computing center to the cloud. All the company's data was first mirrored onto NetApp storage devices into the cloud in mid-April 2011 while a redundant backup was created in Fujitsu's new computing center. Doing so rendered it unnecessary to move any hardware. The IT team was able to perform thorough testing before throwing the switch to finally shut down the old infrastructure. Users did not notice the two-and-a-half month migration process at all in their daily work because the conversion occurred in steps, system by system, location by location in brief half-hour segments. Just a few infrastructure parameters had to be modified, such as the firewall settings, the modification of the IP addresses or the setup of VPN connections. The former servers had a direct connection to the Internet but the cloud solution makes use of secure proxy servers. "There are always challenges in any project of this kind," says Oliver Maisch, CIO at VBH. "The main thing though, is that the people at Fujitsu and Raber+Märcker react quickly and come up with a good solution. Our experience has been very good."

## Security and Storage as a Service

VBH also reconsidered Web and e-mail security in the course of the project. Whereas formerly a self-operated anti-spam and anti-virus appliance kept junk data at bay, a security service now does duty. All spam administration, virus checks and updates now run through external security service providers. The wholesale company pays no additional licensing fees nor does it need any additional administrative work. Security was just as much of the complete solution as were storage as a service and backup.

## Expansion without IT limits

Currently 400 people in the European VBH offices are working with the cloud services. Further offices in Russia and other countries are expected to be added next year, which will double the number of users to 800. The regular training sessions for staff that purchasing of new systems and connecting them to the existing infrastructure would have necessitated, would have exceeded the time budget disproportionately. Now thanks to the cloud, expanding IT services to the new offices will be possible without any great effort. "What's more," says Maisch, "managing hardware is not our core competence. Instead,

our competence lies in the business processes behind the hardware." Maisch is very comfortable, after one month of live operation, with the level of collaboration with his service providers. "In order to implement a project of this size successfully, chemistry has to exist between the people in charge. It has been our experience that the better the advance planning, the easier it is to implement a project like this." The VBH CIO recommends taking things step by step. "It is better to convert systems or companies one after the other and then perform thorough testing, instead of trying to do everything at once."

"Our goal was to free up resources and cut fixed costs for infrastructure. We definitely accomplished that goal with the aid of cloud service from Fujitsu."
Oliver Maisch, CIO, VBH Group

**Partner**



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# Case study
## German Insurance Association (GDV)

»More than three decades of experience and excellence in data center operation have tipped the scales in favor of Fujitsu. Owing to their comprehensive consultation provided within the scope of the Data Center OPTIMIZATION Services, we now operate with maximum security and efficiency.«

**Thomas Fischer, Head of IT Department, GDV**



### The customer

The Berlin-based German Insurance Association (GDV) is the umbrella organization for private insurers in Germany.
**www.gdv.de**

### The challenge

To create a high-availability data center at the Hamburg site of the GDV. The customer required consulting services that would provide a sustainable solution to enhance the efficiency, security and high availability of its IT environment.

### The solution

The Data Center OPTIMIZATION Services provided by Fujitsu have enabled the GDV to put a new data center into operation that is adapted to the latest technological developments and meets extremely high security standards.

### Private insurers under one roof

The German Insurance Association (GDV) stands for risk protection, security and provisions in all areas of private and public life. It makes risks calculable and financially feasible for the individual through long-term risk transfer arrangements. It represents a vital foundation for economic action. The Berlin-based GDV is the umbrella organization for private insurers in Germany. Its 466 member companies with approximately 218,000 employees and trainees offer comprehensive coverage and provisions to private households, trade, industry and public institutions through approximately 450 million insurance contracts. As a risk taker and major investor with an investment portfolio of approximately 1.2 trillion euros, the insurance industry plays a vital role in investments, growth and employment in the German economy. The GDV represents the positions of the German insurance industry vis-à-vis society, politicians, businesses, the media and academia.

### Highest requirements for the data center

The mission of the GDV also includes providing the insurers with comprehensive IT services which, in turn, result in high requirements for the Hamburg-based data center of the association. "In a way, we operate a data clearing center for member companies of the GDV," explains Thomas Fischer, Head of the IT Department at the GDV. "The application process for supplementary payment assistance within the Riester pension scheme, for instance, is fully electronic. The challenge here is to interlink approximately 150 different insurers with one authority. Lest each insurer set up an individual interface to an authority, we standardize the necessary interface within our association and collect the data centrally via our GDV network. From there it is transferred according to the authority standards." Moreover, the GDV generates a large number of statistics concerning tariff calculations, regional categories and type categories. "We collect data from all insurers and generate comprehensive statistics from them," says Fischer. "And then we make the results available to our member companies."

# Data Center OPTIMIZATION Services combine efficiency with high availability

### Millions of data records

It is obvious that these services involve an immense data load. However, that alone does not make the data center of the GDV a mission-critical facility: "In the statistics divisions we are talking about more than 600 million data records that are processed here every year. In vehicle registration we deal with over 10 million. That amounts to several Terabytes per month that aren't, in fact, stored permanently, but nevertheless flow through our data center," Thomas Fischer continues. "We deal with highly sensitive personal data – therefore our IT environment has to be absolutely safe." Fischer's 60-employee-strong IT team predominantly works with robust Fujitsu systems – however, stable hardware alone is not enough to meet the highest security standards.

For this reason the GDV opted for an external analysis by Fujitsu. Within the scope of Data Center OPTIMIZATION Services, the IT infrastructure provider offers comprehensive consulting services.

### Precise air flow simulations

Since Fujitsu offers individual consulting packages at a fixed price, the GDV has been able to book exactly the kind of service required to get a deep energy and security retrofit. The consulting package "Facility Readiness Assessment", for instance, is tailored to increase the efficiency of the data center already in the planning stage. Each consulting package is based on a thorough analysis that is carried out by Fujitsu.

»Compared to the previous solution we have been able to cut operating costs by 75 percent. And, at the same time, the Fujitsu Media Portal has become faster and more efficient. As you see, the transition to IaaS has been more than profitable for us.«

