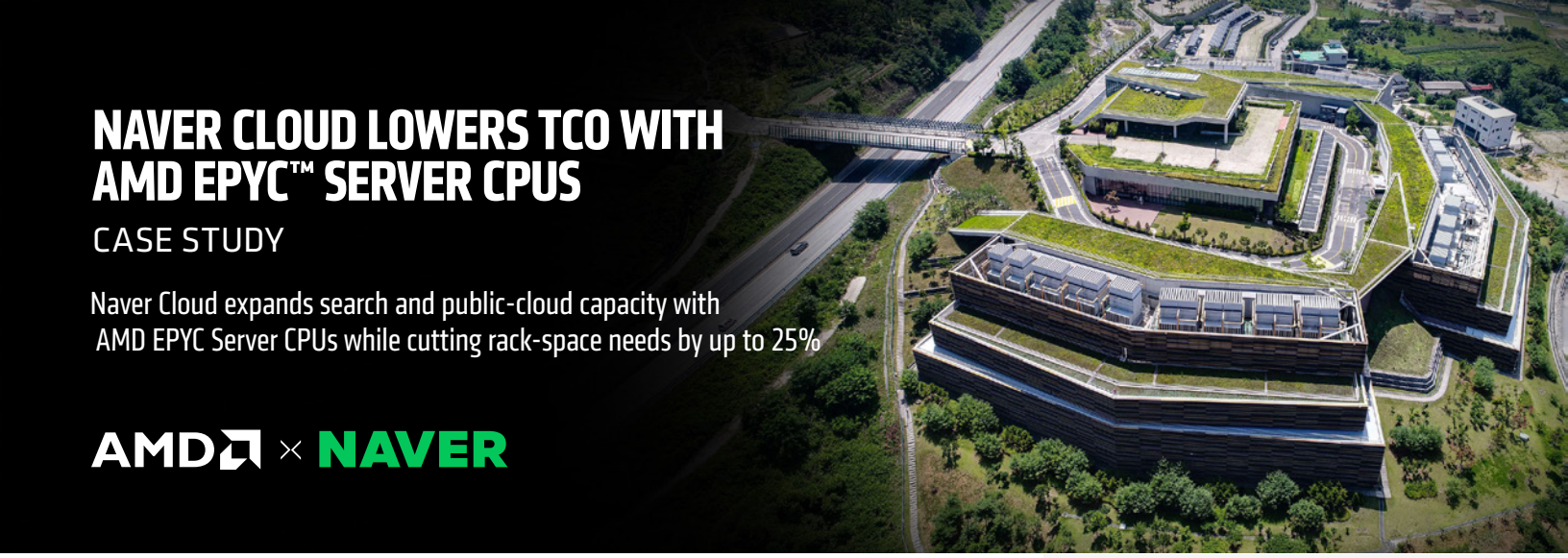
NAVER CLOUD LOWERS TCO WITH AMD EPYC™ SERVER CPUS

CASE STUDY

Naver Cloud expands search and public-cloud capacity with AMD EPYC Server CPUs while cutting rack-space needs by up to 25%

AMD × NAVER



Naver Cloud Corp is the cloud arm of NAVER, the company behind some of South Korea's most widely used search and internet services. As one of the country's largest cloud providers, it supports both sides of NAVER's business. Its web-search systems underpin NAVER's web, content, and fintech services, while its hypervisors run public cloud services that Naver Cloud provides to outside customers. Together, those workloads operate across 13 internet data centers in South Korea, an environment totaling more than 250,000 server nodes and growing by tens of thousands more each year.

> **"AMD EPYC Server CPUs have contributed greatly to our business. They have lowered the TCO of our infrastructure while helping us generate revenue..."**
> Younghee Park, Head of Cloud IaaS Tech, Naver Cloud

In the past, Naver Cloud defaulted to Intel processors for its server additions. However, as it planned for denser servers, the cost of that choice threatened to slow the pace of its expansion. Since 2023, the company has instead deployed AMD EPYC™ Server CPUs across roughly 35,000 production server nodes, matching core counts to the two sides of the business rather than standardizing on one server design.

