(intel)

Faultless customer service

Npo Sistemi helps its customer to boost retail website performance with Intel® technology

CHALLENGES

- **Website performance.** Npo Sistemi's customer was running its server resources at 80 percent CPU utilization, meaning that its commercial website struggled to cope with peaks in demand
- **Sluggish IT.** DRAM was on average used at 80 percent, and saturated for short times daily. Peak requests grew 300 percent in some periods, making the Web portal slow and unresponsive
- **Completing orders.** Due to slow processing speeds and lack of computing power, the customer was unable to complete all orders and maintain client service levels

SOLUTIONS

- **Powerful processors.** Npo Sistemi upgraded its customer's platform by adding three HP DL 980* servers powered by the Intel® Xeon® processor E7 family
- **Dynamic migration.** Npo Sistemi reacted rapidly to improve the IT landscape, deploying its Intel® technology-powered solution in just four days

TECHNOLOGY RESULTS

- **Increased performance.** With higher computing capacity, Npo Sistemi's customer is able to process large amounts of information, running at much higher memory levels than before
- **Reliable servers.** The upgraded platform delivers a more reliable service with increased availability, so it is able to cope with unforeseen data overloads and provide an increase in uptime
- **Better scalability.** Using high-performance processors allows more data to be handled more quickly. Front-end traffic increased beyond the 300 percent anticipated, ensuring continued business growth for Npo Sistemi's customer

BUSINESS VALUE

- **Data integrity.** Npo Sistemi can rest assured that all its data is handled securely
- **Business potential.** The enhanced server platform means the organization can take on more customers without compromising service quality, thereby capitalizing on its current double-digit year-on-year growth
- **Customer service.** The overall high computing performance and less downtime enables both Npo Sistemi and its clients to offer excellent customer service at all times

"The Intel® Xeon® processor E7 family delivers performance that is ideal for demanding, data-intensive workloads such as those encountered by our customers. It is crucial that we can offer them a high-capacity architecture because that assures them of high serviceability and as close to 100 percent uptime as possible."

Andrea Parinetto,
Business Development Manager
Hardware BU,
Npo Sistemi S.p.A.

Keeping up with demand

Npo Sistemi is an Italian IT company that was set up in 1982 to deliver hardware and software technologies, IT solutions, and consultancy services. It advises on issues such as enterprise solutions, Web and business applications and managed services for a broad range of clients across both the public and private sectors. It provides a secure, high-performing platform that enables its customers to successfully manage critical processing applications during peak loads, access more computing capacity, and, ultimately, take on more business.

To maintain its reputation as a trusted IT advisor and specialist, Npo Sistemi relies on having the latest technologies at its disposal so that it can offer appropriate top-end solutions to its customers. One of these customers, an online multi-brand fashion and design store, needed an infrastructure able to manage extreme peaks of computing demand. Website performance and order management are priorities in the e-commerce

industry, and the retailer required a high level of computing horsepower to maintain a competitive online offering.

When the only customer-facing portal is a website, it is crucial that it runs smoothly and keeps up with demand so that sales can be made and orders met. However, the retailer faced very high demand on its site, especially in high season when sales campaigns were in full flow. The custom application which ran the Web portal was developed with two tiers: a front end and a custom application running on Apache* (Linux*) on the first tier, with a database on the second. The front-end experienced the most pressure, as daily average traffic frequently peaked at 200 to 300 percent in busy periods such as Christmas.

Handling all these online transactions was placing pressure on its server platform, and it was unable to keep up. On busy days, the website occasionally faced issues because it was at full capacity, running its servers at 75 or 80 percent utilization. This utilization level needed to be much lower to ensure that the
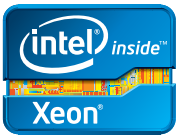
Italian IT solution provider helps client increase capacity and improve customer service with Intel® technology

business could keep up with demand peaks while scaling up.

In the lead-up to the Christmas rush, the situation reached critical levels, with the website crashing frequently. Within a few days, the retailer expected it would be completely non-functional and many sales would be lost. It knew that to cope with the increasing popularity of the site while continuing to grow its business, upgrading its infrastructure and processing power was a priority. So, it turned to Npo Sistemi for help.

