

# Citrix NetScaler

## Make web applications run five times better



Citrix® NetScaler® is a web application delivery solution that makes applications five times better by accelerating performance, ensuring that applications are always available and protected, and substantially lowering costs. NetScaler products are easily selected by determining the edition providing functional needs and the appropriate physical or virtual appliance platform to fulfill performance needs.

Feature	Platinum Edition	Enterprise Edition	Standard Edition
<b>Application availability</b>			
L4 load balancing	•	•	•
L7 content switching	•	•	•
AppExpert rate controls	•	•	•
IPv6 support	•	•	•
Global server load balancing (GSLB)	•	•	•
Dynamic routing protocols	•	•	
Surge protection	•	•	
Priority queuing	•	•	
<b>Application acceleration</b>			
Client and server TCP optimizations	•	•	•
Citrix® AppCompress™ for HTTP	•	•	•
Citrix® AppCache™	•	•	
Citrix® Branch Repeater™ client	•		
<b>Application security</b>			
L4 DoS defenses	•	•	•
L7 content filtering	•	•	•
HTTP/ URL rewrite	•	•	•
Citrix® Access Gateway™, EE SSL VPN	•	•	•
L7 DoS defenses	•	•	
AAA for traffic management	•	•	
Application Firewall with XML security	•	•	
<b>Simple manageability</b>			
AppExpert visual policy builder	•	•	•
AppExpert service callouts	•	•	•
AppExpert templates	•	•	•
Role-based administration	•	•	•
AppExpert Visualizers	•	•	•
AAA for administration	•	•	•
Configuration wizards	•	•	•
Citrix Command Center	•	•	
Citrix® EdgeSight® for NetScaler	•	•	
<b>Web 2.0 Optimization</b>			
Rich Internet application support	•	•	•
Advanced server offload	•	•	
<b>Lower TCO</b>			
XML XPath support	•	•	•
TCP buffering	•	•	•
TCP multiplexing	•	•	•
SSL offload and acceleration	•	•	•
Cache redirection	•	•	
Citrix EasyCall™	•		

• = Standard    • = Option

Note: Separately purchasable options not available for NetScaler VPX virtual appliance

