

# Citrix NetScaler 1000V

## Product Overview

Citrix NetScaler is the industry's leading web application delivery solution. It increases the performance and availability of all applications and data. Citrix NetScaler 1000V brings together Citrix NetScaler with Cisco Nexus® 1000V Switch vPath technology for policy-based service insertion and chaining. As of Citrix NetScaler 1000V Release 10.1-124.14, vPath can be disabled to load-balance physical servers or load-balance workloads running on any hypervisor. Consequently, the Cisco Nexus 1000V virtual distributed switch is also optional when you are not using vPath technology.

Figure 1 shows Citrix NetScaler 1000V running on the Cisco Nexus 1110-X Cisco® Cloud Services Platform (CSP). An SSL offload card is also available for the Cisco Nexus 1110-X platform when high performance is needed. Citrix NetScaler 1000V also supports virtual appliances on VMware ESXi and Kernel-based Virtual Machine (KVM) hypervisors.

**Figure 1.** Citrix NetScaler 1000V Running on the Cisco Nexus 1110-X CSP



## Citrix NetScaler 1000V Editions and Licenses

Citrix NetScaler 1000V is available in three editions, listed in Table 1.

**Table 1.** Citrix NetScaler 1000V Editions

Edition	Description
<b>Standard</b>	Provides comprehensive Layer 4 to 7 load balancing and optimizes expensive server and network resources to reduce costs.
<b>Enterprise</b>	Offers a web application delivery solution providing advanced traffic management and powerful application acceleration.
<b>Platinum</b>	Offers a web application delivery solution designed to deliver mission-critical applications with web application firewall security, fast performance, and low cost.

Citrix NetScaler 1000V offers the following throughput licenses: 10, 200, and 500 Mbps, and 1, 2, 3, 4, and 5 Gbps (5 Gbps is offered only on the Cisco Nexus 1110 and 1010 hardware platforms).

Table 2 lists the main features of each edition.

**Table 2.** Citrix NetScaler 1000V Feature Matrix

Application Availability	Platinum Edition	Enterprise Edition	Standard Edition
Layer 4 load balancing and Layer 7 content switching	Yes	Yes	Yes
Database load balancing	Yes	Yes	Yes
Citrix NetScaler AppExpert rate controls	Yes	Yes	Yes
IPv6 support	Yes	Yes	Yes
Traffic domains	Yes	Yes	Yes
Global server load balancing (GSLB)	Yes	Yes	
Dynamic routing protocols	Yes	Yes	
Surge protection and priority queuing	Yes	Yes	
Citrix TriScale clustering (2 to 32 physical or virtual instances)	Option	Option	Option
Application Acceleration	Platinum Edition	Enterprise Edition	Standard Edition
Client and server TCP optimizations	Yes	Yes	Yes
Citrix AppCompress for HTTP	Yes	Yes	
Citrix AppCache	Yes		
Application Security	Platinum Edition	Enterprise Edition	Standard Edition
Layer 4 denial-of-service (DoS) defenses	Yes	Yes	Yes
Layer 7 content filtering and HTTP and URL rewrite	Yes	Yes	Yes
Citrix XenMobile NetScaler Connector	Yes	Yes	Yes
Security Assertion Markup Language (SAML) 2 support	Yes	Yes	Yes
Layer 7 DoS defenses	Yes	Yes	Yes
Authentication, authorization, and accounting (AAA) for traffic management	Yes	Yes	
Citrix NetScaler Application Firewall with XML security	Yes		
Simple Manageability	Platinum Edition	Enterprise Edition	Standard Edition
Citrix NetScaler Insight Center and AppFlow	Yes	Yes	Yes
Citrix NetScaler AppExpert visual policy builder	Yes	Yes	Yes
Citrix NetScaler ActionAnalytics	Yes	Yes	Yes
Citrix NetScaler AppExpert service callouts, templates, and visualizers	Yes	Yes	Yes
Role-based administration and AAA for administration	Yes	Yes	Yes
Configuration wizards	Yes	Yes	Yes
Native Citrix web interface	Yes	Yes	Yes
Citrix Command Center	Yes	Yes	
Citrix EdgeSight for NetScaler	Yes		
Web 2.0 Optimization	Platinum Edition	Enterprise Edition	Standard Edition
Comprehensive Internet application support and XML XPath support	Yes	Yes	Yes
Advanced server offload	Yes	Yes	
Lower Total Cost of Ownership (TCO)	Platinum Edition	Enterprise Edition	Standard Edition
TCP buffering	Yes	Yes	Yes
TCP and SQL multiplexing	Yes	Yes	Yes
SSL offload and acceleration	Yes	Yes	Yes
Cache redirection including multilayer support	Yes	Yes	

**Note:** All features of Citrix NetScaler are included except CloudConnectors (IPsec VPN) and NetScaler Gateway (SSL VPN).

## Platform Performance

Table 3 lists the performance characteristics of the Citrix NetScaler 1000V solution.

**Table 3.** Performance

Platform	Cisco Nexus 1110-X with SSL Card (5-Gbps License)	Virtual Appliance (VMware ESXi or KVM)
System throughput (Gbps)	5	Up to 4
HTTP requests per second	325,000	Up to 100,000
SSL transactions per second (2048-bit key certificates)	32,000	Up to 750
SSL throughput (Gbps)	5	Up to 1.0
Compression throughput (Gbps)	2.6	Up to 0.75
Maximum number of instances	8	-

## Resource Requirements

Table 4 lists the resource requirements for the Citrix NetScaler 1000V solution.

