Case Study
OPEGIEKA

»The purchased hardware will provide a platform for delivering innovative services in the cloud. From the data center, we will make available both ready applications and platforms for their rapid deployment. Also, we will be able to provide the external customers with server Infrastructure as a Service.«

Sebastian Stybel, chief network administrator and systems engineer, OPEGIEKA Sp. z o.o.

The customer

Okręgowe Przedsiębiorstwo Geodezyjno-Kartograficzne (District Geodetic and Cartographic Company) (OPEGIEKA) owes its position to a diversified offer of products and services, as well as to its capability to implement projects requiring solid knowledge of and experience in geodesy, cartography, photogrammetry, and the latest IT technologies. **www.opegieka.pl**

The challenge

The project includes expansion of the OPEGIEKA company to establish a new organizational unit: a research and development center known as the GIS Center. The direct objective is to strengthen the R&D potential of the company to enable it to deploy new and innovative technologies supporting geo-IT applications and solutions requiring large computing power.

The solution

In result of a tender, Fujitsu has been selected as the supplier of a comprehensive solution which includes: BX600 S3 and BX900 S1 blade servers; RX100 S6, RX200 S6, and RX300 S6 rack servers; NetApp FAS3140 and NetApp FAS2040 arrays, and Fujitsu Eternus DX90. In addition to the hardware infrastructure, the deployment includes virtual servers based on VMware ESX Enterprise Edition Plus, as well as powerful laptops: Esprimo Mobile v6535 and LifeBook AH530.

Regional leader

OPEGIEKA is an Elbląg-based company with more than 60 years of tradition, a leader in the geodetic/IT industry (winner of the "2010 Regional Innovation and Development Leader" award). It owes its position to a diversified offer of products and services, as well as to its capability to implement projects requiring solid knowledge of, and experience in geodesy, cartography, photogrammetry, and the newest IT technologies. The most important asset of OPEGIEKA is its well-qualified staff, and in particular its teams of industry and IT experts. The company conducts R&D works and invests in innovativeness, also in cooperation with Polish and foreign partners. Its offer includes in particular systems supporting spatial information management, decision support systems, electronic document/work flow systems, and Web portals. The company specializes in mass data and digital-resource processing technologies related to building databases, as well as in applications of IT systems in geodesy, cartography, and photogrammetry. The solutions developed by OPEGIEKA are highly universal and open. The company ensures that the systems are continuously developed, compliant with the regulations, and adapted to the customers' specific needs.

Direction: research and development

In February 2009, OPEGIEKA signed an agreement under which the Ministry of Economy is to subsidize a project under the Innovative Economy Operational Programme. The purpose of the project, with a value exceeding PLN 15.5 million, is to build an R&D center known as the GIS Center. The strategic goal of OPEGIEKA is transformation of the whole company into a Research and Development Center accredited by the Minister of Economy. It will be the first research facility of that type in the region, although a large data center is also being built (in cooperation with Fujitsu) at the Warmi□sko-Mazurski University in Olsztyn. As a result of the project, the company wants to diversify the geo-IT production, and create new services in the area of outsourcing and IT system maintenance. That will create new jobs for highly qualified specialists and enable broad cooperation with scientific and research units in Poland and Europe. One of the most important elements of the project is the Data Center. The necessity to properly protect data resources and ensure their high availability is one of the most critical challenges for today's companies. At the same time, the data processed in IT systems must be protected against loss. A Data Center guarantees

Customer benefits

- Flexibility and scalability to faster and easier adjust the offer to the customers' changing needs
- High performance thanks to Intel Xeon 5500 processors to enable running a very large number of virtual machines simultaneously
- High system availability thanks to a fully redundant design
- Better utilization of the software
- Power efficiency and thus reduced operating costs, what is of key importance for a modern Data Center at present times of increasing energy costs

Products and services

- Blade servers: Fujitsu BX600 S3 and BX900 S1
- Rack servers: Fujitsu RX100 S6, RX200 S6, and RX300 S6
- Server racks: Fujitsu PrimeCenter 38"
- Disk arrays: NetApp FAS3140, NetApp FAS2040, and Fujitsu Eternus DX90
- Tape libraries: Fujitsu Eternus LT60
- LAN: Huawei S9306, Huawei S5348, Huawei S5352
- SAN: Brocade 300
- WiFi network: Cisco 3750, Cisco Aironet 1131g
- Laptops: Fujitsu Esprimo Mobile V6535, Fujitsu LifeBook AH530
- Software: VMware ESX Enterprise Edition Plus
- Software: Symantec BackupExec

an adequate level of data protection, processing, maintenance, and storage. Another task planned as part of the GIS Center project is establishing a professional secret office with dedicated rooms for working with classified materials. Working with classified information, and in particular processing digital data classified as secret, requires proper protections in terms of both infrastructure and procedures. An adequate level of protection of classified information is guaranteed by the industry security certificate which is an essential element of the project. The above are only selected examples of elements of the R&D Center projects. The project is consistent with the long-term development strategy of the company. In the future, the company should play a significant role in creating innovative solutions in the area of geo-IT systems. The planned date of project completion is June 2011. Currently, the project is at its last, sixth stage, under which the telecommunications and IT infrastructure supplied by Fujitsu Technology is being deployed.

Applications, platforms, infrastructure

The objective of the project is to enable OPEGIEKA to develop in the direction of R&D. The planned research works include: using the SOA, SaaS (Software as a Service), PaaS (Platform as a Service), and IaaS (Infrastructure as a Service) technologies/concepts to build infrastructure for spatial-data, GIS, BI, and DSS systems. The benefits will be seen both by the company and its customers, chiefly in the form of streamlining the software installation/upgrading processes, reducing license costs, and optimizing the deployment processes. The project will be used both for the own purposes of OPEGIEKA and for its customers. The servers from Fujitsu Technology will provide a foundation for delivering PaaS and SaaS. Furthermore, the company will make the server infrastructure available as a service (IaaS) to external customers implementing untypical projects. Virtualization technologies constitute the key element of the project. They should ensure high flexibility and scalability of the environment, as well as low energy consumption. That is why the project will be based on virtualization products from VMware, which provide adequate mechanisms and functions. Also, the problem of managing rapid data growth will be addressed effectively by a solution from NetApp, which ensures de-duplication of data at a low level.

"The project should enable OPEGIEKA to implement advanced R&D projects. Those will include application of cloud computing and the SOA architecture in geodetic, analytical, and decision-support systems." said Sebastian Stybel.

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