EXPANDING CAPACITY WITHOUT DRIVING UP TCO

Most of Naver Cloud's earlier infrastructure ran on 8-, 10-, and 16-core processors. Rising demand across its business meant NAVER needed more search capacity to support its own services, while Naver Cloud's public cloud customers needed ever more virtual-machine capacity. Higher core counts would let Naver Cloud add more search and virtual-machine capacity per server while keeping capital and operating expenses in check. Processor acquisition was only part of that equation. Each additional server also required rack space, power, cooling, and supporting infrastructure.

> **"Our cloud infrastructure needed higher-core-count CPUs... That is when we began looking at AMD EPYC Server CPUs."**
> Younghee Park, Head of Cloud IaaS Tech, Naver Cloud

In an environment where tens of thousands of systems can enter service each year, that efficiency affects both the capital required for new capacity and the continuing cost of running it. Naver Cloud began planning for denser systems, but as Younghee Park, Head of Cloud IaaS Tech at Naver Cloud, explains, "Our cloud infrastructure needed higher-core-count CPUs, but the high-core-count systems being offered to us were too expensive for the deployment we had planned. That is when we began looking at AMD EPYC Server CPUs."

INDUSTRY
Data Center (Cloud & Hosting Services)

CHALLENGES
Naver Cloud adds tens of thousands of servers a year. It needed more search and cloud capacity while controlling capital costs, rack space, power, and cooling.

SOLUTION
Naver Cloud qualified AMD EPYC™ Server CPUs through its annual certificate pool, matching 24-core processors to web search and 32-core processors to public cloud.

RESULTS
Naver Cloud lowered TCO with AMD EPYC Server CPUs, cut rack-space requirements 20% to 25%, and supports revenue-generating high-performance VMs.

AMD TECHNOLOGY AT A GLANCE
AMD EPYC™ 7003 Series Server CPUs
AMD EPYC™ 9004 Series Server CPUs



Pictured here, the Naver GAK Sejong facility is one of 13 internet data centers Naver Cloud operates across South Korea, supporting NAVER's web, content, and fintech services alongside its public-cloud business.

VALIDATING AMD EPYC SERVER CPUS FOR PRODUCTION

To be considered for deployment, every candidate processor platform must first pass Naver Cloud's annual certificate pool. Naver Cloud runs the qualification as part of every procurement cycle. "We run our own qualification every year," Park says. "If a processor does not pass the certificate pool, it cannot take part in our tender."

> **"Once the AMD platform proved itself, we moved it into our major workloads."**
> Younghee Park, Head of Cloud IaaS Tech, Naver Cloud

AMD EPYC Server CPUs passed, putting the high core counts Naver Cloud had been unable to justify on its previous platform within reach at a cost it could deploy at scale. Naver Cloud then introduced AMD EPYC Server CPUs in stages. "We began with management nodes," Park says. "Once the AMD platform proved itself, we moved it into our major workloads."

EXPANDING SEARCH AND PUBLIC-CLOUD CAPACITY

As Naver Cloud expanded its use of AMD EPYC Server CPUs into both web search and public-cloud hypervisors, the pace of its acquisitions grew quickly. Park says, "Our annual purchases grew from roughly 13,000 AMD EPYC Server CPUs in 2023 to more than 18,000 in 2024 and more than 36,000 in 2025. AMD EPYC Server CPUs now support both our web-search infrastructure and the hypervisors behind our public cloud." Those numbers count processors bought each year, not servers installed. In all, roughly 35,000 production server nodes are based on AMD EPYC Server CPUs.

> **"We look for low power, high performance, and high density, and AMD keeps moving in that direction."**
> Younghee Park, Head of Cloud IaaS Tech, Naver Cloud

Naver Cloud did not simply qualify AMD once and stop. Every new AMD EPYC Server CPU generation has earned its place in the environment. "When a new CPU launches, we run a new certificate-pool process," Park says. "We do that every year before a processor can participate in a Naver tender." The production fleet includes large deployments of AMD EPYC 7003 Series Server CPUs and AMD EPYC 9004 Series Server CPUs. Naver Cloud matches AMD EPYC Server CPU configurations to each workload, using 24-core processors for web search and 32-core processors for its external cloud services.