**Patrick Böning, Head of Fund Management, Fujitsu Technology Solutions**
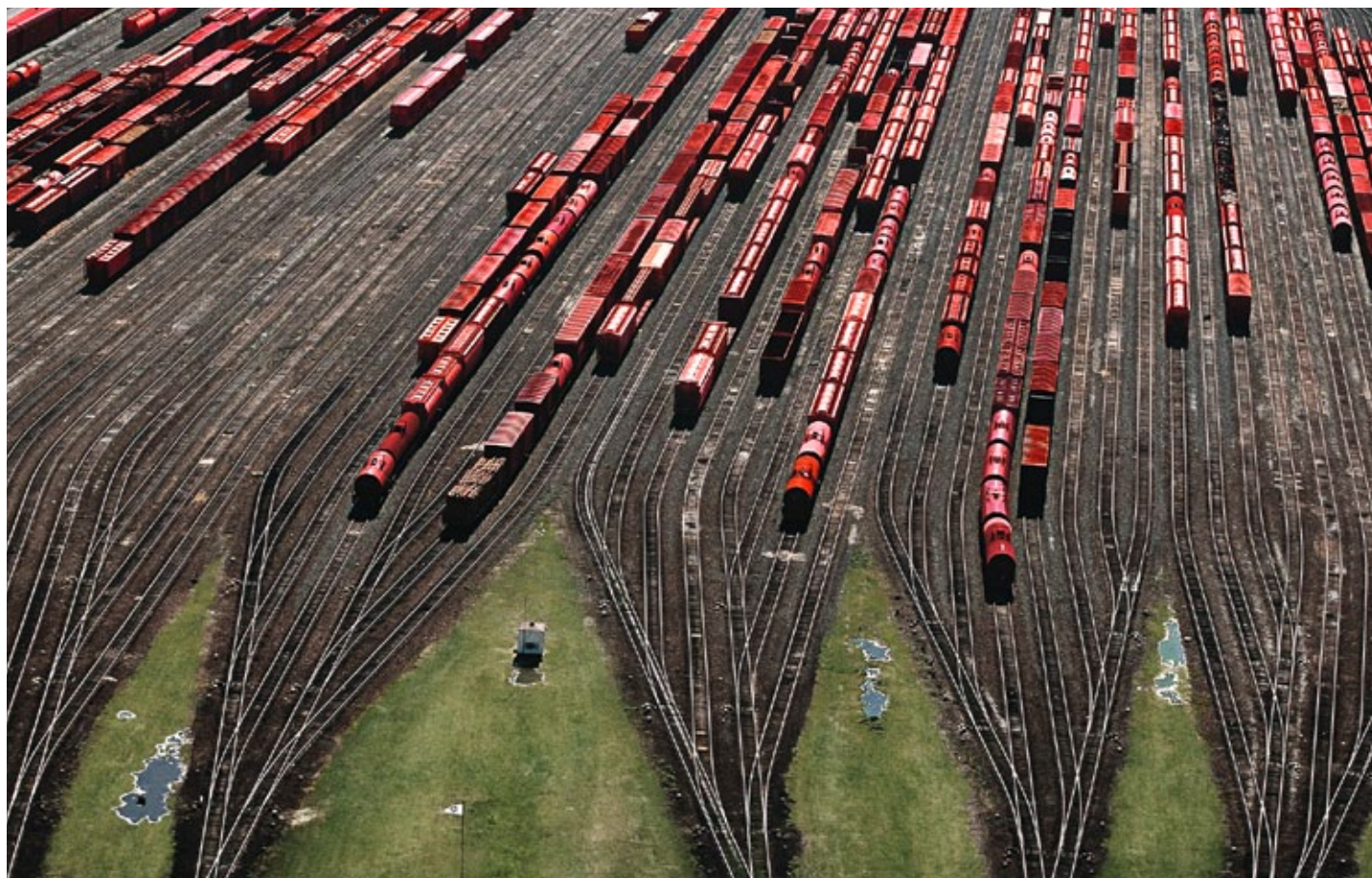


Hence, it became clear that a straightforward implementation of the security retrofits would not be feasible at the existing location of the data center. "In close coordination with Fujitsu, the GDV decided to relocate the entire data center," explains Frank Jensen, member of the OPTIMIZATION Services team at Fujitsu. "And so it happened that the data center with its existing hardware was moved into a new office building. "When it came to setting up the servers Fujitsu deployed an important element of the "Facility Readiness Assessment" package, namely powerful simulation software for 3D Computational Fluid Dynamics. "With this tool we are able to simulate the operational reliability of a planned data center in terms of airflow and to reveal potential hotspots early in the pre-planning stage," says Jensen. "Otherwise there is a risk that certain areas of the data center will overheat." With this software it is possible to create a fully detailed virtual 3D model of the planned data center including the individual airflow of all servers.

"In terms of lost heat, we are able to produce, so to speak, true-to-life simulations of every single server model," says Frank Jensen.

### Consolidated expert knowledge

Companies can call upon Fujitsu's consulting services, irrespective of their individual hardware equipment. "Typically, many companies are predominantly concerned with energy savings," says Jensen. "However, our Data Center OPTIMIZATION Services are no longer limited to energy efficiency solutions. Our consulting concept goes even further, as it is a vital concern to identify as many security vulnerabilities in a data center as possible – and to eliminate them." The GDV has truly benefitted from the consolidated expert knowledge of the Global Fujitsu Group. "It is important to create sufficient redundancies," explains Frank Jensen. "In fact, it is not uncommon for companies to put a device, which is officially declared as a redundant air conditioning unit, into permanent

productive use – an example of what is liable to happen when data centers grow out of control."

## Controlled growth

However, at the GDV data center this coincidental deployment of devices has become a thing of the past. The new data center is operated on a floor space of 175m², only 120m² of which are presently occupied. The new premises are designed for additional growth. The individual potential expansion stages clearly define at which server density level an additional air conditioning unit must be added. Presently, the new data center houses 100 servers in about 30 19-inch server racks with an expansion potential of up to 60 racks. "Together with Fujitsu we have made our data center future-proof. In other words, we won't have to consider any further constructional measures for a few years," Thomas Fischer notes with satisfaction. "Our concept is designed for rapid growth by simply adding air conditioning units – all you need to do is to connect the required expansion units!"

## 24/7 monitoring

Since the start of operation in the new data center, the heat dissipation has been monitored 24/7. The data center is extensively equipped with thermostats so that Fischer's team can monitor the thermal situation of the aisles from every conceivable angle.

"We can immediately detect the slightest dysfunctions, for instance, if the return air of a certain server rack is not quite optimal. The thermostats are integrated into our monitoring system, consolidated in a single tool. In case of extreme fluctuations our administrators and stand-by staff immediately receive a warning message."

## Comprehensive protection against intrusion and sabotage

The GDV is now protected against virtually all threats. The consulting workshops were able to develop comprehensive protective measures to meet the requirements of the insurance association. The concept focused on the protection against intrusion and sabotage as well as on operational redundancies and energy efficiency. As a result, the GDV data center has been equipped with extra resistant wall reinforcements, motion detectors, electronic door surveillance, safety lock functions and sensors for early fire detection. All servers are provided with double power supplies, the UPS systems also exist twice and an emergency generator is ready to guarantee seamless power supply in case of power failure. Moreover, the member companies are connected with the data center via the secure GDV data network. The GDV was awarded a certification for its high availability by the German Agency for Security in Information Technology (BSI).