**Table 4.** Resource Requirements

License Throughput	10 Mbps	200 Mbps	500 Mbps	1 Gbps	2 Gbps	3 Gbps	4 Gbps	5 Gbps
Processor	2 virtual CPUs (vCPUs)	2 vCPUs	2 vCPUs	3 vCPUs	4 vCPUs	4 vCPUs	5 vCPUs	5 vCPUs
Memory	4 GB	4 GB	4 GB	8 GB	12 GB	12 GB	16 GB	16 GB
Hard drive	20 GB	20 GB	20 GB	20 GB	20 GB	20 GB	20 GB	20 GB

## System Requirements

Table 5 lists the system requirements for the Citrix NetScaler 1000V solution.

**Table 5.** System Requirements

Product	Requirements
Hypervisor support	VMware ESXi 4.0 or later; KVM
Platform support	Cisco Nexus 1010, 1010-X, 1110-S, and 1110-X (SSL card and 10-Gbps networking are supported only on the Cisco Nexus 1110-X platform)
Cisco Nexus 1100 Series Cloud Services Platforms (CSPs) and 1010 Virtual Services Appliance (VSA)	<ul style="list-style-type: none"> <li>Minimum software release: Release 4.2(1)SP1(6.2)</li> <li>Recommended software release: Release 5.2(1)SP1(7.2) or later</li> </ul>
Cisco Nexus 1000V Switch for VMware vSphere	<ul style="list-style-type: none"> <li>Minimum software release: Release 4.2(1)SV2(2.1a)</li> <li>Recommended software release: Release 4.2(1)SV2(2.2) or later</li> <li>Cisco Nexus 1000V virtual distributed switch is optional if vPath technology is disabled</li> </ul>
VMware vSphere and ESXi	<ul style="list-style-type: none"> <li>VMware vSphere 4.0 or later; not required when deploying the Citrix NetScaler 1000V on the Cisco Nexus 1110 or 1010</li> <li>VMware vSphere Enterprise Plus is required when using the Cisco Nexus 1000V; if not using the Cisco Nexus 1000V, then a lesser version of VMware vSphere can be used</li> </ul>
Citrix NetScaler 1000V	Recommended software release: Release 10.5-52.11 or later

## Technical Specifications

Table 6 lists the technical specifications for the Citrix NetScaler 1000V.

**Table 6.** Specifications

Item	Specification
<p><b>Layer 4 to 7 Traffic Management</b></p>	<p><b>Layer 4 load balancing</b></p> <ul style="list-style-type: none"> <li>• Protocols supported: TCP, User Datagram Protocol (UDP), FTP, HTTP, HTTPS, Domain Name System (DNS) (TCP and UDP), Session Initiation Protocol (SIP) over UDP, Real-Time Streaming Protocol (RTSP), RADIUS, DIAMETER, SQL, Remote Discovery Protocol (RDP), and Intermediate System-to-Intermediate System (IS-IS) Protocol</li> <li>• Algorithms: Round Robin, Least Packets, Least Bandwidth, Least Connections, Response Time, Hashing (URL, Domain, Source IP, Destination IP, and CustomID), Simple Network Management Protocol (SNMP)-provided metric, and Server Application State Protocol (SASP)</li> <li>• Session persistence: Source IP, cookie, server, group, SSL session, SIP CALLID, token based, and JSESSIONID</li> <li>• Session protocols: TCP, UDP, SSL/TCP, multipath TCP, and SPDY</li> <li>• Server monitoring: Ping, TCP, URL, ECV, scriptable health checks, and dynamic server response time</li> <li>• Link load balancing</li> </ul> <p><b>Layer 7 content switching</b></p> <ul style="list-style-type: none"> <li>• Policies: URL, URL query, URL wildcard, domain, source and destination IP, HTTP header, custom, HTTP and TCP payload values, and UDP</li> <li>• Switch requests based on protocol of incoming packets</li> </ul> <p><b>Database load balancing</b></p> <ul style="list-style-type: none"> <li>• Support for Microsoft SQL Server and MySQL</li> <li>• Switching algorithms, including SQL query parameters such as user and database names and command parameters</li> <li>• Token-based load balancing, providing advanced configuration for persistence and fault-tolerant deployments</li> </ul> <p><b>Citrix TriScale clustering</b></p> <ul style="list-style-type: none"> <li>• Scale-out clustering of up to 32 Citrix NetScaler appliances in a single system image</li> <li>• Configuration coordinator node for centralized management and synchronization</li> <li>• Compatible with “pay-as-you-grow” deployment</li> <li>• Traffic distribution mechanisms include Equal Cost Multiple Path (ECMP), linksets, and Cluster Link Aggregation Group (CLAG)</li> <li>• Available on Citrix NetScaler 1000V virtual appliances (VMware ESXi and KVM) and physical appliances (Cisco Nexus 1110 and 1010) and with all editions (standard, enterprise, and platinum)</li> <li>• Modules can be configured on all nodes in a cluster or using spotted virtual IP addresses, added only to a selected subset of nodes</li> </ul> <p><b>Rate-based policy enforcement</b></p> <ul style="list-style-type: none"> <li>• Trigger Citrix NetScaler policies based on connections per second, packets per second, or bandwidth used</li> <li>• Source or destination based on header or payload information</li> </ul> <p><b>Traffic domains</b></p> <ul style="list-style-type: none"> <li>• Allows overlapping IP addresses</li> <li>• Provides separate routing flows within a single appliance</li> <li>• Enables basic multitenancy implementations</li> </ul> <p><b>Global server load balancing (GSLB)</b></p> <ul style="list-style-type: none"> <li>• Algorithms: site health, geographic proximity, network proximity, connections, and bandwidth</li> <li>• Site health checking on status, connection load, packet rate, and SNMP-provided metrics</li> </ul> <p><b>Surge protection and priority queuing</b></p> <ul style="list-style-type: none"> <li>• Adaptive rate control for TCP connections and HTTP requests</li> <li>• Prioritized transaction dispatch for critical application requests</li> <li>• Available in Citrix NetScaler Enterprise and Platinum Editions only</li> </ul>

