



## CHALLENGE

When Deutsche Rentenversicherung wanted to combine its IT systems from two locations into one data center, it recognized that the consolidation could stretch the limits of its infrastructure and increase heat output beyond the capacity of its existing air-conditioning system.

## SOLUTION

Deploying Dell PowerEdge Energy Smart 1950 servers helped reduce power consumption and heat output, enabling the company to reduce day-to-day power costs and maintain its existing air-conditioning system.

## BENEFITS

- Dell PowerEdge Energy Smart 1950 servers provide high energy efficiency in data centers requiring highly fail-safe, continuous operation.
- A combined reduction in power consumption and heat generation helps reduce energy utility bills and allow the organization to continue to use its existing air-conditioning system.

### Related Categories:

Case study, Dell PowerEdge servers, Deutsche Rentenversicherung, green IT, power and cooling

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# HIGHER PERFORMANCE FOR LESS POWER

The efficient power usage and heat output of Dell™ PowerEdge™ Energy Smart 1950 servers helped Deutsche Rentenversicherung reduce energy bills and avoid a potentially costly upgrade to its existing infrastructure.

During a reorganization of German state pensions and annuity insurance in 2005, Deutsche Rentenversicherung, a provider of pensions and annuity insurance, combined its IT systems in Westphalia and Rheinland into one data center at Zentrales Rechenzentrum West (ZRWest). Steadily rising power consumption from the existing servers created higher energy costs for the organization, and the air-conditioning system at the ZRWest facility could not cope with the corresponding rise in heat output from the servers.

The consolidated data center is critical to the daily operations of Deutsche Rentenversicherung. ZRWest operates one mainframe, which administers the core business processes for the organization and manages, maintains, and calculates the contributions for 18 million insurance plans. Employees of the organization access the application through a graphical user interface set up in the Microsoft® Windows® OS, with future plans to run the interface through Java. A Citrix® terminal server environment provides desktop interfaces for 4,000 employees.

The server farm at the ZRWest data center includes approximately 100 systems—predominantly computers used as terminal servers, but also some application-specific servers. Deutsche Rentenversicherung has been using Dell PowerEdge servers for several years. “Dell servers have proved robust and reliable,” says Achim Manz-Bothe, head of systems technology at ZRWest in Düsseldorf.

The existing PowerEdge systems perform well, even in an environment requiring virtually nonstop operation. “The systems are in continuous operation,” says Manz-Bothe, “with the OS as well as applications running on the terminal servers themselves rather than in the storage area network, for instance. Despite the high level of usage, we have experienced hardly any failures so far.”

## DELL ENERGY SMART SERVERS HELP REDUCE ENERGY COSTS

The power requirements for the organization’s servers and the corresponding heat output have been rising steadily. “The rising power consumption and heat output was reflected in our electricity bill,” says Manz-Bothe. “We were also fast approaching our infrastructural limits. Sooner or later we would have

required a completely new air-conditioning system and some major structural work to the premises.”

To save this time and expense, the IT staff at Deutsche Rentenversicherung chose to deploy an enhanced, power-efficient generation of servers: the Dell PowerEdge Energy Smart 1950 series. In addition to current sociopolitical awareness of global warming and climate change issues, Deutsche Rentenversicherung also recognized the economic benefits of addressing power consumption and heat output from its servers.

Before making the investment decision, however, Manz-Bothe made some comparative model calculations, and the result came out clearly in favor of the PowerEdge Energy Smart 1950 servers. “The slightly higher purchase costs of the PowerEdge Energy Smart series are quickly balanced by the savings on power consumption,” Manz-Bothe says. The PowerEdge Energy Smart 1950 servers have helped reverse the general trend toward ever-increasing power consumption for Deutsche Rentenversicherung,

**“As the price per kilowatt rises, the PowerEdge Energy Smart servers are becoming increasingly cost-effective for us.”**

—Achim Manz-Bothe  
Head of systems technology at ZRWest  
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requiring just 50 percent of the power of the previous server models.<sup>1</sup>

The increase in energy efficiency helped reduce the monthly electricity bill for the ZRWest data center by approximately €5,000, which helped shorten the organization’s return on investment accordingly.<sup>2</sup> “As the price per kilowatt rises, the PowerEdge Energy Smart servers are becoming increasingly cost-effective for us,” says Manz-Bothe.

#### **DELL ENERGY SMART SERVERS HELP MINIMIZE HEAT OUTPUT**

Because the Dell PowerEdge Energy Smart 1950 servers help reduce the amount of heat generated from running

multiple servers in a single location, they helped Deutsche Rentenversicherung avoid the time and expense of remodeling work to replace the air-conditioning system at the data center. Not only did the PowerEdge Energy Smart 1950 servers help increase performance, but by not generating as much heat as the existing servers, the organization could continue using its existing air-conditioning system for the consolidated data center.<sup>3</sup> “Now all new servers we purchase are PowerEdge Energy Smart servers,” says Manz-Bothe.

Even in the public administration sector, business processes today are typically highly dependent on IT. “Users are interested in performance and availability,” says Manz-Bothe. “It is the job of the IT department to take into account other aspects too, such as power consumption.” The IT staff at Deutsche Rentenversicherung opted for the Dell PowerEdge Energy Smart 1950 servers because they can provide outstanding performance while helping reduce power consumption and excess heat. 



<sup>1,2,3</sup> Customer experiences and individual results may vary.

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