## Future reliability of the data center

"Fujitsu offers its consulting packages at an excellent price-performance ratio – and the results are truly impressive," Thomas Fischer summarizes. "Fujitsu has unfolded field-proven concepts that are grounded on more than three decades of experience in data center operation. This expertise has played a crucial role for us." As Head of the IT Department, Fischer's main concern was the future reliability and risk-free expandability of the data center. "Thanks to the analytic and simulation tools that will be added now, we will always be able to carry out what-if scenario analyses before we actually integrate additional systems into a server rack and assess the related impact. This will facilitate our work tremendously and guarantee that any unpleasant surprises are avoided."

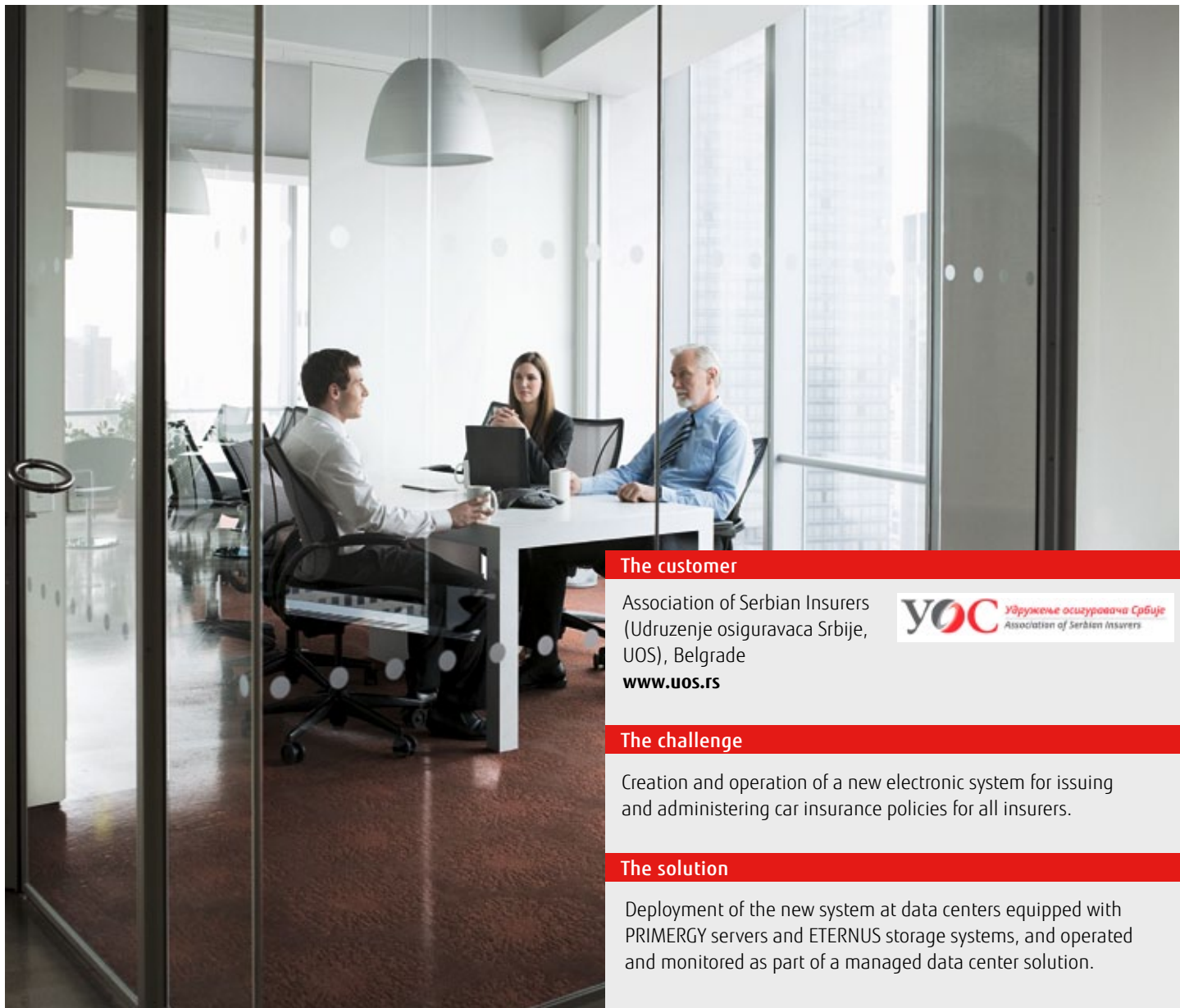| The benefit | Products and services |
|---|---|
| ■ Maximization of the data center's energy efficiency<br>■ Improvement of the power supply and cooling efficiency<br>■ Higher availability due to comprehensive risk analysis<br>■ Higher planning reliability due to exact simulations | ■ Fujitsu Data Center OPTIMIZATION Services<br>  ■ Facility Readiness Assessment<br>  ■ Facility Energy Certification<br>  ■ Facility Risk Assessment |

# Case study
## Association of Serbian Insurers (UOS)

»In this project, Fujitsu demonstrated its competence and trustworthiness as a partner, working with Orion Telekom to deliver and implement a technologically and economically persuasive concept that fulfills our requirements.«

**Milan Curcic, QMS and Project Manager**

### The customer

Association of Serbian Insurers (Udruzenje osiguravaca Srbije, UOS), Belgrade
**www.uos.rs**

### The challenge

Creation and operation of a new electronic system for issuing and administering car insurance policies for all insurers.

### The solution

Deployment of the new system at data centers equipped with PRIMERGY servers and ETERNUS storage systems, and operated and monitored as part of a managed data center solution.

| The benefit |
|---|
| ■ Relief from investments needed to provide and maintain resources for running the data centers<br>■ Freedom to focus on core activities<br>■ Reliability based on a highly available, secure and simple infrastructure<br>■ Low-cost operation thanks to cutting-edge technology that offers high energy efficiency<br>■ Clearly defined responsibilities under service level agreements that can be extended flexibly<br>■ Maximum fault tolerance with two data centers connected directly to each other at different locations |

| Products and services |
|---|
| ■ Equipment:<br>Data center in Belgrade: 4 x PRIMERGY RX200 S6;<br>1 x RX100 S5; 1 x ETERNUS DX410 storage system<br>Data center in Novi Sad: 2 x PRIMERGY RX200 S6;<br>1 x RX100 S5; 1 x ETERNUS DX410<br>■ Operating system: Microsoft Windows Server 2008 Standard and Enterprise<br>■ Database: Microsoft SQL<br>■ Services: Managed Data Center Services in partnership with Orion Telekom for operating, monitoring and supporting UOS's data centers and networks |

## Improvement and development of insurance

The Republic of Serbia has some eight million inhabitants, of whom two million live in the capital city of Belgrade, where the Association of Serbian Insurers (UOS) is headquartered. The association is funded and controlled by insurance companies and the Serbian government, which is represented by the Ministry of the Interior and the National Bank. The Association of Serbian Insurers is a non-profit organization and carries out tasks of common interest of the members of the Association, public authority established by law, work for the improvement and development of insurance, activities in the field of professional training of personnel, launches initiatives to enact and amend laws and regulations in the insurance industry and discusses and resolves other issues of common interest, delegated to the Association by the founders and members.