Item	Specification
<b>Application Acceleration</b>	<p><b>TCP optimization</b></p> <ul style="list-style-type: none"> <li>• Multiplexing, buffering, connection keep-alive, window scaling, selective acknowledgment, Citrix Fast Ramp, and TCP Westwood</li> </ul> <p><b>Citrix AppCompress</b></p> <ul style="list-style-type: none"> <li>• Gzip-based compression for HTTP traffic Citrix AppCache</li> <li>• Caching for static and dynamic application content</li> <li>• HTTP GET and POST method support</li> <li>• Policies defined based on HTTP header and body values</li> </ul>
<b>Application Security</b>	<p><b>DoS attack defense</b></p> <ul style="list-style-type: none"> <li>• Continue service to legitimate users while protecting against attacks such as: SYN flood, HTTP DoS, and ping of death</li> <li>• Internet Control Message Protocol (ICMP) and UDP rate control</li> </ul> <p><b>Content rewriting and response control</b></p> <ul style="list-style-type: none"> <li>• Policy-based bidirectional rewriting of HTTP header and payload elements</li> <li>• Policy-based redirection of incoming requests</li> <li>• Body URL rewrite</li> <li>• Responder module</li> <li>• Custom responses and redirects</li> <li>• Policy-based routing</li> <li>• Network-aware policies</li> </ul> <p><b>DNSSec</b></p> <ul style="list-style-type: none"> <li>• DNS proxy</li> <li>• Authoritative DNS</li> <li>• DNS signing</li> </ul> <p><b>Packet filtering</b></p> <ul style="list-style-type: none"> <li>• Layer 3 and 4 access control lists (ACLs)</li> <li>• Network Address Translation (NAT)</li> <li>• IPv4/IPv6 NAT</li> </ul> <p><b>Citrix NetScaler Application Firewall with hybrid security model</b></p> <ul style="list-style-type: none"> <li>• Positive security model protects against buffer overflow, CGI-BIN parameter manipulation, form and hidden field manipulation, forceful browsing, cookie or session poisoning, broken ACLs, cross-site scripting (XSS), command injection, SQL injection, error-triggering sensitive information leak, insecure use of cryptography, server misconfiguration, back doors and debug options, rate-based policy enforcement, well-known platform vulnerabilities, zero-day exploits, cross-site request forgery (CSRF), and credit card and other sensitive data leakage</li> <li>• Negative security model with automatically updated signatures to protect against Layer 7 and HTTP application vulnerabilities</li> <li>• Integration with third-party scanning tools</li> <li>• Common event format (CEF) logs</li> <li>• XML security: XML DoS (xDoS)</li> <li>• XML SQL injection and cross-site scripting, XML message validation, format checks, WS-I basic profile compliance, XML, XPath injection attachment check, and XQuery Injection protection</li> <li>• WSDL scan prevention</li> <li>• Attachment checks</li> <li>• URL transformation</li> <li>• Cookie proxying and encryption</li> <li>• Simple Object Access Protocol (SOAP) array attack protection</li> <li>• Available in Citrix NetScaler Enterprise and Platinum Editions only</li> </ul> <p><b>Secure access</b></p> <ul style="list-style-type: none"> <li>• Endpoint analysis</li> <li>• SAML 2-factor and client certificate authentication; passwords for single sign-on (SSO) to back-end services stored on Citrix NetScaler</li> <li>• Client-side cache cleanup</li> <li>• Security certifications</li> <li>• Layer 7 content filtering</li> <li>• AAA traffic management</li> <li>• SAML 2 and Microsoft Windows NT LAN Manager (NTLM) v1 and 2 support for configuring Citrix NetScaler with SSO</li> <li>• Active Directory, Lightweight Directory Access Protocol (LDAP), RADIUS, TACACS+, and Online Certificate Status Protocol (OCSP)</li> </ul>

