



### At a Glance

**COMPANY:** NHN Corporation

**FOUNDED:** 1998

**HEADQUARTERS:** Seongnam, Korea

**AUDIENCE:** Online gamers and search Users

**INDUSTRY:** Ad Serving, Gaming

**WEBSITE:** www.nhn.com

**SERVICES:** Internet search, online gaming, targeted advertising

**CDNetworks SERVICES:**  
China Acceleration

### Key Results

Achieved fast entry into China in time for key event, 2008 Olympics

Eliminated mysterious service outages occurring behind China's firewall

Improved website performance and visitor loyalty in China and across the globe

Simplified infrastructure with a single source for website delivery worldwide

## NHN Leaps Over China's Great Wall to Maintain its Competitive Leadership Position

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Sewon Jang, Director of the CDN Management Team, NHN

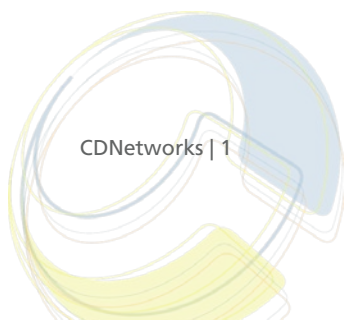
NHN Corporation operates two of the web's most popular properties in Korea: Naver and Hangame. The two sites together average 950 million page views and 17 million visitors per day. Naver is South Korea's most-visited web portal, with a 70% market share in the search business against just 2% for Google. Naver is also the world's 7th most-visited web portal, serving over 2 billion search results per month. Hangame is a game portal that entertains more than 35 million member players worldwide with over 70 games, such as poker and massively multiplayer online role-playing games (MMO RPGs) like Atlantica.

NHN as a whole has a reputation of being at the forefront of web portal and gaming innovation, particularly when it comes to delivering high-margin advertising revenue and value-added services that generate premium subscription revenue. As a result, NHN has traditionally enjoyed the highest profit margins among the world's largest web portals, consistently outperforming Baidu, Google, and Yahoo!

### The Challenge

South Korea has always been among the most Internet savvy nations in the world, consistently ranking in the top five most wired nations. As such, the competition among Korean language websites is fierce. To remain Korea's top web portal, NHN management recognizes the need to consistently offer the highest quality content and end-user experience. In addition, with a large number of Korean speakers residing in China, NHN knows that it must please its China-based audience as well.

Throughout 2007, NHN's analysis of website visitor behavior showed that many of its China-based visitors were prematurely abandoning the Naver and Hangame sites. This puzzled NHN management, because NHN was serving the same high-quality content to China's market as it did to the rest of the world. After more thorough analysis, NHN's IT team noticed that slow page-load times within China were causing visitors there to spend less time and view fewer pages on the site. NHN's Director of the CDN Management Team, Sewon Jang, summarized the problem this



way: “The quality of content itself is important, but without fast page downloads, site visitors won’t stick around long enough to see all of our great content.”

Site stickiness is the key to NHN’s success. NHN provides visitors with free access to the Naver portal and the broad choices of information that it contains, while advertisers pay a lot to display ads to portal visitors. The more pages these visitors view, the more revenue NHN earns. And gamers who spend a lot of time on the Hangame sites usually end up purchasing premium services, such as paying to buy game money.

With the 2008 Beijing Olympics right around the corner, NHN wanted to act fast to rectify its website performance issues. This would enable NHN to maintain a firm grasp on its web portal leadership position among China’s Korean-language audience. The company knew that there would be an enormous upswing in Korean-language search engine traffic, and it did not want search engine

competitors to steal away market share in China with better site performance. According to Jang, “We needed to be faster than any other Korean portals to be the predominant player in China.”

“Being close to China is not the same as being there,” explained Jang. “Because of the Great Firewall of China, it’s hard to figure out the root cause when a site or network outage occurs.”

#### CHINA’S SLUGGISH INTERNET AND SLOW INTERNET LICENSING

NHN decided that the best way to guarantee high performance of its websites within China would be to serve all of its content from local servers based inside China. The company had tried to optimize the technology within its own data center to improve content delivery into China, but page-load times remained slow.

Sometimes complete outages would occur, and visitors would receive no content at all.

“Being close to China is not the same as being there,” explained Jang. “Because of the Great Firewall of China, it’s hard to figure out the root cause when a site or network outage occurs.” As a result, NHN had to locate website delivery infrastructure within China. But doing so meant obtaining the proper business licenses required by the Chinese government, which frequently takes months to do.

NHN was extremely concerned about the licensing process and the potential delays to its business plans for China. Moreover, NHN management knew that a holdup would open the door to NHN’s competitors for the business in China.

#### China Acceleration by CDNetworks: A Focused Solution

Not wanting to lose the opportunity presented by the Beijing Olympics, NHN investigated options for obtaining its China business licenses faster. The NHN team soon discovered that content delivery networks (CDNs) based within China could help speed NHN’s licensing approval. In addition, because CDNs already had distributed networks of servers within China, they could ensure faster download times for NHN’s web portal. NHN decided to enlist the services of a CDN with local operations within China to serve NHN’s key content there. By leveraging a CDN,



NHN hoped to overcome two problems at once: its website performance issues and the lengthy business licensing process.

### **CDNETWORKS IS THE OBVIOUS CHOICE**

NHN evaluated the few CDN providers within China and chose CDNetworks. “CDNetworks quickly became the obvious choice for us, because it was the only CDN provider that could help meet both our China business licensing schedule and our website performance requirements,” said Jang.