## Disaster protection based on two data centers

The primary task of UOS's approximately 50 employees is to control and assist all the insurance companies operating in Serbia. In addition, the association provides central services for all car insurance providers in Serbia. This means, for example, that anyone who purchases car insurance in Serbia receives the policy from the association's data center. To enable this, a new electronic system was developed and a new IT platform was created to operate that system. The solution is based on two data centers. One of them is located in Belgrade and is responsible for the primary operational activities. A second data center in Novi Sad, 80 kilometers away, ensures disaster protection and takes over if the system in Belgrade is down. The insurance companies and their agents, the Ministry of the Interior and the National Bank are all connected directly to the data center. The association outsources technical operation of the data centers. "We invest in their equipment, but management of their operation has been delegated externally so that we have the freedom to focus on our core activities," says Milan Curcic in explaining this decision. He manages the ambitious project and in this capacity he also played a major part in choosing the partners to implement it.

## Fujitsu and Orion: Strong partners with a persuasive concept …

Fujitsu and the Serbian telecommunications service provider and fixed-network carrier Orion Telekom won the contract together in the face of strong international competition. The teams from both companies impressed UOS with a concept that included provision of the hardware as well as Managed Services for data center and network operation and end-to-end optimization services. Branko Ilic, who looked after the project for Fujitsu as a Technology Specialist for Storage and Solutions, notes the particular advantages of Fujitsu's approach:

a detailed analysis of the customer's requirements as the starting point for

■ a smart concept tailored to and focused on those requirements, and
■ a simple, user-friendly infrastructure that was superior to that of the competition.

## … and expert consulting

From the outset, Fujitsu acted as an expert adviser to the customer, devoting itself to solving UOS's problems from a vendor-independent perspective. The bidders taking part in the selection process did not receive any concrete specifications from UOS. Instead, the association expected a solution that best met its requirements technologically and in terms of cost effectiveness – and Fujitsu supplied the most suitable concept at the best value for money.

## Reliable around-the-clock operation

The hardware that keeps the association's two data centers up and running comprises PRIMERGY servers and ETERNUS storage systems. Their operation is controlled and supervised through Managed Data Center Services that include system monitoring, preventive error analyses, performance monitoring and proactive maintenance, as well as control of and support for the network and communication connections. These services are provided in cooperation with Orion Telekom and are based on service level agreements under which around-the-clock maintenance must be provided seven days a week. If new or greater requirements emerge in the future, they will be easy to master: built-in flexibility means that the new infrastructures and services can easily be adapted to the insurer's needs.

# Case study
## Efficient E-Mail Functionality for Rockwool

»Fujitsu's Efficient E-Mail solution let us reduce the size of our Exchange environment by two-thirds.
An the backup and restore functions are user focused, much faster, and also cheaper.«
**Flemming Bonnesen, IT Project Manager, Rockwool Denmark**



### The customer

Country: Denmark
Industry: Building and construction
Incorporation: Over 75 years ago
Employees: 7,800
Internet: **www.rockwool.com**

### The challenge

Deployment of intelligent and efficient e-mail and storage management.

### The solution

The Efficient E-Mail Solution from Fujitsu based on EMC Centera and SourceOne E-Mail Management.

| The benefit | Products and services |
|---|---|
| ■ Reduced costs due to gain of 2.7 TB in capacity in the Microsoft Exchange environment<br>■ Fast backup and recovery through storage of e-mails and PST files of 4,000 users<br>■ Employees can quickly locate deleted files in the archive without assistance<br>■ Full-text search functionality to access e-mails and attachments in the archive | ■ 1x EMC Centera<br>■ 1x EMC SourceOne Email Management<br>■ Services: Fujitsu Efficient E-Mail Services |

## The Rockwool Group

Rockwool has been involved in the production of stone wool for over 75 years. Today, the group ranks among the world's leading producers of insulation materials. With some 7,800 employees based in more than 30 countries, Rockwool provides customers worldwide with stone wool products and solutions. The group's success is based on commitment to research and development that has consistently resulted in superior technology and products. Of course, the group's IT resources have contributed to this track record of success.

## An uncontrolled flood of data

Data growth can make it impossible to keep pace with exploding volumes of information, and that represents a major challenge for IT decision-makers. After all, an uncontrolled flood of data not only ties up expensive server capacity but also generates needless expense. And that's the problem the Rockwool Group was faced with. The group was producing data at a rate that had taken on critical dimensions, especially in the Microsoft Exchange environment, where the growth curve had reached 40 % per year, Of course, that also meant an explosive increase in costs. Rockwool decision-makers recognized the necessity for improvement and looked for a new way to manage the Exchange area. And that's when they decided to partner with Fujitsu and EMC, who offered leading-edge expertise plus a convincing solution – Efficient E-Mail with EMC SourceOne Email Management and Centera for content-addressed storage.

## A systematic approach to storage

Deployment of Centera and EMC SourceOne Email Management meant a marked improvement in e-mail storage for Rockwool. Centera gives the client a capacity of between 16 and 128 terabytes for long-term storage. The disk-based archive is the ideal solution for long-term retention of fixed content. Centera is a highly scalable storage system that is the perfect choice for solutions that enable Internet access to huge data volumes that have grown over time. Rockwool now benefits from seamless and economical access to its archived e-mail data and now has its constantly expanding information environment under control. Backups are also much faster than ever before.

## Less is more

Rockwool's experience is typical of that of many companies. Explosive growth can make it difficult or even impossible to manage e-mail data. And this can happen despite the fact that a company's users actively use only two percent of this volume of data. The rest of the data not only takes up space but also ties up valuable server resources at the same time. When Rockwool's IT decision-makers realized that they were faced with this problem, they took action. What they decided to do is systematically use intelligent technology to improve data storage. These goals translated into the following activities:

■ Consolidation of the entire Exchange environment
■ Creation of a central e-mail archive
■ Reduction of volume of e-mail data generated
■ Savings in the area of data protection and storage

## Fujitsu and EMC Deliver the solution

The combination of the EMC Centera integrated hardware and software system and SourceOne Email Management has enabled Rockwool to eliminate the problems associated with large volumes of fixed content. The company now again has 2.7 TB more storage capacity on its Microsoft Exchange servers. The reduction of approximately 70 percent in data volume results from the fact that only active e-mails require storage capacity, and archived e-mails are available online.

## Rockwool opts for intelligent E-Mail Archiving

Rockwool's management was very satisfied with the outcome of the project. Their co nfidence in the quality of the service and technology offered by Fujitsu – especially in connection with EMC – paid off. Flemming Bonnesen, who managed the Exchange project for Rockwool, cited an example to show what a big difference the new solution made:

"The solutions from Fujitsu and EMC enabled us to immediately eliminate 2.7 TB of e-mail copies and attachments from our Exchange server environment."