Item	Specification
	<p><b>Support for Citrix XenMobile mobile-device management (MDM)</b></p> <ul style="list-style-type: none"> <li>• Front-end optimization scalable to more than 100,000 concurrent users</li> <li>• Citrix XenMobile NetScaler Connector (XNC), which provides device-level authorization service</li> <li>• Application-level policy-controlled SSL VPN tunneling for mobile clients</li> </ul>
<b>Network Integration</b>	<ul style="list-style-type: none"> <li>• Static routes, monitored static routes, and weighted static routes</li> <li>• Open Shortest Path First (OSPF), Routing IP (RIP) v1 and v2, and Border Gateway Protocol (BGP); BGP available only in Enterprise and Platinum Editions</li> <li>• VLAN IEEE 802.1Q</li> <li>• Link aggregation IEEE 802.3ad</li> <li>• Stateful IPv6-to-IPv4 network address translation and DNS-64</li> <li>• Static and stateless network address translation from IPv4 to IPv6</li> </ul> <p><b>High availability</b></p> <ul style="list-style-type: none"> <li>• Active-passive</li> <li>• Active-active</li> <li>• Virtual Router Redundancy Protocol (VRRP)</li> <li>• ECMP</li> <li>• Connection mirroring</li> </ul>
<b>Simplified Installation and Management</b>	<p><b>User interface</b></p> <ul style="list-style-type: none"> <li>• Graphical application visualizer</li> <li>• Secure web-based GUI</li> <li>• Command-line interface (CLI), Telnet, SSH, and console</li> <li>• Real-time performance dashboard</li> <li>• Load balancing, GSLB application firewall, and Citrix EdgeSight NetScaler configuration wizards</li> <li>• XenApp configuration wizards</li> </ul> <p><b>Policy management</b></p> <ul style="list-style-type: none"> <li>• Citrix AppExpert visual policy builder</li> <li>• Policy extensibility through HTTP service callouts</li> <li>• Citrix AppExpert templates</li> <li>• Citrix AppExpert visualizers</li> </ul> <p><b>Citrix Command Center</b></p> <ul style="list-style-type: none"> <li>• Centralized configuration and management of more than 200 Citrix NetScaler appliances</li> <li>• Available as a license upgrade on all editions</li> </ul> <p><b>Citrix NetScaler Insight Center and AppFlow</b></p> <ul style="list-style-type: none"> <li>• Citrix NetScaler Insight Center is a software solution enabling traffic visibility; it includes Citrix HDX Insight and Web Insight and is based on Citrix AppFlow</li> <li>• Citrix HDX Insight parses ICA sessions to provide troubleshooting, network analysis, and end-to-end performance for Citrix XenApp and XenDesktop sessions; historical data is included in Platinum Edition</li> <li>• Citrix Web Insight monitors real-time web application traffic and assists in capacity planning and helps ensure that service-level agreements (SLAs) are met</li> <li>• Citrix AppFlow standards-based NetFlow and IP Flow Information Export (IPFIX) solution</li> <li>• Supported by leading performance monitoring and management vendors</li> <li>• Provides transaction-level visibility for HTTP, SSL, TCP, and SSL/TCP flows</li> </ul> <p><b>Citrix ActionAnalytics</b></p> <ul style="list-style-type: none"> <li>• Aggregates real-time traffic statistics and enables their use in setting dynamic policies</li> <li>• Charting and analysis utilities</li> </ul> <p><b>Citrix EdgeSight for Citrix NetScaler</b></p> <ul style="list-style-type: none"> <li>• Real-time and historical user experience monitoring</li> <li>• Trending and reporting for web application performance service-level management</li> <li>• Available in Citrix NetScaler Enterprise and Platinum Editions only</li> </ul> <p><b>Third-party management support</b></p> <ul style="list-style-type: none"> <li>• SNMPv1, v2, and v3: Citrix NetScaler MIB and MIB-II support</li> <li>• XML and SOAP API for automated application-based configuration</li> </ul> <p><b>Real-time consolidated logging</b></p> <ul style="list-style-type: none"> <li>• Offloads logging from application server to central location</li> </ul>

Item	Specification
	<b>Native web interface</b> <ul style="list-style-type: none"> <li>• Integrated web interface server for Citrix XenApp and XenDesktop</li> <li>• Supports Java environments running Citrix NetScaler nCore OS</li> <li>• Authentication methods include LDAP, RADIUS, NTLM, TACACS+, and client certificate</li> <li>• Wizard-based configuration through Citrix NetScaler GUI</li> <li>• Login page customization</li> <li>• Includes Citrix Smart Access, smooth roaming, STA server redundancy, and session reliability</li> </ul>
Lower TCO	<b>Web cache redirection</b> <ul style="list-style-type: none"> <li>• Automatically directs requests with content not cached on Citrix NetScaler to cache farm</li> <li>• N-tier multilayer load balancing support for cache servers</li> <li>• Available in Citrix NetScaler Enterprise and Platinum Editions only</li> </ul>

## Ordering Information

Table 7 presents ordering information for the Citrix NetScaler 1000V solution.