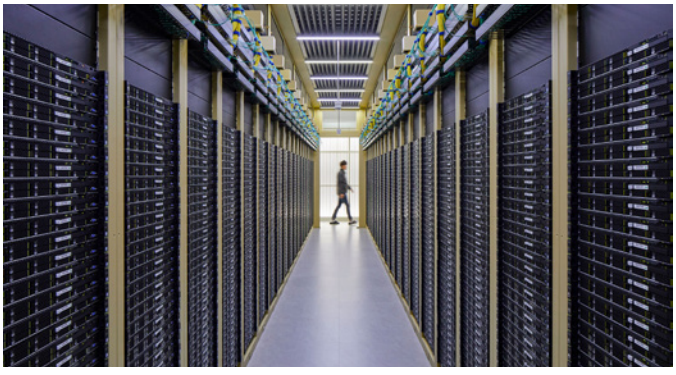
INCREASING DENSITY AND LOWERING TCO WITH AMD

Naver Cloud evaluates total cost of ownership by workload and procurement cycle. "We look at the full cost of running our workloads," Park says. "That includes the processors, rack space, power, cooling, and the infrastructure around them."

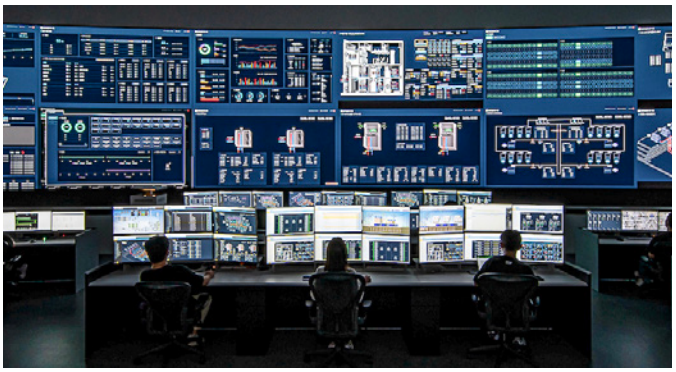
> **"With high-core-count AMD EPYC Server CPUs, we reduced our rack-space requirements by 20% to 25%. That density gives us more room to add capacity within our existing facilities."**
> Younghee Park, Head of Cloud IaaS Tech, Naver Cloud

Higher core counts have reduced the physical footprint of that infrastructure. "With high-core-count AMD EPYC Server CPUs, we reduced our rack-space requirements by 20% to 25%," Park says. "That density gives us more room to add capacity within our existing facilities."

Power means more to Naver Cloud than simply what it pays to run its data centers, as the company also operates under environmental compliance requirements. In its 2025 certification cycle, a single-socket platform based on the 144-core AMD EPYC 9825 Server CPU drew approximately 700W at full load. A dual-socket Intel platform with two 96-core processors drew approximately 800W in the same certification cycle.



Naver Cloud expands its search and public-cloud infrastructure with AMD EPYC™ Server CPUs to increase compute capacity while managing rack space, power, cooling, and costs.



Following rigorous qualification, Naver Cloud deployed AMD EPYC™ Server CPUs across roughly 35,000 production server nodes supporting web-search and public-cloud workloads.

Hypervisors based on AMD EPYC Server CPUs also run the high-performance virtual machines Naver Cloud provides to public-cloud customers. "AMD EPYC Server CPUs have contributed greatly to our business," Park says. "They have lowered the TCO of our infrastructure while helping us generate revenue through high-performance virtual machines."

NAVER CLOUD PLANS ITS FUTURE WITH AMD

Naver Cloud and AMD meet quarterly to review the roadmap and upcoming technology. AMD technical teams work with Naver Cloud as it evaluates future generations of AMD EPYC Server CPUs before launch, giving its server teams time to prepare qualification and deployment plans.

Naver Cloud plans to deploy 144-core AMD EPYC 9005 Series Server CPUs for high-performance hypervisor workloads in the second half of 2026.

"AMD keeps us close to its roadmap and works with our team as new processor generations approach launch," Park says. "That helps us plan ahead. We look for low power, high performance, and high density, and AMD keeps moving in that direction. That gives us confidence as we build the next stage of our cloud infrastructure."



With AMD EPYC™ Server CPUs, Naver Cloud reduced rack-space requirements by 20% to 25%, lowering TCO while creating room for continued infrastructure expansion.

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ABOUT AMD

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