NetScaler platform	MPX 17000	MPX 15500	MPX 15000	MPX 12500	MPX 10500
<b>Platform attributes</b>					
Processor	Eight (Two quad cores)	Eight (Two quad cores)	Four (Two dual cores)	Eight (Two quad cores)	Eight (Two quad cores)
Memory	32 GB	16 GB	16 GB	16 GB	16 GB
Ethernet ports	4x 10GBASE-X XFP OR 2x 10GBASE-X XFP AND 8x 10/100/1000 BASE-T	8x 10/100/1000 BASE-T AND 8x 1000BASE-X SFP (fiber or copper) OR 2x 10GBASE-X SFP+ AND 8x 1000BASE-X SFP (fiber or copper)	2x 10GBASE-X XFP AND 8x 10/100/1000 BASE-T	8x 10/100/1000 BASE-T AND 8x 1000BASE-X SFP (fiber or copper) OR 2x 10GBASE-X SFP+ AND 8x 1000BASE-X SFP (fiber or copper)	8x 10/100/1000 BASE-T AND 8x 1000BASE-X SFP (fiber or copper) OR 2x 10GBASE-X SFP+ AND 8x 1000BASE-X SFP (fiber or copper)
Transceivers support	10GE XFP: SR, LR	10 GE SFP+: SR, LR; 1 GE SFP: SX, LX	10GE XFP: SR, LR	10 GE SFP+: SR, LR; 1 GE SFP: SX, LX	10 GE SFP+: SR, LR; 1 GE SFP: SX, LX
Software upgradable performance				Upgrade option to MPX 15500	Upgrade option to MPX 12500 and 15500
<b>Platform performance</b>					
System throughput, Mbps	18,000	15,000	15,000	8,000	5,000
HTTP requests/sec	1,500,000	1,200,000	900,000	700,000	500,000
SSL transactions/sec	100,000	87,000	75,000	60,000	30,000
SSL throughput, Mbps	6,500	6,500	6,000	6,000	5,000
Compression throughput, Mbps	6,000	6,500	3,500	6,000	5,000
SSL VPN: concurrent users	10,000	10,000	10,000	10,000	10,000
<b>Platform mechanical, environmental and regulatory</b>					
Power supplies	Dual	Dual	Dual	Dual	Dual
Input voltage and frequency ranges	100-240VAC full range, 47-63 Hz	100-240VAC full range, 47-63 Hz	100-240VAC full range, 47-63 Hz	100-240VAC full range, 47-63 Hz	100-240VAC full range, 47-63 Hz
Optional DC Power Supply	Yes	Yes	Yes	Yes	Yes
Power consumption	700w 2390 BTU/Hr	450w 1536 BTU/Hr	700w 2390 BTU/Hr	450w 1536 BTU/Hr	450w 1536 BTU/Hr
Weight, lbs	52	30	52	30	30
Height	2U	2U	2U	2U	2U
Width	EIA 310-D, IEC 60297, DIN 41494 SC48D rack width with mounting brackets	EIA 310-D, IEC 60297, DIN 41494 SC48D rack width with mounting brackets	EIA 310-D, IEC 60297, DIN 41494 SC48D rack width with mounting brackets	EIA 310-D, IEC 60297, DIN 41494 SC48D rack width with mounting brackets	EIA 310-D, IEC 60297, DIN 41494 SC48D rack width with mounting brackets
Depth	18.5" / 47 cm	28" / 71 cm	18.5" / 47 cm	28" / 71 cm	28" / 71 cm
Operating temperature	0-35C	0-40C	0-35C	0-40C	0-40C
Allowed relative humidity	5%-95%, non-condensing	5%-95%, non-condensing	5%-95%, non-condensing	5%-95%, non-condensing	5%-95%, non-condensing
Safety certifications	UL, TUV-C	UL, TUV-C	UL, TUV-C	UL, TUV-C	UL, TUV-C
Electromagnetic emissions certifications and susceptibility standards	FCC (Part 15 Class A), DoC, CE, VCCI, CNS, AN/NES	FCC (Part 15 Class A), DoC, CE, VCCI, CNS, AN/NES	FCC (Part 15 Class A), DoC, CE, VCCI, CNS, AN/NES	FCC (Part 15 Class A), DoC, CE, VCCI, CNS, AN/NES	FCC (Part 15 Class A), DoC, CE, VCCI, CNS, AN/NES
Compliance	RoHS	RoHS	RoHS	RoHS	RoHS