This savings effect is based on the principle of storing a single file at a central location instead of several hundred distributed files. This new approach makes it possible for the Rockwool IT department to offer better services. In addition, every user can access files previously stored in the archive. The "data cleansing" process carried out in the Exchange area has also had a positive effect in terms of economy since this resulted in a reduction in expenses.

# Case study
## Amadeus maintains service quality with Fujitsu

»All operations are performed by the experienced Fujitsu team without interfering with business continuity.«

**Nil Canal Gezen, General Manager, Amadeus Turkey**

### The customer

Country: Turkey
Sector: Tourism
Founded: 1987, Turkey 1994
Staff: 10,100 worldwide
Website: **www.amadeus.com.tr**

**amaDEUS**
Your technology partner

### The challenge

- Meeting the IT needs of leading companies in the tourism sector served by Amadeus.
- IT system management, procurement of computers, and maintenance work on these computers, which are replaced periodically.

### The solution

One of the leading global companies for tourism services, Amadeus, relies on Fujitsu for the quality of its operations in Turkey.

## The benefit

- Amadeus ensures the professional management of the clients' IT systems.
- The procurement of computers via leasing leads to cost reduction.
- The periodic replacement of leased computers enables clients to benefit from up-to-date technologies.
- Installation and maintenance operations carried out on-site save time.
- Problems that may interrupt business continuity are prevented.
- Prompt interventions by the technical team ensure a high level of customer satisfaction.

## Products and services

- Fujitsu Managed Maintenance
- Fujitsu Financial Services

### Leading transaction processor for the global travel and tourism industry

IT infrastructure is critical today for maintaining business continuity. Due to errors or problems that may be encountered in these systems, companies can lose millions of dollars, depending on their volume. This highlights the significance of the management, maintenance, and control of these systems. Providing services to the tourism sector on a global scale, Amadeus has a significant position as the market leader in this widespread sector in Turkey. Operating in Turkey since 1994, Amadeus has gained attention as a successful company, bringing together service providers with service marketers in the tourism sector. Amadeus stands out thanks to its services within the aviation sector in Turkey, with continuously increasing passenger figures, and the provision of automotive and hotel products. The dynamism of the sector renders the concept of business continuity more significant than ever. Amadeus provides a successful response to this dynamism through its cooperation with Fujitsu.

### Maintenance and financial services by Fujitsu

Amadeus procures the computers needed for servicing its clients through Fujitsu. The procurement of computers is performed on a leasing basis and all computers are replaced every 36 months, thereby ensuring compatibility with up-to-date technologies. In addition to the procurement of products, Fujitsu carried out maintenance work on the computers used by travel agencies and provides technical support. All maintenance and replacement activities for Amadeus are performed on-site, ensuring the business continuity of current operations. Consistent, high-level customer satisfaction is achieved thanks to the provision of rapid support. As part of this cooperation, the replacement of computers for which the lease period has expired is carried out by Fujitsu's experienced technical team rapidly and without disrupting business continuity.

### On-site system for Amadeus

Amadeus serves its nationwide clients using Fujitsu computers. Computers leased from Fujitsu are installed at client locations by the Fujitsu technical team through an on-site system. Under the scope of the service contract, the Fujitsu technical team addresses any problems that may occur, undertakes all periodic maintenance and re-

solves all IT system issues for Amadeus clients. The majority of the computers procured by Amadeus through Fujitsu are desktop computers. Amadeus Turkey General Manager Nil Canal Gezen says that they are expecting growth to follow the development of the sector in the future. Assuming that the sector maintains its current growth rate, portfolio growth of 7-10% is expected.

### Nation-wide maintenance work

Amadeus Turkey General Manager Nil Canal Gezen evaluates its cooperation with Fujitsu as follows: "It is very important for us to install our clients' computers and render them operational as quickly as possible. Our clients would like their computers to be quickly replaced and made operational. Wherever computers are used, time means money. The Fujitsu team's ability to respond promptly prevents any delays, which is important to us. We have been working with Fujitsu since our foundation in 1994. Thanks to the synergy generated by our cooperation, all of the necessary processes are completed by the Fujitsu team without any problems. Fujitsu carries out computer maintenance work nation-wide, without any regional exclusions. We know that when Fujitsu's technical team visits a client, the problem will be resolved. It empowers us to work with a partner like this."

### High level of customer satisfaction

Amadeus has been working with Fujitsu since 1994, when it began its operations in Turkey. Amadeus procures the computers needed for servicing its clients through Fujitsu. The computers are procured on a leasing basis and all of the computers are replaced every 36 months, thereby ensuring compatibility with up-to-date technologies. In addition to the procurement of products, Fujitsu carries out maintenance work on the computers used by travel agencies and provides technical support. All maintenance and replacement activities for Amadeus are performed on-site, ensuring the business continuity of current operations. A consistent high level of customer satisfaction is achieved thanks to the provision of rapid support. Under the scope of the contract, the computers for which the lease period has expired are replaced by the experienced Fujitsu team in a manner that does not disrupt business continuity.

# Case study
## Fujitsu Technology Solutions reduces operating costs with dynamic cloud services

»Thanks to Infrastructure-as-a-Service our hosted Media Portal database has become fully transparent. In addition, this service is our key to operational agility as its elasticity enables the flexible scaling of subscribed computing capacity upon demand.«

**Patrick Böning, Head of Fund Management, Fujitsu Technology Solutions**

### The customer

Fujitsu Technology Solutions, Europe's leading IT infrastructure provider, employs 13,000 people and is part of the Global Fujitsu Group.
ts.fujitsu.com
mediaportal.ts.fujitsu.com

### The challenge

Fujitsu needed to replace its inelastic outsourcing concept by a more flexible and cost-efficient cloud solution along with a complete redesign of its Media Portal that journalists, advertising agencies, distribution partners and employees can consult for downloading purposes.

### The solution

Infrastructure-as-a-Service (IaaS) within the scope of Fujitsu dynamic cloud services.

### Europe's leading IT infrastructure provider

Journalists interested in reporting about Fujitsu Technology Solutions are referred to the Fujitsu Media Portal just like distribution partners and advertising agencies that require, for instance, product images or photos of the CEO of Europe's leading IT infrastructure provider. Also other marketing material such as flyers, video clips and company logos can be downloaded here. And with "Dynamic Infrastructures" as their strategic roadmap, Fujitsu Technology Solutions, headquartered in Munich, offers a comprehensive portfolio comprising IT products, solutions and services that add to this rich source of information. Their offer is geared towards big businesses, SMEs and private customers in all key markets of Central Europe, the Middle East, Africa and India (CEMEA&I). Fujitsu Technology Solutions presently employs more than 13,000 people and is part of the Global Fujitsu Group.

