

NetScaler MPX™ and NetScaler SDX™
Intel® Xeon® Scalable Processors
Intel® QuickAssist Technology (Intel® QAT)

High-Performance Application Delivery with NetScaler MPX™, NetScaler SDX™, and Intel® QuickAssist Technology (Intel® QAT)

Accelerate application delivery, increase deployment scalability, and reduce resource consumption in on-premises environments.

NetScaler MPX and NetScaler SDX can deliver up to 10x more secure web-server transactions per second by using Intel QAT.¹

The traditional way to improve application performance is to install CPUs with higher core counts or frequencies. However, this “just throw more cores at it” approach is not an efficient way to resolve the competing demands of compute, network, and storage resources. Enter the application delivery controller (ADC). Today’s ADC solutions deliver advanced application delivery and security capabilities that go beyond basic load balancing to help enterprises optimize application performance. NetScaler provides two software ADCs fully packaged with Intel® processor-based hardware: NetScaler MPX for single-tenant architectures and NetScaler SDX for multi-tenant architectures.

NetScaler MPX and NetScaler SDX are designed to deliver highly performant applications in on-premises environments

An enterprise-class solution, NetScaler application delivery and security software running on Intel platforms typically provides better performance than equivalent solutions built using custom-designed ASICs.² NetScaler MPX and NetScaler SDX ADCs are powered by Intel® Xeon® Scalable processors and Intel QuickAssist Technology (Intel QAT), enabling them to deliver highly performant applications and massive scaling of application traffic for on-premises deployments, including private clouds. Intel QAT accelerates cryptography and compression algorithms, while also reducing CPU cycles.



Figure 1: NetScaler MPX/NetScaler SDX hardware appliance

NetScaler MPX

NetScaler MPX is designed for single-tenant architectures where one network is dedicated to a single instance of an application or service. Single-tenant architectures are ideal when you need to custom-tailor the environment to meet the highest levels of security, performance, and availability.

You can optimize the performance and security capabilities of NetScaler MPX by installing it on NetScaler 9100/16000 appliances powered by Intel Xeon Scalable processors and Intel QAT. This software-hardware combination also enables options for hardware-enforced web application security and Secure Sockets Layer (SSL) offloads.

Best for:

- Managing web applications that support hundreds of gigabits of traffic
- Helping secure high-performance web applications
- Delivering high-performance SSL traffic

Key benefits:

- Accelerates website performance
- Manages and balances L4–L7 network traffic
- Includes an integrated web application firewall (WAF) that provides robust security without compromising application performance
- Offloads application delivery tasks from servers
- Enables Federal Information Processing Standards (FIPS)-compliant networks

NetScaler SDX

NetScaler SDX is designed for multi-tenant architectures, providing full isolation for software and service instances. This allows you to manage application delivery and load balancing for multiple workloads and groups through a single ADC appliance. NetScaler SDX uses partitioning and virtual ADCs to isolate multiple instances within the architecture. Your users get security-enabled access to instances dedicated to their workgroup, and you benefit from the efficiency and cost savings of using a shared underlying infrastructure.

NetScaler SDX software is optimized to run on NetScaler 9100/16000 series appliances, Intel Xeon Scalable processors, and Intel QAT. NetScaler SDX comes with a host operating system (OS) as a complete software package for multi-tenant architectures.

Best for:

- Supporting hardware-based appliances with advanced virtualization and resource management
- Consolidating multiple physical load balancers
- Supporting fully isolated resources for multiple tenants

Key benefits:

- Helps ensure complete resource isolation for each ADC instance, enhancing security and performance
- Efficiently manages SSL traffic, network bandwidth, and data compression for multiple tenants
- Consolidates independently managed ADC instances using advanced virtualization