NetScaler platform	MPX 9500	9010 FIPS <sup>1</sup>	MPX 7500	MPX 5500	VPX 10/200/1000
<b>Platform attributes</b>					
Processor	Four (Quad core)	Single	Four (Quad core)	Two (Dual core)	Minimum Server Req.: Dual core server with Intel® VTx or AMD-V™  • Citrix® XenServer™ 5 (update 3 or better) • VMWare ESX/ESXi 3.5 or higher • 2G RAM/20 GB Hard Drive • Hypervisor supported NIC
Memory	8 GB	2 GB	8 GB	4 GB	
Ethernet ports	8x 10/100/1000 BASE-T OR 4x 10/100/1000 BASE-T AND 4x 1000BASE-X SFP (fiber or copper)	4x 1000BASE-SX SFP (fiber or optical) OR 4x 10/100/1000 BASE-T	8x 10/100/1000 BASE-T OR 4x 10/100/1000 BASE-T AND 4x 1000BASE-X SFP (fiber or copper)	4x 10/100/1000 BASE-T	
Transceivers support	SX, LX	SX, LX	SX, LX		
Software upgradable performance			Upgrade option to MPX 9500		Upgrade option to VPX, 200, and 1000
<b>Platform performance</b>					
System throughput, Mbps	3,000	3,000	1,000	500	Up to 1,000
HTTP requests/sec	200,000	125,000	100,000	50,000	Up to 100,000
SSL transactions/sec	20,000	4,400	10,000	5,000	Up to 500
SSL throughput, Mbps	3,000	500	1,000	500	Up to 1,000
Compression throughput, Mbps	2,000	400	1,000	500	Up to 750
SSL VPN: concurrent users	10,000	5,000	10,000	5,000	Up to 300 <sup>2</sup>
<b>Platform mechanical, environmental and regulatory</b>					
Power supplies	Single plus optional second supply	Dual	Single plus optional second supply	Single only	Dependent on server platform chosen
Input voltage and frequency ranges	100-240VAC full range, 47-63 Hz	100-240VAC full range, 47-63 Hz	100-240VAC full range, 47-63 Hz	100-240VAC full range, 47-63 Hz	
Optional DC Power Supply	Yes	Yes	Yes	No	
Power consumption	450w 1536 BTU/Hr	500w 1705 BTU/Hr	450w 1536 BTU/Hr	300w 1110 BTU/Hr	
Weight, lbs	21	52	21	19	
Height	1U	2U	1U	1U	
Width	EIA 310-D, IEC 60297, DIN 41494 SC48D rack width with mounting brackets	EIA 310-D, IEC 60297, DIN 41494 SC48D rack width with mounting brackets	EIA 310-D, IEC 60297, DIN 41494 SC48D rack width with mounting brackets	EIA 310-D, IEC 60297, DIN 41494 SC48D rack width with mounting brackets	
Depth	21.75" / 55.2 cm	24" / 61 cm	21.75" / 55.2 cm	21.75" / 55.2 cm	
Operating temperature	0-40C	0-50C	0-40C	0-40C	
Allowed relative humidity	10%-90%, non-condensing	5%-95%, non-condensing	10%-90%, non-condensing	10%-90%, non-condensing	
Safety certifications	UL, TUV-C	UL, TUV-C	UL, TUV-C	UL, TUV-C	
Electromagnetic emissions certifications and susceptibility standards	FCC (Part 15 Class A), DoC, CE, VCCI, CNS, AN/NES	FCC (Part 15 Class A), DoC, CE, VCCI, CNS, AN/NES	FCC (Part 15 Class A), DoC, CE, VCCI, CNS, AN/NES	FCC (Part 15 Class A), DoC, CE, VCCI, CNS, AN/NES	
Compliance	RoHS	RoHS	RoHS	RoHS	

## Technical aspects

### L4-7 traffic management

#### Layer 4 load balancing (LB)

- Protocols supported: TCP, UDP, FTP, HTTP, HTTPS, DNS (TCP and UDP), SIP (over UDP), RTSP, RADIUS
- Algorithms: Round Robin, Least Packets, Least Bandwidth, Least Connections, Response Time, Hashing (URL, Domain, Source IP, Destination IP, and CustomID), SNMP-provided metric, Server Application State Protocol (SASP)
- Session persistence: Source IP, cookie, server, group, SSL session, SIP CALLID, Token-based, JSESSIONID
- Session protocols: TCP, UDP, SSL\_TCP
- Server monitoring: Ping, TCP, URL, ECV, scriptable health checks, Dynamic Server Response Time
- Link load balancing

#### Layer 7 content switching

- Policies: URL, URL Query, URL Wildcard, Domain, Source/Destination IP, HTTP Header, Custom, HTTP and TCP Payload Values, UDP

#### Rate-based policy enforcement

- Trigger NetScaler policies based upon connections per second, packets per second, or bandwidth used
- Source or destination-based upon header or payload information

#### Global server load balancing (GSLB)

- Algorithms: site health, geographic proximity, network proximity, connections, bandwidth, AG-E SSL VPN users
- Site health checking on status, connection load, packet rate, SNMP-provided metrics