### Flexible data center resources

Since the Fujitsu Media Portal had been serviced externally through an inelastic outsourcing concept for many years, the company was now searching for a new solution. So far, the 25,000 individual marketing materials ranging from company logos to trade show videos had been stored on three different databases that were hosted at a fixed rate based on a long-term contract commitment: "We wanted to become more flexible," explains Patrick Böning, Head of Fund Management at Fujitsu Technology Solutions. "And that was simply not possible with our previous hosting environment." Böning was searching for a cost-efficient concept with pay-as-you-go service billing based on actual resource requirements. At the same time the re-launch of the web portal was on the agenda coupled with the development of new functions. For the development services Fujitsu has relied on DEKKON GmbH based in Munich and Berlin. Regarding operational management Patrick Böning has opted for Infrastructure-as-a-Service (IaaS) – a concept Fujitsu offers within the scope of its dynamic cloud services.
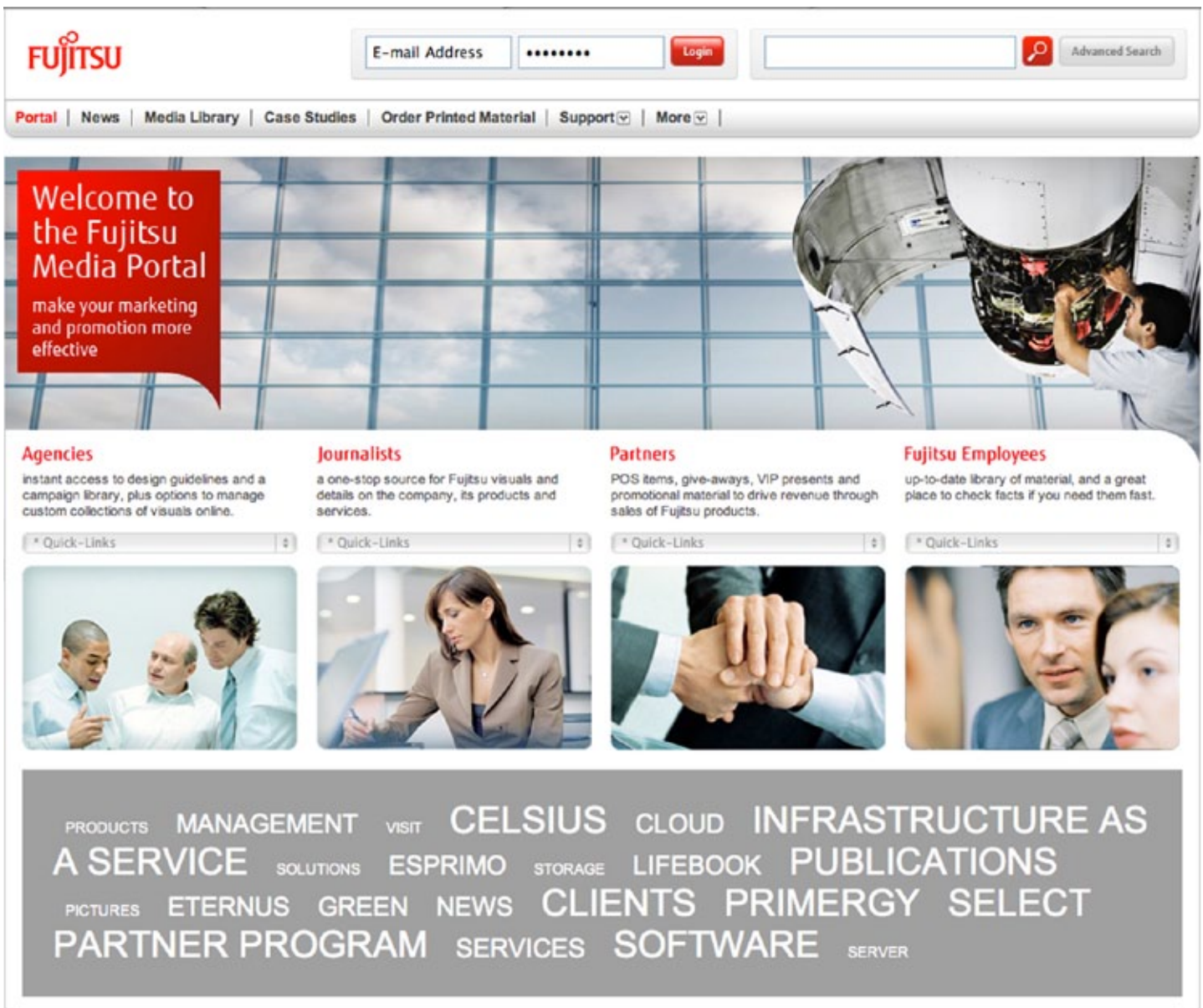
# Every IaaS customer is provided with an individual virtual data center

**Upgraded performance**

From three to one: In the meantime the three databases of the Media Portal have been consolidated. This clearly alleviates database management and enhances the quality of the search results. DEKKON GmbH is responsible for the redesign, implementation and operation of the new portal: "We are directly linked to the IaaS solution to perform our maintenance tasks that include the updating of software components," explains Tomas Kiesow, Manager at DEKKON. "The performance of the portal has been upgraded appreciably.

36 images per page are a thing of the past. Today it is possible to display 240 images per page without causing bottlenecks." The Fujitsu Media Portal attracts approximately 180,000 hits per day.

**Speed and transparency**

Presently the total data volume, amounting to 400 GB, is now stored in a Fujitsu data center that hosts the data of all IaaS customers and is monitored by professional IT service experts 24/7. Patrick Böning has subscribed to the "economy storage" package

»Compared to the previous solution we have been able to cut operating costs by 75 percent. And, at the same time, the Fujitsu Media Portal has become faster and more efficient. As you see, the transition to IaaS has been more than profitable for us.«

**Patrick Böning, Head of Fund Management, Fujitsu Technology Solutions**

with an initial computing capacity of 0.5 TB. "What has convinced me is the speed of the systems – and this has significantly outperformed the previous solution," says Böning. "We didn't use to have a very precise idea of our data volume. Now, however, we know exactly what we are talking about and are able to react accordingly. And the IaaS team is readily available to provide specific reports. Now we can assess if it actually pays off to subscribe to more computing capacity when new marketing material is added, or if it makes more sense to delete obsolete data in order to remain within the existing package limits." This level of transparency was not available in the past and it presents one of the true strengths of IaaS.

### Highest security standards

Then there is also the basis of trust that looms large in cloud services. "We offer a trusted cloud with the highest security standards," explains Daniel Quilitzsch, IT Service Architect and one of the persons responsible for IaaS at Fujitsu. "Every customer is provided with an individual data center that is completely sealed off from the areas of

other customers. All data streams are encrypted. Thus, the customer always maintains control over administrative access." For instance, the data may be encrypted – and only the customer may dispose of the data key. In addition, various ISO certifications confirm the high security requirements pertaining to information technology, environmental compatibility and transparent quality management. Fujitsu regularly undergoes external ISO audits to review these standards. In the context of network security Fujitsu operates state-of-the-art security systems such as multilevel firewall concepts and multilevel malware protection on Client and server systems. An internal network scan offers top protection against more than 5,000 potential vulnerabilities.