Boosting power to meet sales

Npo Sistemi responded quickly, realizing the urgency of the situation and the importance of upgrading its customer's Web platform to a new infrastructure with high availability. It worked rapidly to understand the best way to address both the immediate issue of meeting demand and the longer-term need for scalability. It was a difficult scenario because anything that threatened to crash the system would have hindered the retailer's business. Little or no benefit could come from adding extra servers because the application didn't have capacity to distribute and balance incoming requests across the hosts, since the system was already saturated. A memory upgrade would have been detrimental to sales, necessitating costly downtime since the servers would have had to have been switched off in sequence to replace the memory banks, thereby overloading the others that were already at critical levels.

Drawing on previous experience with customers that relied on intense data loads and powerful processors, Npo Sistemi conducted tests on a range of solutions to find the best option for the retailer's data-demanding workloads. It needed to deliver increased memory and I/O capacity to allow its customer to adapt to changes in short-term business demands and address requirements for longer-term business growth.

On the basis of advanced speed, capacity and reliability, Npo Sistemi recommended the Intel Xeon processor E7 family as ideal to solve mission-critical IT challenges like managing large amounts of information and protecting data integrity. The customer therefore boosted its computing resources by adding three HP DL 980 servers powered by the Intel Xeon processor E7 family, each with 128 GB of RAM. Upgrading to these more powerful, resilient, and steadfastly reliable servers allowed Npo Sistemi to deliver much higher performance and unfailing support for its customer's business-critical Web portal.

Most importantly, Npo Sistemi conducted a dynamic migration to avoid any downtime, turning the new front-end systems in overlap with the old ones, and turning the old servers off one by one to avoid impacting the service. The customer did not lose sales because Npo Sistemi reacted quickly and worked under very strict time constraints to provide a solution before the Web portal's availability became critical. It chose, built and installed a platform, and then got the site back online within four days so that the customer could maintain its own customer service levels.

Optimizing IT efficiency

Npo Sistemi's customer is very happy with the solution and they found that the upgraded platform significantly boosted its website reliability. In fact, front-end traffic increased beyond the 300 percent anticipated, ensuring continued scalability for the retailer. According to the customer, the new servers run at 30 percent utilization on average and at 65 percent during peaks of demand, so they are more than able to deal with the increased demand. There is also still a lot of headroom in terms of CPU processing power. Security was also enhanced, since it could accelerate encrypted transactions.

Crucially, the customer was secure in the knowledge that Npo Sistemi's Intel technology-based solution was agile enough to support business growth and changes in demand. Increased demand impacted positively on sales, and the company is now seeing double-digit year-on-year revenue growth. It is seriously considering upgrading more of its data centers with servers powered by Intel technology.

Lessons learned

After testing various server solutions, Npo Sistemi found that three HP DL 980 servers powered by the Intel Xeon processor E7 family fitted its brief perfectly, enabling further innovation and business growth. This new infrastructure began to prove itself immediately, with CPU utilization at a much lower level than previously. Now the customer knows it has the capacity to support peak loads and empower sustained business growth.
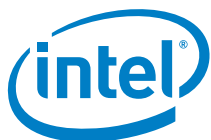
Npo Sistemi's customer feels that a similar solution to handle day-to-day business processes would make the organization even more efficient.

"The biggest improvement was processing speed," says Andrea Parinetto, business development manager for the Hardware Business Unit at Npo Sistemi S.p.A. "The difference was undeniable from the very beginning; performance was fantastic and processing speeds increased significantly. Prior to the new server implementation, the customer maintained 75 to 80 percent CPU utilization during the 1:00 to 5:00 p.m. peak processing time, but with the new servers powered by Intel technology, our measurements showed that the CPU maintained well below 20 percent utilization. After the initial production run, the continued strong performance of the new platform has delivered capacity not only to maintain high website performance and strong uptime, but to expand the business and increase profitability."

On the basis of this success, Npo Sistemi has demonstrated the benefits of the Intel® Xeon® processor-based platform, creating a strong example for other customers to replicate.

Visit Intel's Technology Provider website at (**www.inteltechnologyprovider.com**)

Find the solution that's right for your organization. Contact your Intel representative, visit Intel's Business Success Stories for IT Managers (**www.intel.co.uk/Itcasestudies**) or explore the Intel.co.uk IT Center (**www.intel.co.uk/itcenter**).

0613/JNW/RLC/XX/PDF   329231-001EN