CASE STUDY
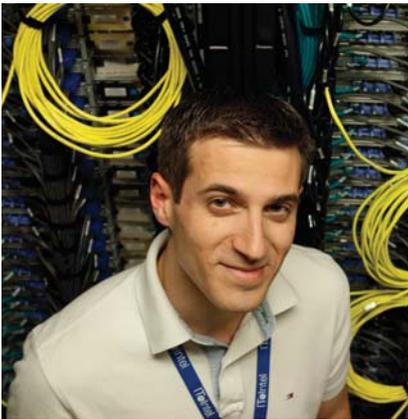Intel® Xeon® processor 7500 series
Data-intensive computing

(intel®)

Smart and sophisticated

BTicino turns to Intel® Xeon® processor 7500 series for efficiency and just-in-time operations

BTicino, Italy, is a world-leading manufacturer of low-voltage electrical equipment for living, working and production spaces. It specialises in integrating technologies and services, such as energy distribution with lighting. It also creates smart services such as video and audio systems with climate and safety services. Its operations are based on the 'just-in-time' management principle in which products and services are brought to the marketplace as soon as possible after the need is identified. The company wanted to gain faster and more efficient database management in order to deliver greater operational efficiency to end users.

CHALLENGES

- **Faster batch processing:** BTicino wanted to improve database performance to provide greater operational efficiency for 'just-in-time' management strategy and across its business units
- **Greater scalability:** IT department wanted to increase system scalability without increasing costs such as software licenses and network connections
- **Hidden costs:** It also wanted to avoid hidden costs such as increasing the number of network ports, kilowatts consumption and machine faults

SOLUTION

- **Industry-leading technology:** The company tested Intel® Xeon® processor 7500 series on two Intel servers
- **Measured approach:** It evaluated the performance of Intel Xeon processor 7500 series by comparing batch processing time on the Intel servers to existing servers

IMPACT

- **Discovery:** Batch processing time was reduced by a quarter when measured against existing system
- **Big virtualisation:** The potential to create up to 100 virtual servers on one physical server compared to 30 with existing servers
- **Much more efficient:** More than 300 per cent increase in database management speed
- **Peak power:** Maximum usage peak limited to 4-5 per cent with 20 virtual machines installed for each server

"In 10 years of experience, it is the first time I have seen such an important improvement from one processor generation to the other."

Alessandro Volonteri,
IT Architect & Group Projects, BTicino

Data sources

BTicino absolutely depends on its databases to drive mission-critical operations. Databases support key departments such as marketing and new business in their decision making process. These databases, for example, analyse the launch of new products and product life-cycles as well as managing warehouse logistics. They are essential to ensure the company not only maintains but also builds on its world-leading reputation. For example, its product catalogue includes more than 10,000 products, while the company has approximately 300,000 products, including component parts.

Ensuring speedy batch processing around these functions is vital to the operational health of the company. This also extends into many business areas including budget planning, public relations and high-level management. As a result the company wanted to improve performance and make management easier without increasing costs.

Faster database batch processing enables greater operational and management efficiency

Compelling results

On the surface this may have seemed like an unreasonable expectation, however BTicino, was keen to explore the virtualisation and processing performance of the Intel® Xeon® processor 7500. Consequently, the company tested two Intel servers, each powered by Intel Xeon processor 7500 series. It wanted to evaluate the performance on not only its databases but also web servers and application server operations.

The company grouped multiple databases on an old generation server and captured data entries that took place in a single morning from across the company. This data entry sequence was then cloned onto an Intel server and compared the results from the two servers. On the previous-generation server a lot of processing resource was used. In comparison, the use of processing resources on the Intel server powered by Intel Xeon processor 7500 series, was barely noticeable.

There was also at least a 25 per cent reduction in batch processing time for mission critical operations and 30 - 40 per cent reduction in processing time for applications which require less CPU power and memory. There was also a 300 per cent increase in database management speed.

New movement

Alessandro Volonteri, IT Architect & Group Projects, BTicino, said: "Processes that usually take 90 minutes were completed in 15 minutes. In application performance we registered a 30-40 per cent increase in processing time. However, the Intel Xeon processor could have provided much more power but it was the limits in other architectural components that put the brakes on performance. In 10 years of experience, it is the first time I have seen such an important improvement from one processor generation to another."

And just as importantly the Intel Xeon processor 7500 series enabled a much higher virtualisation ratio than previously used by BTicino. The company estimated that more than 100 virtual machines for a single physical server could be achieved. In fact, it has already created 20 virtual machines on a white box server.

Volontori added: "On the basis of our test results and with a view to implementing standard servers we have already moved our intranet to the test machine. The intranet is a critical application that holds all employee services, internal communications, product development and human resources information."

Even by using the test machine to run the intranet, benefits have already been noted, such as a sweeping reduction in processing times for wide-ranging requests. For example, the press department frequently downloads large quantities of data intensive documents, such as catalogues with lots of images. Today, these documents are downloaded far quicker than with the previous system.

Data centre refresh

BTicino has been so impressed with the results and the business value that a server-platform based on Intel Xeon processor 7500 series can offer the business, it has now mapped out a server migration project. In the first stage four new servers powered by Intel Xeon processor 7500 series will be implemented in the group data centre in Limoges, France. This will be followed with a further four servers in the Italian data centre in Varese.

The Intel Xeon processor 7500 series have provided BTicino with tremendous potential for scalability, which is precisely what the IT department needed. By ensuring speedy data batch processing across its business units, whether the press, marketing, financial or product developments operational efficiency has also significantly increased.

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