**Table 7.** Citrix NetScaler 1000V Ordering Information

Part Number	Description
<b>10 Mbps</b>	
L-NS-1KV-10S=	NetScaler 1000V: 10 Mbps Standard Edition eLic
L-NS-1KV-10E=	NetScaler 1000V: 10 Mbps Enterprise Edition eLic
L-NS-1KV-10P=	NetScaler 1000V: 10 Mbps Platinum Edition eLic
L-NS-1KV-10S-E=	NetScaler 1000V: 10 Mbps Standard to Enterprise eLic (Upgrade)
L-NS-1KV-10E-P=	NetScaler 1000V: 10 Mbps Enterprise to Platinum eLic (Upgrade)
L-NS-1KV-10S-P=	NetScaler 1000V: 10 Mbps Standard to Platinum eLic (Upgrade)
L-NS-1KV-10-200S=	NetScaler 1000V: 10 Mbps to 200 Mbps for Standard eLic (Upgrade)
L-NS-1KV-10-200E=	NetScaler 1000V: 10 Mbps to 200 Mbps for Enterprise eLic (Upgrade)
L-NS-1KV-10-200P=	NetScaler 1000V: 10 Mbps to 200 Mbps for Platinum eLic (Upgrade)
L-NS-1KV-10S-TS=	NetScaler 1000V: 10 Mbps Standard Edition eLic (Clustering)
L-NS-1KV-10E-TS=	NetScaler 1000V: 10 Mbps Enterprise Edition eLic (Clustering)
L-NS-1KV-10P-TS=	NetScaler 1000V: 10 Mbps Platinum Edition eLic (Clustering)
L-NS-1KV-10S-E-TS=	NetScaler 1000V: 10 Mbps Clustering Standard to Enterprise (Upgrade)
L-NS-1KV-10E-P-TS=	NetScaler 1000V: 10 Mbps Clustering Enterprise to Platinum (Upgrade)
L-NS-1KV-10S-P-TS=	NetScaler 1000V: 10 Mbps Clustering Standard to Platinum (Upgrade)
L-NS-10-200S-TS=	NetScaler 1000V: 10 Mbps Clustering to 200 Mbps for Standard (Upgrade)
L-NS-10-200E-TS=	NetScaler 1000V: 10 Mbps Clustering to 200 Mbps for Enterprise (Upgrade)
L-NS-10-200P-TS=	NetScaler 1000V: 10 Mbps Clustering to 200 Mbps for Platinum (Upgrade)
L-NS-1KV-10S-C=	NetScaler 1000V: 10 Mbps to Clustering for Standard (Upgrade)
L-NS-1KV-10E-C=	NetScaler 1000V: 10 Mbps to Clustering for Enterprise (Upgrade)
L-NS-1KV-10P-C=	NetScaler 1000V: 10 Mbps to Clustering for Platinum (Upgrade)
<b>200 Mbps</b>	
L-NS-1KV-200S=	NetScaler 1000V: 200 Mbps Standard Edition eLic
L-NS-1KV-200E=	NetScaler 1000V: 200 Mbps Enterprise Edition eLic
L-NS-1KV-200P=	NetScaler 1000V: 200 Mbps Platinum Edition eLic
L-NS-1KV-200S-E=	NetScaler 1000V: 200 Mbps Standard to Enterprise eLic (Upgrade)
L-NS-1KV-200E-P=	NetScaler 1000V: 200 Mbps Enterprise to Platinum eLic (Upgrade)
L-NS-1KV-200S-P=	NetScaler 1000V: 200 Mbps Standard to Platinum eLic (Upgrade)

Part Number	Description
L-NS-200-500S=	NetScaler 1000V: 200 Mbps to 500 Mbps for Standard eLic (Upgrade)
L-NS-200-500E=	NetScaler 1000V: 200 Mbps to 500 Mbps for Enterprise eLic (Upgrade)
L-NS-200-500P=	NetScaler 1000V: 200 Mbps to 500 Mbps for Platinum eLic (Upgrade)
L-NS-1KV-200S-TS=	NetScaler 1000V: 200 Mbps Standard Edition eLic (Clustering)
L-NS-1KV-200E-TS=	NetScaler 1000V: 200 Mbps Enterprise Edition eLic (Clustering)
L-NS-1KV-200P-TS=	NetScaler 1000V: 200 Mbps Platinum Edition eLic (Clustering)
L-NS-200S-E-TS=	NetScaler 1000V: 200 Mbps Clustering Standard to Enterprise (Upgrade)
L-NS-200E-P-TS=	NetScaler 1000V: 200 Mbps Clustering Enterprise to Platinum (Upgrade)
L-NS-200S-P-TS=	NetScaler 1000V: 200 Mbps Clustering Standard to Platinum (Upgrade)
L-NS-200-500S-TS=	NetScaler 1000V: 200 Mbps Clustering to 500 Mbps for Standard (Upgrade)
L-NS-200-500E-TS=	NetScaler 1000V: 200 Mbps Clustering to 500 Mbps for Enterprise (Upgrade)
L-NS-200-500P-TS=	NetScaler 1000V: 200 Mbps Clustering to 500 Mbps for Platinum (Upgrade)
L-NS-1KV-200S-C=	NetScaler 1000V: 200 Mbps to Clustering for Standard (Upgrade)
L-NS-1KV-200E-C=	NetScaler 1000V: 200 Mbps to Clustering for Enterprise (Upgrade)
L-NS-1KV-200P-C=	NetScaler 1000V: 200 Mbps to Clustering for Platinum (Upgrade)
<b>500 Mbps</b>	
L-NS-1KV-500S=	NetScaler 1000V: 500 Mbps Standard Edition eLic
L-NS-1KV-500E=	NetScaler 1000V: 500 Mbps Enterprise Edition eLic
L-NS-1KV-500P=	NetScaler 1000V: 500 Mbps Platinum Edition eLic
L-NS-1KV-500S-E=	NetScaler 1000V: 500 Mbps Standard to Enterprise eLic (Upgrade)
L-NS-1KV-500E-P=	NetScaler 1000V: 500 Mbps Enterprise to Platinum eLic (Upgrade)
L-NS-1KV-500S-P=	NetScaler 1000V: 500 Mbps Standard to Platinum eLic (Upgrade)
L-NS-500-1KS=	NetScaler 1000V: 500 Mbps to 1 Gbps for Standard eLic (Upgrade)
L-NS-500-1KE=	NetScaler 1000V: 500 Mbps to 1 Gbps for Enterprise eLic (Upgrade)
L-NS-500-1KP=	NetScaler 1000V: 500 Mbps to 1 Gbps for Platinum eLic (Upgrade)
L-NS-1KV-500S-TS=	NetScaler 1000V: 500 Mbps Standard Edition eLic (Clustering)
L-NS-1KV-500E-TS=	NetScaler 1000V: 500 Mbps Enterprise Edition eLic (Clustering)
L-NS-1KV-500P-TS=	NetScaler 1000V: 500 Mbps Platinum Edition eLic (Clustering)
L-NS-500S-E-TS=	NetScaler 1000V: 500 Mbps Clustering Standard to Enterprise (Upgrade)
L-NS-500E-P-TS=	NetScaler 1000V: 500 Mbps Clustering Enterprise to Platinum (Upgrade)
L-NS-500S-P-TS=	NetScaler 1000V: 500 Mbps Clustering Standard to Platinum (Upgrade)
L-NS-500-1KS-TS=	NetScaler 1000V: 500 Mbps Clustering to 1 Gbps for Standard (Upgrade)
L-NS-500-1KE-TS=	NetScaler 1000V: 500 Mbps Clustering to 1 Gbps for Enterprise (Upgrade)
L-NS-500-1KP-TS=	NetScaler 1000V: 500 Mbps Clustering to 1 Gbps for Platinum (Upgrade)
L-NS-1KV-500S-C=	NetScaler 1000V: 500 Mbps to Clustering for Standard (Upgrade)
L-NS-1KV-500E-C=	NetScaler 1000V: 500 Mbps to Clustering for Enterprise (Upgrade)
L-NS-1KV-500P-C=	NetScaler 1000V: 500 Mbps to Clustering for Platinum (Upgrade)
<b>1 Gbps</b>	
L-NS-1KV-1KS=	NetScaler 1000V: 1 Gbps Standard Edition eLic
L-NS-1KV-1KE=	NetScaler 1000V: 1 Gbps Enterprise Edition eLic
L-NS-1KV-1KP=	NetScaler 1000V: 1 Gbps Platinum Edition eLic
L-NS-1KV-1KS-E=	NetScaler 1000V: 1 Gbps Standard to Enterprise eLic (Upgrade)
L-NS-1KV-1KE-P=	NetScaler 1000V: 1 Gbps Enterprise to Platinum eLic (Upgrade)
L-NS-1KV-1KS-P=	NetScaler 1000V: 1 Gbps Standard to Platinum eLic (Upgrade)



