



Success Brief

Virtualisation

Intel® Xeon® processors with four cores

Utilities



IRIDE ENERGIA develops Environmentally Friendly Data Centre

IRIDE ENERGIA reduces the number of physical servers, improves flexibility, decreases power consumption and achieves cost savings of up to 70 per cent thanks to Intel® Xeon® processors with four cores

IRIDE ENERGIA, an IRIDE Group company, operates in the sectors of electrical power production and distribution. It has kept focus on environmental protection and sustainable development. It produces electrical power and thermal energy from renewable energy sources (hydroelectric plants) and sources similar to renewable ones such as co-generation plants. Three years ago, the company started a data centre virtualisation project in cooperation with Intel. The project has today led to the consolidation of a total of two hundred virtual machines on only fifteen physical machines and cost savings of up to 70 per cent.

IRIDE ENERGIA's data centre is split between its head office in Turin and offices in Martinetto where disaster recovery and national electricity exchange trading are managed. In 2004, shortcomings emerged involving the physical space available for housing the machines on which the entire corporate IT infrastructure is hosted. As business grew and ways of dealing with customer relations diversified, such as paying bills online, the company's technological infrastructure needed to grow. But data centre size did not allow a further increase in the number of physical servers.

Mario Cipriano, Information Systems Manager, IRIDE ENERGIA, said: "We started to look into virtualisation when many firms in Italy considered it a pioneering technology. But for us it was the only solution that would allow us to maintain sufficient efficiency to suitably meet market requirements. The IT updating project we have been involved in since then is also part of the technological infrastructure consolidation strategy the Group started years ago, and is perfectly in line with our wish to reduce power consumption."

Roberto Richiardi, Operating Structure and Information Systems Support Manager, IRIDE ENERGIA's said: "Previously all the applications ran on medium-sized servers. If we had not chosen virtualisation, we would have had to manage at least two hundred physical machines, obviously destined to grow in number with the development of new businesses. All this would have had effects both in terms of power consumption and space. Every server needs peripherals and accessories which likewise have an effect on the environment."

The company chose Intel® Xeon® processors with four cores. Richiardi adds: "This technology is scalable and based on standards that can grow progressively to meet the needs of a continually growing company like ours. This is a very important feature for us and enables us to meet the need for balance and modularity. Today if we need to move an application from one server to another, we can do it without shutdowns and without interrupting the service to our users."

"The Intel® technology we use is scalable and based on standards that can grow progressively to meet the needs of a continually developing company like ours."

Roberto Richiardi,
Operating Structure and
Information Systems Support
Manager at IRIDE ENERGIA

Virtualisation propels IRIDE ENERGIA towards greater efficiencies and lower costs

The project was also implemented with the support of VMware*, a company that has worked with Intel for several years to provide high performance virtualisation software. The Intel® Xeon® four-core processors also provide a combination of high performance and energy efficiency, and have proved to be the ideal solution to help the company meet particularly high level performance requirements. The latest generation Intel® Xeon® processors with four cores benefit from Intel's exclusive 45nm manufacturing process and a new transistor formula. Both features ensure higher performance and lower power consumption in data centres.

Carmine Stragapede, Regional Business Manager, Intel Italy & Switzerland, said: "Intel is committed to providing companies with technology that helps them manage their businesses with greater flexibility, and brings benefits in terms of energy savings and reduction of environmental impact. We are proud to work alongside companies, like IRIDE ENERGIA, that believe in technological innovation without forgetting the importance of a corporate strategy attentive to the environment."

The changeover to Intel® multi-core technology has brought several important improvements for IRIDE ENERGIA. First of all, an increase in server density in the data centre without a corresponding increase in power consumption which reduces the problems connected with electricity costs. Moreover, it has allowed growing demands for performance to be met and at the same time brought with it the benefit of a reduction in the number of CPUs on the machines.

And as proof of the efficiency of the IT infrastructure, over the last few years, IRIDE ENERGIA has never had to replace its uninterruptible power supply units. It has had enough processing power to update the architecture's capacity when necessary.

Spotlight: IRIDE ENERGIA

- The Irde Group was founded on 31 October 2006 following a merger between AEM Torino and AMGA Genova. Today it is one of the main Italian industrial companies operating in the multi-utility sector.
- IRIDE ENERGIA works in the sectors of electrical power production, distribution and sale to captive customers and the production and sale of thermal energy (district heating). It also provides power planning and advice services, including complementary services to its core business, such as engineering, design and reliability studies
- The company is certified internationally for quality (UNI EN ISO 9001:2000), environmental management (UNI EN ISO 14001) and safety (OHSAS 18001).



Potential Future Developments

A glance at future projects sees IRIDE ENERGIA testing the new Intel® Xeon® processor 5400 series with four cores, owing to a decision to evaluate blade technology with the aim of increasing space and energy savings.

Among its pro-environment development plans, IRIDE ENERGIA also intends to equip itself with water fire extinguishing systems and hydrogen UPS units, which are more expensive than traditional systems, but decidedly more eco-friendly. For this reason, six blade servers have already been purchased on which a large part of the production environment will be relocated. The hope is to be fully up and running by the end of the summer.

Another project was the assessment of Intel® Core™2 Duo with vPro™ technology on fifty machines. The company decided to test it thanks to high processing capacity and additional functions. During the evaluation, IRIDE ENERGIA discovered a whole range of innovative security and manageability functions. Some of the features that convinced them about its efficacy were machine maintenance capability, the possibility of programming unused PCs to switch off, and the chance for remote updating and updating after-hours to reduce maintenance impact on end-users.

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