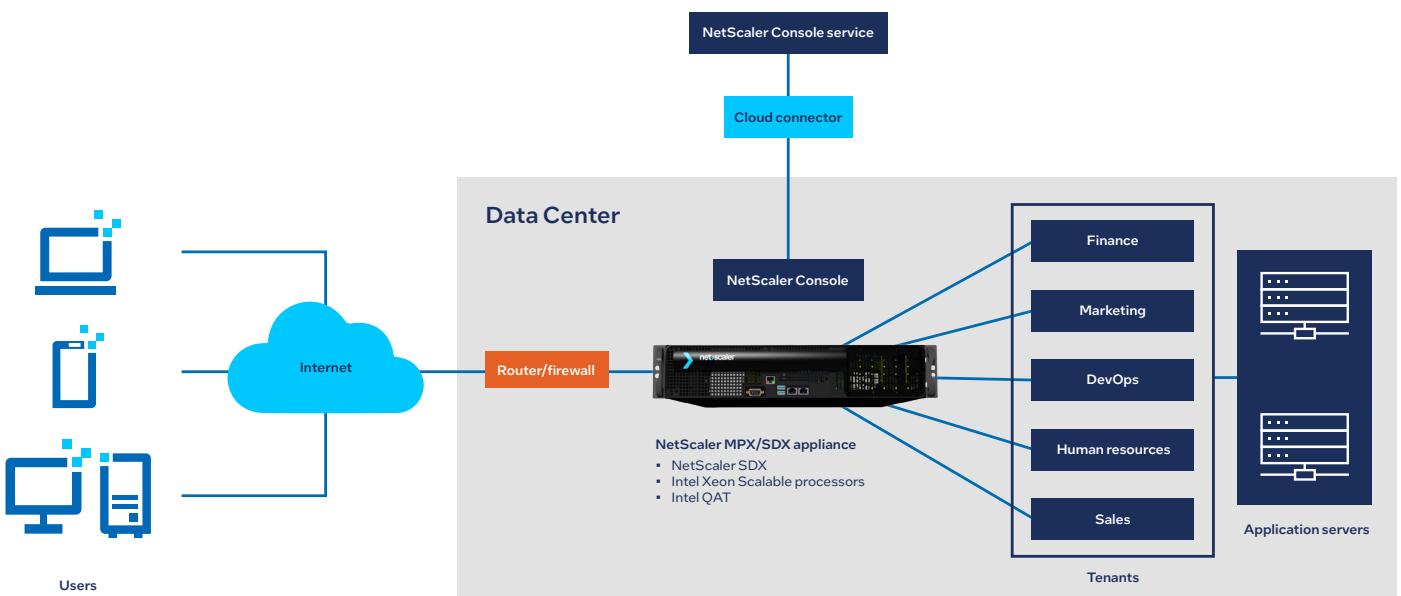


Figure 2: A multi-tenancy application architecture using NetScaler SDX powered by Intel Xeon Scalable processors and Intel QAT

The NetScaler application delivery and security platform

NetScaler uses a single code base and a software-based architecture across all form factors, so no matter how you choose to deploy your applications—on-premises, in a public cloud, or across both—the features and behavior will be exactly the same. NetScaler provides feature parity, including configuration management, across its ADC form factors, which allows for portability of services when migrating deployments between environments. And NetScaler's single management plane, NetScaler Console, gives you one place for orchestrating and managing NetScaler ADCs, implementing security policies, and accessing analytics and observability capabilities to help ensure consistent application delivery across hybrid and multicloud environments.

High-performance application delivery

Designed from inception to be software-focused and hardware-agnostic, NetScaler uses x86 commodity hardware to allow for cost-effective performance and scaling:

- NetScaler's proprietary one-pass architecture processes security and other ADC functions in a single pass for the lowest latency—in addition to the reduced costs that come with optimal CPU utilization.
- NetScaler enables dynamic scaling of internet traffic for hybrid and multicloud workloads to achieve clustering of up to 8 Tbps of L7 throughput for traffic destined for a single IP and port on up to 32 nodes.³
- NetScaler's superior proxy performance for Transport Layer Security (TLS) processing provides a low-latency advantage.