Part Number	Description
L-NS-1K-2KS=	NetScaler 1000V: 1 Gbps to 2 Gbps for Standard eLic (Upgrade)
L-NS-1K-2KE=	NetScaler 1000V: 1 Gbps to 2 Gbps for Enterprise eLic (Upgrade)
L-NS-1K-2KP=	NetScaler 1000V: 1 Gbps to 2 Gbps for Platinum eLic (Upgrade)
L-NS-1KV-1KS-TS=	NetScaler 1000V: 1 Gbps Standard Edition eLic (Clustering)
L-NS-1KV-1KE-TS=	NetScaler 1000V: 1 Gbps Enterprise Edition eLic (Clustering)
L-NS-1KV-1KP-TS=	NetScaler 1000V: 1 Gbps Platinum Edition eLic (Clustering)
L-NS-1KS-E-TS=	NetScaler 1000V: 1 Gbps Clustering Standard to Enterprise (Upgrade)
L-NS-1KE-P-TS=	NetScaler 1000V: 1 Gbps Clustering Enterprise to Platinum (Upgrade)
L-NS-1KS-P-TS=	NetScaler 1000V: 1 Gbps Clustering Standard to Platinum (Upgrade)
L-NS-1K-2KS-TS=	NetScaler 1000V: 1 Gbps Clustering to 2 Gbps for Standard (Upgrade)
L-NS-1K-2KE-TS=	NetScaler 1000V: 1 Gbps Clustering to 2 Gbps for Enterprise (Upgrade)
L-NS-1K-2KP-TS=	NetScaler 1000V: 1 Gbps Clustering to 2 Gbps for Platinum (Upgrade)
L-NS-1KV-1KS-C=	NetScaler 1000V: 1 Gbps to Clustering for Standard (Upgrade)
L-NS-1KV-1KE-C=	NetScaler 1000V: 1 Gbps to Clustering for Enterprise (Upgrade)
L-NS-1KV-1KP-C=	NetScaler 1000V: 1 Gbps to Clustering for Platinum (Upgrade)
<b>2 Gbps</b>	
L-NS-1KV-2KS=	NetScaler 1000V: 2 Gbps Standard Edition eLic
L-NS-1KV-2KE=	NetScaler 1000V: 2 Gbps Enterprise Edition eLic
L-NS-1KV-2KP=	NetScaler 1000V: 2 Gbps Platinum Edition eLic
L-NS-1KV-2KS-E=	NetScaler 1000V: 2 Gbps Standard to Enterprise eLic (Upgrade)
L-NS-1KV-2KE-P=	NetScaler 1000V: 2 Gbps Enterprise to Platinum eLic (Upgrade)
L-NS-1KV-2KS-P=	NetScaler 1000V: 2 Gbps Standard to Platinum eLic (Upgrade)
L-NS-2K-3KS=	NetScaler 1000V: 2 Gbps to 3 Gbps for Standard eLic (Upgrade)
L-NS-2K-3KE=	NetScaler 1000V: 2 Gbps to 3 Gbps for Enterprise eLic (Upgrade)
L-NS-2K-3KP=	NetScaler 1000V: 2 Gbps to 3 Gbps for Platinum eLic (Upgrade)
L-NS-1KV-2KS-TS=	NetScaler 1000V: 2 Gbps Standard Edition eLic (Clustering)
L-NS-1KV-2KE-TS=	NetScaler 1000V: 2 Gbps Enterprise Edition eLic (Clustering)
L-NS-1KV-2KP-TS=	NetScaler 1000V: 2 Gbps Platinum Edition eLic (Clustering)
L-NS-2KS-E-TS=	NetScaler 1000V: 2 Gbps Clustering Standard to Enterprise (Upgrade)
L-NS-2KE-P-TS=	NetScaler 1000V: 2 Gbps Clustering Enterprise to Platinum (Upgrade)
L-NS-2KS-P-TS=	NetScaler 1000V: 2 Gbps Clustering Standard to Platinum (Upgrade)
L-NS-2K-3KS-TS=	NetScaler 1000V: 2 Gbps Clustering to 3 Gbps for Standard (Upgrade)
L-NS-2K-3KE-TS=	NetScaler 1000V: 2 Gbps Clustering to 3 Gbps for Enterprise (Upgrade)
L-NS-2K-3KP-TS=	NetScaler 1000V: 2 Gbps Clustering to 3 Gbps for Platinum (Upgrade)
L-NS-1KV-2KS-C=	NetScaler 1000V: 2 Gbps to Clustering for Standard (Upgrade)
L-NS-1KV-2KE-C=	NetScaler 1000V: 2 Gbps to Clustering for Enterprise (Upgrade)
L-NS-1KV-2KP-C=	NetScaler 1000V: 2 Gbps to Clustering for Platinum (Upgrade)
<b>3 Gbps</b>	
L-NS-1KV-3KS=	NetScaler 1000V: 3 Gbps Standard Edition eLic
L-NS-1KV-3KE=	NetScaler 1000V: 3 Gbps Enterprise Edition eLic
L-NS-1KV-3KP=	NetScaler 1000V: 3 Gbps Platinum Edition eLic
L-NS-1KV-3KS-E=	NetScaler 1000V: 3 Gbps Standard to Enterprise eLic (Upgrade)
L-NS-1KV-3KE-P=	NetScaler 1000V: 3 Gbps Enterprise to Platinum eLic (Upgrade)
L-NS-1KV-3KS-P=	NetScaler 1000V: 3 Gbps Standard to Platinum eLic (Upgrade)

