

## Case Study

Intel® Xeon® Processor 5500 Series

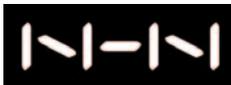
Enterprise Server

Performance: Data Intensive Computing



# Refreshing Data Center for Performance

NHN Corporation's portals gain speed and accelerate response times with a data center refresh and applications optimized for the Intel® Xeon® processor 5500 series



**NHN Corporation** operates some of South Korea's leading-edge Internet portal services, including the online game portal, Hangame, and the country's top search portal, Naver.

## CHALLENGES

- **Increase server utilization, reduce costs.** Enable higher performance with faster response times at the data center in order to deliver superior portal services to their customers.

## SOLUTIONS

- **Data center refresh.** Refresh data center with the Intel® Xeon® processor 5500 series<sup>1</sup> platform.
- **Optimize applications.** Utilize Intel support and expertise to optimize applications and enable them to take full advantage of the Intel Xeon processor.

## IMPACT

- **Productivity upgrade.** Data center processing and efficiency improved with about 40 percent increase in throughput and over 300 percent reduction in response time over previous generation platform.

## Introduction

NHN Corporation is a major player in South Korea's Internet space and runs several successful sites that include a search portal, an online gaming portal, a children's portal and an online donation portal. Keeping its leading edge in the online environment while maintaining a profitable business requires NHN to constantly keep tabs on the technologies that help drive its business.

## Responding to a growing need

Operating a leading-edge portal requires a good sense of the business and the technologies that power the services. For NHN, this means operating as efficiently and cost-effectively as possible, especially when demand for NHN's portal services was growing fast. "We have to respond to our fast-growing Internet services need with a very limited budget," says Chan Song, chief performance architect at NHN. "To do that, we believe superb performance improvement can minimize the direct capital investment while meeting the needs of exponential server growth."

NHN's Naver online search portal was already topping one billion page views a day and its game portal, Hangame, was expanding with one million concurrent users worldwide. These numbers were taking a toll on NHN's servers and the company realized that it needed to embark on a "spend smart" strategy and invest wisely into new technology. Investing now would help the company avoid increased costs in software support and hardware-related issues later. It would enable the company to stay competitive and maintain its leading market segment position by increasing data center performance and productivity.

Technologically, NHN faced two major challenges. As Chan Song explains, "We are in the Internet portal business. Above all else, two factors are critical for most of our service platform; increase Web page views per second (PV/s) and reduce response time (in milliseconds, ms)."

# NHN refreshed their data center platform and optimized their applications for greater productivity gains



“The Intel Xeon processor 5500 series platform gave us about 50 percent improvement in throughput and over 300 percent reduction in response time over the previous generation platform.”

Chan Song  
Chief Performance Architecture  
NHN Corporation

## Refresh consolidates data center with high-performance platform

NHN’s decision was simple—refresh the company’s data center with the latest Intel® processor technology. The technology refresh could immediately provide greater efficiency and productivity.

NHN chose to refresh its data center with servers based on the Intel® Xeon® processor 5500 series. This would cover over 6,000 Intel Xeon processor 5500 series-based servers for the company’s Internet portal services platform. The process began with an early deployment phase with less than one percent in the first quarter of the year and is scheduled to reach over 80 percent by the fourth quarter.

Refreshing the data center with the new technology enabled NHN to consolidate their older Intel platform and portal applications into a higher-performance infrastructure. Chan Song says that “The Intel Xeon processor 5500 series platform gives us about 40 percent improvement in throughput and over 300 percent reduction in response time over our previous-generation platform.”

## Optimization is the key to optimal efficiency

The new Intel Xeon processor 5500 series platform provided vastly improved performance despite the applications being simply ported over without major changes. NHN decided to optimize the portal applications and data processing systems to take full advantage of all the power and capability of the new processor technology. This was a major undertaking requiring close cooperation between NHN system engineers and Intel technical support. “Optimizing NHN’s services to

take full advantage of the Intel platform is the key to improving performance,” says Chang Song. “I believe that Intel has the resources and technical knowledge to support us in improving application performance.”

Through this collaboration, NHN and Intel engineers exchanged ideas and augmented each others skills in fine-tuning NHN’s applications and database system on the new platform. The project became a two-way information transfer process where NHN engineers obtained answers to many questions they had on the new processor technology, and Intel engineers received direct feedback on processor performance and suggestions for future product improvements. The optimization project delivered additional performance gains. Chan Song reports, “We achieved an additional 13 percent improvement in throughput and 30 percent reduction in response time on the Intel Xeon processor 5500 series platform. We’re happy with the result.”

## Invest now for the future

The gains in performance more than validated NHN’s decision to go ahead with Intel technology.

The company believes in smart spending especially in a downturn in order to get ahead in the upturn. As Chan Song puts it, “a bad economy needs a hero and the Intel Xeon processor 5500 is a hero product.” NHN’s deployment is in full swing to serve the company well into the future.

Find a solution that is right for your organization. Contact your Intel representative or visit the Reference Room at [www.intel.com/references](http://www.intel.com/references).

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<sup>1</sup> 64-bit Intel® Xeon® processors with Intel® EM64T requires a computer system with a processor, chipset, BIOS, OS, device drivers and applications enabled for Intel EM64T. Processor will not operate (including 32-bit operation) without an Intel EM64T-enabled BIOS. Performance will vary depending on your hardware and software configurations. Intel EM64T-enabled OS, BIOS, device drivers and applications may not be available. Check with your vendor for more information. Performance will vary depending on the specific hardware and software you use. See most up to date benchmarks at <http://www.intel.com/products/benchmarks/server/index.htm> for detailed information.

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