Comprehensive security

NetScaler comes with built-in enterprise-grade security features so you can consolidate and simplify your infrastructure, mitigating the need to purchase multiple point solutions:

- Uniform protection for applications across environments with no compromise on performance
- WAF and volumetric bot protection at scale
- API endpoint protection for helping secure microservices applications

End-to-end observability

NetScaler observability goes beyond simple monitoring to not only alert you that something is wrong but to also tell you exactly where to find the issue—the client, the server, or the internet connection in between—so you can fix it faster:

- The most granular real-time insights for application and API traffic, application and API security, and network and infrastructure performance
- Integrations with popular data-visualization tools, including Splunk, Prometheus, Grafana, and more
- Intelligent visibility into the most valuable telemetry data—including metrics, events, logs, and traces—to significantly reduce your ingress and data storage costs

Intel Xeon Scalable processors and the Intel QAT accelerator

NetScaler MPX and NetScaler SDX software powered by Intel Xeon Scalable processors and Intel QAT are purpose-built to deliver optimal application performance and hardened security.

Intel Xeon Scalable processors

Intel Xeon Scalable processors provide computing power that reduces time to insights for the most intensive workloads. They offer a balanced architecture with built-in acceleration and advanced security capabilities, to deliver performance and power efficiency advantages for dynamic workloads.



Figure 3: 3rd Gen Intel Xeon Scalable processors and Intel QAT accelerators

Intel Xeon Scalable processors are designed for standards-based x86 architectures, which are:

- Widely used for enterprise data centers because of their compatibility with a broad range of hardware and software
- Popular with DevOps because they can develop, deploy, tune, and provision applications by using familiar and preferred tools
- Popular with infrastructure architects because the high-speed PCIe and UPI connectivity lets them easily add high-speed storage, networking, databases, and input/output (I/O) devices

Intel QAT

Intel QAT delivers significant workload acceleration for encryption, decryption, and compression tasks. It works by offloading encryption and compression operations from the Intel Xeon Scalable processor to help reduce CPU cycles, reduce power consumption, and accelerate security processing. For example, Intel QAT can enable web servers to handle more concurrent SSL/TLS connections using the same power envelope or core count.¹

Intel QAT provides value to application development and delivery processes by:

- Improving server performance and power efficiency for compute-intensive workloads, including network packet processing, cryptography, AI, high-performance computing (HPC), databases, analytics, storage, and infrastructure
- Integrating hardware-accelerated SSL into Intel Xeon Scalable processor-based appliances across the network
- Accelerating cryptography and data decompression/compression while also reducing CPU cycles
- Decreasing TCO via reductions in server footprint, CPU utilization, and power usage

Invest in an ADC solution that delivers optimized application performance and reduces TCO

With NetScaler MPX and NetScaler SDX using Intel Xeon Scalable processors and Intel QAT, you can deploy ADCs capable of handling your most intensive application workloads. Intel Xeon Scalable processors use high-performance cores and built-in accelerators to deliver high performance and power efficiency. Intel QAT accelerates cryptographic and data-compression performance, while reducing CPU utilization. For high-performance application delivery, choose NetScaler MPX for single-tenant architectures and NetScaler SDX for multi-tenant architectures.

Learn more

- Learn more about [NetScaler MPX](#) for single-tenant architectures and [NetScaler SDX](#) for multi-tenant architectures.
- Learn more about how [Intel Xeon Scalable processors](#) deliver outstanding performance for today's most intensive applications.
- Learn more about how [Intel QAT accelerators](#) help optimize security processing tasks.



¹ NetScaler MPX and NetScaler SDX can deliver up to 10x more secure web-server transactions per second by using Intel QAT, compared to using the same Intel Xeon processor without Intel QAT enabled, based on internal NetScaler testing conducted in December 2023.

² Based on results comparing NetScaler software to F5 hardware. Source: Citrix. "[NetScaler vs F5](#)." Accessed February 2024.

³ Source: Citrix. "[NetScaler vs F5](#)." Accessed February 2024.

Performance varies by use, configuration and other factors. Learn more at www.intel.com/PerformanceIndex.

Performance results are based on testing as of dates shown in configurations and may not reflect all publicly available updates. See configuration disclosure for additional details.

No product or component can be absolutely secure.

Your costs and results may vary.

Intel technologies may require enabled hardware, software or service activation.

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