Part Number	Description
L-NS-3K-4KS=	NetScaler 1000V: 3 Gbps to 4 Gbps for Standard eLic (Upgrade)
L-NS-3K-4KE=	NetScaler 1000V: 3 Gbps to 4 Gbps for Enterprise eLic (Upgrade)
L-NS-3K-4KP=	NetScaler 1000V: 3 Gbps to 4 Gbps for Platinum eLic (Upgrade)
L-NS-1KV-3KS-TS=	NetScaler 1000V: 3 Gbps Standard Edition eLic (Clustering)
L-NS-1KV-3KE-TS=	NetScaler 1000V: 3 Gbps Enterprise Edition eLic (Clustering)
L-NS-1KV-3KP-TS=	NetScaler 1000V: 3 Gbps Platinum Edition eLic (Clustering)
L-NS-3KS-E-TS=	NetScaler 1000V: 3 Gbps Clustering Standard to Enterprise (Upgrade)
L-NS-3KE-P-TS=	NetScaler 1000V: 3 Gbps Clustering Enterprise to Platinum (Upgrade)
L-NS-3KS-P-TS=	NetScaler 1000V: 3 Gbps Clustering Standard to Platinum (Upgrade)
L-NS-3K-4KS-TS=	NetScaler 1000V: 3 Gbps Clustering to 4 Gbps for Standard (Upgrade)
L-NS-3K-4KE-TS=	NetScaler 1000V: 3 Gbps Clustering to 4 Gbps for Enterprise (Upgrade)
L-NS-3K-4KP-TS=	NetScaler 1000V: 3 Gbps Clustering to 4 Gbps for Platinum (Upgrade)
L-NS-1KV-3KS-C=	NetScaler 1000V: 3 Gbps to Clustering for Standard (Upgrade)
L-NS-1KV-3KE-C=	NetScaler 1000V: 3 Gbps to Clustering for Enterprise (Upgrade)
L-NS-1KV-3KP-C=	NetScaler 1000V: 3 Gbps to Clustering for Platinum (Upgrade)
<b>4 Gbps</b>	
L-NS-1KV-4KS=	NetScaler 1000V: 4 Gbps Standard Edition eLic
L-NS-1KV-4KE=	NetScaler 1000V: 4 Gbps Enterprise Edition eLic
L-NS-1KV-4KP=	NetScaler 1000V: 4 Gbps Platinum Edition eLic
L-NS-1KV-4KS-E=	NetScaler 1000V: 4 Gbps Standard to Enterprise eLic (Upgrade)
L-NS-1KV-4KE-P=	NetScaler 1000V: 4 Gbps Enterprise to Platinum eLic (Upgrade)
L-NS-1KV-4KS-P=	NetScaler 1000V: 4 Gbps Standard to Platinum eLic (Upgrade)
L-NS-1KV-4KS-TS=	NetScaler 1000V: 4 Gbps Standard Edition eLic (Clustering)
L-NS-1KV-4KE-TS=	NetScaler 1000V: 4 Gbps Enterprise Edition eLic (Clustering)
L-NS-1KV-4KP-TS=	NetScaler 1000V: 4 Gbps Platinum Edition eLic (Clustering)
L-NS-4KS-E-TS=	NetScaler 1000V: 4 Gbps Clustering Standard to Enterprise (Upgrade)
L-NS-4KE-P-TS=	NetScaler 1000V: 4 Gbps Clustering Enterprise to Platinum (Upgrade)
L-NS-4KS-P-TS=	NetScaler 1000V: 4 Gbps Clustering Standard to Platinum (Upgrade)
L-NS-1KV-4KS-C=	NetScaler 1000V: 4 Gbps to Clustering for Standard (Upgrade)
L-NS-1KV-4KE-C=	NetScaler 1000V: 4 Gbps to Clustering for Enterprise (Upgrade)
L-NS-1KV-4KP-C=	NetScaler 1000V: 4 Gbps to Clustering for Platinum (Upgrade)
<b>5 Gbps HW/SW Bundles</b>	
N1K-1110-X-SSL-5S	Nexus 1110-X with SSL card & 5 Gbps Standard Edition NetScaler 1000V license
N1K-1110-X-SSL-5SC	Nexus 1110-X with SSL card & 5 Gbps Standard Edition NetScaler 1000V license (clustering)
N1K-1110-X-SSL-5E	Nexus 1110-X with SSL card & 5 Gbps Enterprise Edition NetScaler 1000V license
N1K-1110-X-SSL-5EC	Nexus 1110-X with SSL card & 5 Gbps Enterprise Edition NetScaler 1000V license (clustering)
N1K-1110-X-SSL-5P	Nexus 1110-X with SSL card & 5 Gbps Platinum Edition NetScaler 1000V license
N1K-1110-X-SSL-5PC	Nexus 1110-X with SSL card & 5 Gbps Platinum Edition NetScaler 1000V (clustering)