#### Content rewriting and response control

- Policy-based bidirectional rewriting of HTTP header and payload elements
- Policy-based redirection of incoming requests
- Body URL rewrite
- Responder module
- Custom responses and redirects
- Policy based routing
- Network aware policies

### Application acceleration

#### TCP optimization

- Multiplexing, Buffering, Connection Keep-alive, Windows Scaling, Selective Acknowledgement, Fast Ramp

#### AppCompress

- Gzip-based compression for HTTP traffic

#### AppCache<sup>1</sup>

- Caching for static and dynamic application content
- HTTP GET and POST method support

- Policies defined based upon HTTP header and body values

### Application security

#### DoS attack defense

- Continue service to legitimate users while protecting against attacks such as: SYN Flood, HTTP DoS, and Ping of Death
- ICMP and UDP rate control

#### Surge protection and priority queuing<sup>1</sup>

- Adaptive rate control for TCP connections and HTTP requests
- Prioritized transaction dispatch for critical application requests

#### Packet filtering

- Layer 3 and 4 Access Control Lists (ACL)
- Network Address Translation (NAT)
- Positive security via denial of nonconfigured services

#### Citrix Application Firewall<sup>1</sup>

- Positive security model protects against: Buffer Overflow, CGI-BIN Parameter Manipulation, Form/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), credit card and other sensitive data leakage prevention

- XML security: XML Denial of Service (xDoS)

- XML SQL injection and cross site scripting XML message validation, format checks, WS-I basic profile compliance, XML attachment check

- URL transformation

#### Secure access

- Integrated Citrix Access Gateway Enterprise Edition SSL VPN
- End-point analysis
- Two-factor and client certificate authentication
- Client-side cache cleanup
- Security certifications
- Layer 7 content filtering

### Network integration

- AAA traffic management
- Active Directory, LDAP, RADIUS, TACACS +, OCSP
- Static routes, monitored static routes, weighted static routes
- OSPF, RIP1/2, BGP1
- VLAN 802.1Q
- Link Aggregation 802.3ad

- IPv6/ IPv4 gateway

#### High availability

- Active/Passive
- Active/Active
- VRRP
- ECMP
- Connection Mirroring

### Simplified installation and management

#### User interface

- Graphical application visualizer
- Secure web-based GUI
- CLI, Telnet, SSH, Console
- Real-time performance dashboard
- LB, GSLB and EdgeSight for NetScaler configuration wizards
- Citrix® XenApp™ configuration wizards

#### Policy management

- AppExpert Visual Policy Builder
- Policy extensibility via HTTP service callouts
- AppExpert templates

#### Citrix Command Center<sup>1</sup>

- AppExpert Visualizers
- Centralized configuration and management of over 200 NetScaler appliances.

#### EdgeSight for NetScaler<sup>1</sup>

- Real-time and historical user experience monitoring
- Trending and reporting for web application performance service level management

#### Third party management support

- SNMPv1, SNMPv2 and SNMPv3: NetScaler MIB and MIB-II support
- Microsoft System Center Operations Management (SCOM) support
- Microsoft System Center Virtual Machine Manager (SCVMM) support
- XML/SOAP API for automated application-driven configuration

#### Real-time consolidated logging

- Offloads logging from application server to central location

#### Notes:

1. Available in NetScaler Enterprise and Platinum Editions only
2. Using 3DES algorithm. Up to 1,000 concurrent users using RC4 algorithm



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#### About Citrix

Citrix Systems, Inc. (NASDAQ:CTXS) is the leading provider of virtualization, networking and software as a service technologies for more than 230,000 organizations worldwide. Its Citrix Delivery Center, Citrix Cloud Center (C3) and Citrix Online Services product families radically simplify computing for millions of users, delivering applications as an on-demand service to any user, in any location on any device. Citrix customers include the world's largest Internet companies, 99 percent of Fortune Global 500 enterprises, and hundreds of thousands of small businesses and prosumers worldwide. Citrix partners with over 10,000 companies worldwide in more than 100 countries. Founded in 1989, annual revenue in 2008 was \$1.6 billion.

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