### Cutting-edge data center in Germany

Legal compliance requirements are fulfilled with IaaS as well. In any case – this is even TÜV certified – the data is in good hands with Fujitsu: The Fujitsu data center in Neuenstadt (Baden-Wuerttemberg), run by the Fujitsu subsidiary TDS AG, has received the TÜViT Certifi-

cate for "Trusted Site Infrastructure", level 4. Moreover, the data center also meets the highest security standards according to "International Tier III", certified by the Uptime Institute. "Tier III standards are the highest possible security norm in Germany," Daniel Quilitzsch points out. The building is equipped with sophisticated fire and intrusion systems. In addition, the architecture of the power supply, cooling and air conditioning as well as the connection to telecommunication infrastructures is multiple redundant. The data center in Neuenstadt is also connected with the other data centers of TDS AG, thus guaranteeing uninterruptible operation in case of a disaster. "Of course we also market IaaS through our distribution partners," Daniel Quilitzsch continues. "In other words, customers who are interested in this service have the possibility to handle this with their existing IT partners." The IaaS offer that has been deployed for the Fujitsu Media Portal can theoretically already begin at 200 GB. In that case further expansion packages are subscribable in 50 GB units.
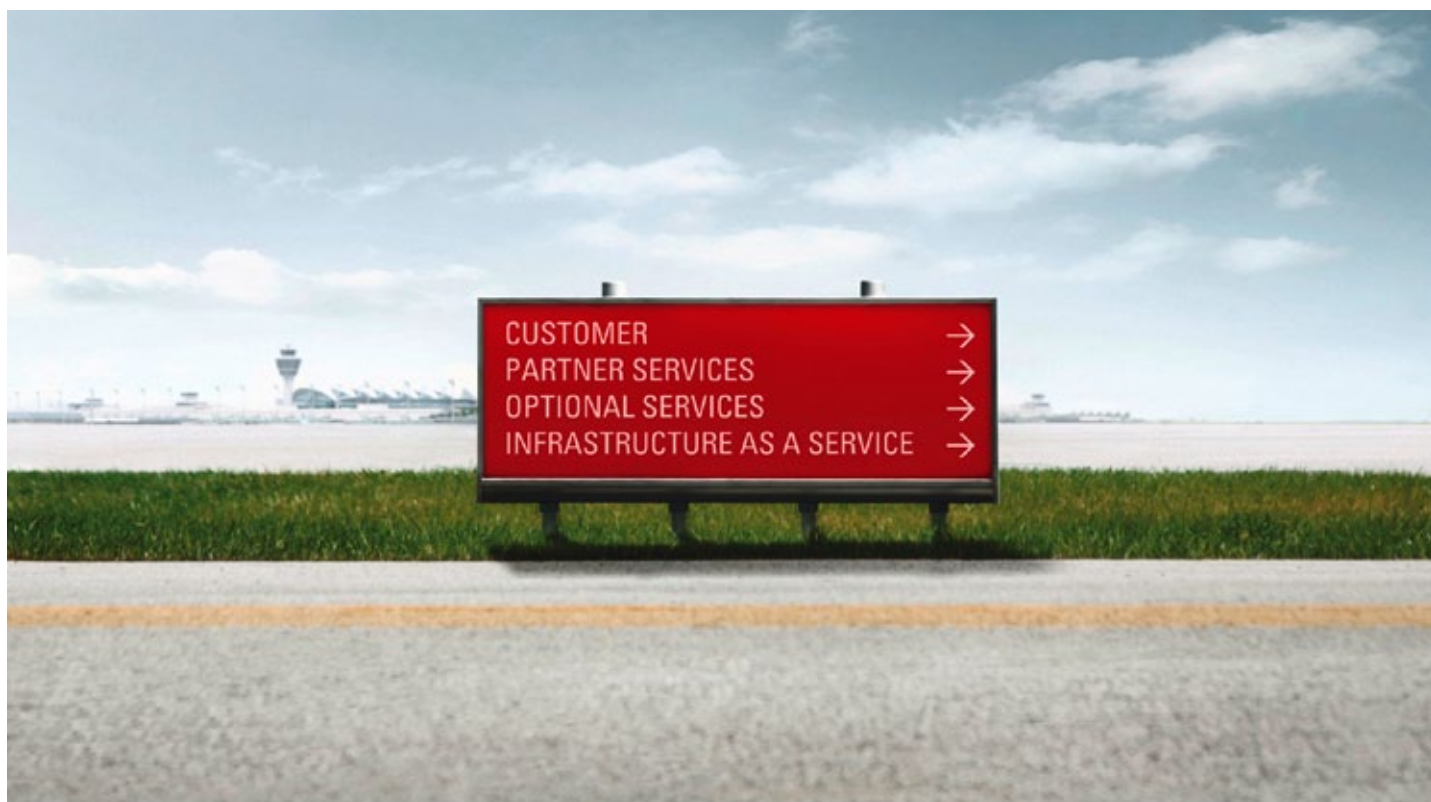
### Expansion planned in other sales regions

Already at this stage, Patrick Böning's summary is overall positive. On the one hand, the users – i.e. media representatives and Fujitsu employees, amongst others, who access the portal day by day – are more satisfied. On the other hand, the transition to IaaS has proved remarkably cost-efficient: "Compared to the previous solution we have been able to cut operating costs by 75 percent. And, at the same time, the Fujitsu Media Portal has become faster and more efficient. As you can see, the transition to IaaS has been more than profitable for us." The extent to which Fujitsu trusts in its own ser-vice offer is reflected in the popularity of the IaaS-based Media Portal within the Global Fujitsu Group. "Our Asian and American colleagues want to be part of it, too, now," Böning is pleased to summarize. "Up until now the Media Portal had only addressed the CEMEA&I region."

**Partner**

# DEK**KON** GMBH

www.dekkon.de

## The benefit

- Server, storage and network resources always scalable (up or down) upon demand
- High cost transparency
- 24/7 monitoring of service availability
- Enhanced performance of the portal
- 75 percent savings in operating costs

## Products and services

- Infrastructure-as-a-Service (IaaS) "Economy Storage"
- A highly scaled virtual Windows server
- SAS-based high-performance storage (500 GB up to 2 TB)
- IaaS Secure Internet Services with a 100 Mbit bandwidth and a monthly data transfer volume of approx. 10 TB
- Additional IP addresses to distinguish different websites and their contents
- Needs-based firewall configuration
- ISP status of the cloud provider and web content filtering
- Internationally recognized website certification

# Case study
## Viessmann Group

»Thanks to DeskView Load from Fujitsu, we can deliver individualized clients directly to the employee's desk – worldwide, at any of our sites, and matters pertaining to logistics and customs duties are also taken care of.«

**Falk Engelbrecht, Head of Client/Server System Technology, Viessmann IT Service GmbH**



### The customer

The Viessmann Group is one of the world's leading manufacturers of heating systems. The family business was established in 1917.
www.viessmann.com

### The project

Development of an overarching enterprise provisioning strategy to reduce the variety of hardware in use, to simplify software installation and to optimize delivery logistics.