Table 8 presents ordering information for the Cisco Nexus 1100 Series.

**Table 8.** Cisco Nexus 1100 Series Cloud Services Platforms Ordering Information

Part Number	Description
<b>C-CRYPTO-COMP-1.0=</b>	SSL card ONLY for the Nexus 1110-X (for existing Nexus 1110-X deployments)
<b>N1K-1110-X-SSL</b>	Nexus 1110-X with SSL card (No licenses; Hardware Only)
<b>N1K-1110-X-SSL-5S</b>	Nexus 1110-X with SSL card and 5 Gbps Standard Edition NetScaler 1000V license
<b>N1K-1110-X-SSL-5SC</b>	Nexus 1110-X with SSL card and 5 Gbps Standard Edition NetScaler 1000V license (clustering)
<b>N1K-1110-X-SSL-5E</b>	Nexus 1110-X with SSL card and 5 Gbps Enterprise Edition NetScaler 1000V license
<b>N1K-1110-X-SSL-5EC</b>	Nexus 1110-X with SSL card and 5 Gbps Enterprise Edition NetScaler 1000V license (clustering)
<b>N1K-1110-X-SSL-5P</b>	Nexus 1110-X with SSL card and 5 Gbps Platinum Edition NetScaler 1000V license
<b>N1K-1110-X-SSL-5PC</b>	Nexus 1110-X with SSL card and 5 Gbps Platinum Edition NetScaler 1000V (clustering)
<b>N1K-1110-X-HA96</b>	Nexus 1110-X HA Pair with 96x Nexus 1000V (option to add SSL card) Advanced Edition multi-hypervisor Licenses
<b>N1K-1110-X-HA48</b>	Nexus 1110-X HA Pair with 48x Nexus 1000V (option to add SSL card) Advanced Edition multi-hypervisor Licenses
<b>N1K-1110-X-HA00</b>	Nexus 1110-X HA Pair without Nexus 1000V (option to add SSL card) Advanced Edition multi-hypervisor Licenses
<b>N1K-1110-X</b>	One Nexus 1110-X with 48x Nexus 1000V (option to add SSL card) Advanced Edition multi-hypervisor Licenses
<b>N1K-1110-S-HA64</b>	Nexus 1110-S HA Pair with 64x Nexus 1000V Advanced Edition multi-hypervisor Licenses
<b>N1K-1110-S-HA32</b>	Nexus 1110-S HA Pair with 32x Nexus 1000V Advanced Edition multi-hypervisor Licenses
<b>N1K-1110-S-HA00</b>	Nexus 1110-S HA Pair without Nexus 1000V Advanced Edition multi-hypervisor Licenses
<b>N1K-1110-S</b>	One Nexus 1110-S with 32x Nexus 1000V Advanced Edition multi-hypervisor Licenses
<b>Redundant Power Supply Available as Field Replaceable Unit (FRU); Also Available as a Configurable Item on the Cisco Nexus Cloud Services Platform (CSP)</b>	
<b>UCSC-PSU-650W=</b>	650W Power Supply

## For More Information

- For more information about the Citrix NetScaler 1000V, including software downloads, release notes, and technical documentation, visit <http://www.cisco.com/go/ns1000v>.
- For additional information about the Cisco Nexus 1100 Series, visit <http://www.cisco.com/go/1100>.
- For additional information about the Cisco Nexus 1000V portfolio of virtual switches and virtual network services, visit <http://www.cisco.com/go/1000v>.



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