CDNetworks had been operating in China for several years, utilizing its own CDN infrastructure along with local business professionals. Shortly after establishing operations in China, CDNetworks developed its China Acceleration solution, which is specifically designed to address the two issues faced by NHN: website performance within China and establishing required business licensing to deliver content to China’s Internet users.

CDNetworks helped to ensure NHN’s streamlined entry into China with high-performing websites in three ways. It demonstrated performance improvements through third-party reporting tools from Gomez. The higher performance resulted from CDNetworks’ deep technical expertise in developing the right network and system strategy to account for specific peering issues between China’s regional networks. Simultaneously, CDNetworks accelerated the licensing process for NHN.

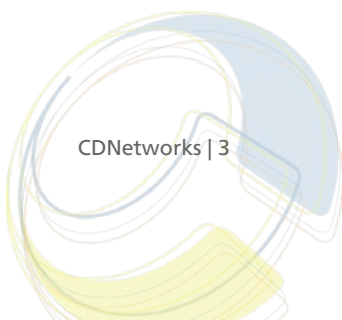
Partnering with CDNetworks certainly paid off for NHN. Not only did NHN meet its pre-Olympics deadlines, the performance of the CDNetworks China Acceleration solution ensured NHN’s web portal leadership position among China’s Korean-language audience. “With CDNetworks, we’re the fastest portal in China. As a result, site visitors stay to search and play our games, and advertisers see more revenues because we’re able to display more ads to more viewers,” explained Jang.

### **Tapping the Globe with CDNetworks**

NHN has grown its worldwide audience in recent years, with millions of its website visitors residing in the United States, Western Europe, Russia and Brazil. Unbeknownst to CDNetworks, the company was originally selected by NHN not only for its China-specific capabilities, but also because it was the only CDN that had both operations in China and a global CDN infrastructure. “It made sense to plan for the future of our global delivery infrastructure while addressing our near-term China issues,” says Jang. “CDNetworks’ ability to manage website delivery to China and the rest of the world means that we don’t have to integrate two disparate infrastructures. This simplifies and speeds our new initiatives anywhere in the world.

### **THE FUTURE LOOKS DYNAMIC FOR NHN**

With two years of success using CDNetworks’ services, NHN is investigating additional ways to improve its global website performance. “We are excited about solutions for dynamic website acceleration and website optimization that could ensure our performance leadership. Remaining on the forefront of website



performance with these types of technologies will help us to maintain our competitive advantage among Web portals and gaming sites for years to come," concluded Jang.

## CDNetworks Global Offices

### US

441 W. Trimble Road  
San Jose, CA 95131  
+1 408 228 3700

### EMEA

16 St Martins Le Grand  
London, EC1A 4EN  
+44 20 7096 3982

8 Rue de L'Isly  
Paris, 75008  
+33 1 75 43 81 92

### Korea

Handong Bldg. 2F,828-7  
Yeoksam-Dong, Gangnam-Gu  
135-935 Seoul  
+82 2 3441 0400

### Japan

Nittochi Nishi-shinjuku Building  
8th Floor, 6-10-1, Nishishinjuku,  
Shinjuku-ku, Tokyo 160-0023  
+81 3 5909 3369

### China

Room No.A-1502,  
Keijidalou, 900 Yi shan Road, Shanghai  
+86 10 8441 7749

[info@cdnetworks.com](mailto:info@cdnetworks.com)  
[www.cdnetworks.com](http://www.cdnetworks.com)

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## About NHN Corp

NHN Corp is a leading Internet Company in Korea operating the nation's top search portal Naver and online game portal Hangame. Naver ([www.naver.com](http://www.naver.com)) has grown into the Korea's most visited search portal with ground-breaking service initiatives, such as 'Unified Search' and 'Knowledge iN' as well as Mail, Blog and Cafes (online communities), Shopping, Real-time Rising Keywords, Dictionary, Local information and many other services adding convenience to everyday lives. In January 2009, Naver introduced its open information platform, such as 'OpenCast' and 'NewsCast' on its re-launched starting page. Naver is known to be connected in over 165 countries around the world and was ranked 5th in terms of search queries among global Internet search engines by US Internet market survey company Comscore in 2007.

Hangame ([www.hangame.com](http://www.hangame.com)) is Korea's largest online game portal providing games in various genres ranging from web-board, casual, action, FPS, RPG games. Based on outstanding game development capability, Hangame develops and services various online games such as GoStop, Poker, Yutnori, Baduk, and successfully published leading on-line games including Turbine's 'The Lord of the Rings Online: Shadows of Angmar' and Capcom's 'Monster Hunter Frontier Online'. NHN surpassed annual revenue of USD 1 billion in 2008 and generated USD 1.2 billion in 2009 and continues to post strong revenue growth and the highest net profit ratio among Internet companies not only in Korea but also in the US, Japan and China.

## About CDNetworks

CDNetworks enables mission critical e-business in the world's most challenging markets. CDNetworks' unique position as the only multinational CDN with expertise and infrastructure in China, and other emerging markets, makes us a trusted technology and business advisor to more than 1,200 companies across the highly-competitive industries of software, travel, eCommerce, high tech, manufacturing, media, and gaming. Reliably delivering over-the-top performance anywhere in the world, CDNetworks helps businesses get closer to their end users without the limitations of hardware and private networks. Founded in 2000, CDNetworks has offices in the U.S., Korea, China, Europe, and Japan. For more information, please visit: [www.cdnetworks.com](http://www.cdnetworks.com)