### The solution

Quickscan Workshop;
Rollout of 6,000 clients (LIFEBOOK, CELSIUS and ESPRIMO) with individualized software installation using DeskView Load, plus delivery to more than 40 customer sites worldwide, with logistics and customs procedures handled by Fujitsu.

### Value-added logistics

The Viessmann Group is one of the world's leading manufacturers of heating systems. Viessmann is headquartered in Allendorf/Eder, Germany, and to stay ahead of the curve internationally, the group has an overarching structure that includes several sales organizations, subsidiaries and affiliated enterprises – and to ensure smooth IT operations, the group relies its own independent IT company. The IT at Viessmann is sophisticated and key to driving the group's business internationally, which is why a central and yet independent affiliated business was established in 2008 that takes full responsibility for the group's information technology. Viessmann IT Service GmbH employs 116 people and provides IT services to 45 group companies and some 8,000 users. These "customers" can choose from a wide range of standard services offered in the company's own IT catalog. Projects are conducted separately as needed. The IT strategy and the IT projects are carefully orchestrated and harmonized to ensure that IT operations in the Viessmann Group are smooth, secure and reliable. In an IT landscape of this magnitude, a technology refresh project can pose quite a challenge – for example, when such projects are carried out on an international level, the many foreign languages spoken can be overwhelming. What's more, individualizing the hardware and making sure that it is shipped to the right place at the right time ties up personnel and is costly in terms of time and money. The IT experts supporting Viessmann were well aware of this and needed to optimize ordering and logistic processes for hardware rollouts.

### Key to more efficiency: DeskView Load from Fujitsu

Viessmann IT Service GmbH turned to Fujitsu for consulting expertise and took advantage of a Quickscan Workshop to develop a new IT provisioning strategy. To reduce costs and simplify the installation of software on new systems, the customer chose the DeskView Load solution. This method of software installation is extremely flexible and considerably speeds up the rollout process. In the past refreshing hardware always involved several steps: unpack – connect – install – repack – ship. But with DeskView Load, new client systems are shipped directly to their final destinations from the Fujitsu factory, eliminating the need for a rollout center. That may seem to be a simple idea, but it really pays off.

| Customer benefits | Products and services |
|---|---|
| ■ Defined international catalog ensures homogeneous client landscape<br>■ Smooth rollout with fast software installation<br>■ Individualized clients delivered directly from the Fujitsu factory<br>■ Improved process efficiency, less logistic complexity, customs procedures handled by the service provider<br>■ Enormous savings in terms of time and money | ■ Successive client hardware refresh with LIFEBOOK, CELSIUS and ESPRIMO<br>■ Order volume: approx. 6,000 clients; Project duration: 36 months<br>■ Software installation: DeskView Load<br>■ Services: Quickscan Workshop for strategy development |

## Client individualization per order

Centrally managed hardware provisioning is quite a challenge for enterprises doing business internationally because their sites and subsidiaries span the globe. Furthermore, for every new system ordered, numerous process steps must be completed before the user can productively use the system. The scenario at Viessmann was quite complex right from the start of its ambitious client refresh project. Replacing some 300 to 400 systems per year entails many process steps. To begin with, the new clients need to be unpacked and connected. Then the specific software required by the user must be installed. After that the hardware is repacked and sent to the end user's workplace. However, the managers of Viessmann's IT service were sure that there was a more efficient way of provisioning client systems. Due to its good experiences with Fujitsu in previous projects, the customer again trusted Fujitsu's expertise for its client provisioning project. The objectives were:

■ Maintain a homogeneous client landscape
■ Standardize the ordering process
■ Easy software installation
■ Optimized delivery logistics

Based on the results of a joint Quickscan Workshop, the company's requirements were identified and an effective strategy to fulfill them was developed. And DeskView Load was the central component in the solution that was chosen. DeskView Load represents an intelligent way to install software on client devices – and it impressed the customer. Fujitsu pledged to deliver the new clients to more than 40 sites around the world at a high level of quality, and also accepted responsibility for handling all matters related to customs duties. The concept convinced Viessmann IT Service, and Fujitsu was entrusted with the establishment of an "international client provisioning procedure" for all Viessmann subsidiaries. The agreement covered the delivery of mobile LIFEBOOK systems, CELSIUS workstations and ESPRIMO PCs for a period of 36 months. DeskView Load is used to install the client software at the Fujitsu factory – including the operating system, applications and required drivers. Viessmann also benefits from an additional feature of DeskView Load in this scenario: When a client system is ordered from the provisioning portal, each device is assigned an equipment number so that it can immediately be added to the customer's inventory list. Thus Viessmann always has a complete overview of its system inventory without having to invest time in the inventory process itself. This process can be realized in real time per workflow.



## Without delay directly to the user

Thanks to the international provisioning procedure developed for all Viessmann subsidiaries on the basis of DeskView Load from Fujitsu, several stages in the rollout process are completely eliminated. For example, the customer does not need to have a rollout center, and resource-intensive tasks such as driver evaluation are no longer necessary because the drivers are already integrated in DeskView Load. According to Michael Bergen, Project Manager at Viessmann IT Service GmbH with responsibility for the DeskView Load process, the solution has resulted in many significant and positive changes in client provisioning:

"Thanks to DeskView Load from Fujitsu the new clients are delivered directly to the employee's workplace without delay. That makes hardware rollouts easier for us to handle, and the process is more efficient. We have achieved considerable savings in terms of human resources, time and money. Worldwide standards and outstanding logistics are also advantages, not to mention the savings we gained by having Fujitsu take care of customs. As you can see, it really pays off when global players cooperate. And Fujitsu is unquestionably a global vendor."

# Customer Index

# Welcome to the Fujitsu Cloud

FUJITSU

## Bridging today and tomorrow

You need a partner you can really trust when you embark on your journey towards the cloud. As one of the three largest ICT companies in the world, we provide one of the most complete and proven cloud portfolios in the marketplace.

**global-cloud.ts.fujitsu.com**

shaping tomorrow with you

FUJITSU

# fujitsu.com/fts/casestudies

**Contact**
Fujitsu Technology Solutions
Customer Interaction Centre
Mo. – Fr. 8 am – 6 pm
Email: cic@ts.fujitsu.com
Telephone: +49 (0) 1805-372 900
(14 cents/min via German landline, max.
42 cents/min via German mobile network)