Citrix NetScaler Application Switch Enterprise Edition

**APPLICATION DELIVERY SYSTEM INTEGRATING ACCELERATION, TRAFFIC MANAGEMENT AND SECURITY**

Citrix® NetScaler® Application Switch Enterprise Edition is a high-performance application delivery system that accelerates applications up to 15 times faster. It enhances the application infrastructure by providing comprehensive traffic management, application acceleration, network optimization and attack defenses. For secure remote access to applications, it also integrates ICSA-certified SSL VPN support.

NetScaler Application Switch is available as a family of purpose-built appliances that meet any deployment need, with industry-leading performance enabled by the NetScaler Operating System.

**ACCELERATED APPLICATION PERFORMANCE**

NetScaler Application Switch delivers multiple TCP optimizations to improve the performance of the network and server infrastructure. An example is TCP connection multiplexing, which reduces thousands of short-lived client connections to a much smaller number of persistent server connections to optimize server performance and improve application response times. This and other TCP optimizations are invisible to clients and servers; these optimizations accelerate the delivery of any enterprise or Web-based application and require little or no configuration.

The Citrix AppCompress™ feature improves end-user performance and reduces bandwidth consumption by compressing application data before it is sent to the client. It supports encrypted and unencrypted data and accelerates both Web and client-server applications. In addition, the optional Citrix AppCache™ feature speeds content delivery to users by providing fast, in-memory caching of static and dynamic HTTP application content.

**INTELLIGENT LOAD BALANCING AND CONTENT SWITCHING**

NetScaler Application Switch provides the industry's most comprehensive layer 4-7 traffic management. Deployed in front of application servers, NetScaler Application Switch delivers fine-grained load balancing of client requests to ensure optimal distribution of traffic. Intelligent traffic management and extensive server health checks provide greater business continuity and eliminate the application server as a single point of failure. It is easy to define traffic management policies based on layer 4 traffic information (protocol and port number), as well as application-layer information such as URLs, application data type or cookie.

**Key Benefits**

**Accelerated Application Performance**
- Lowers application response times with data compression for HTTP and all TCP-based traffic
- Optimizes the application delivery infrastructure with multiple TCP optimizations
- Integrates ASIC-based SSL acceleration for faster delivery of secure Web traffic (HTTPS)

**Load Balancing and Content Switching**
- Intelligently distributes application requests based on layer 4 or layer 7 information
- Reduces application response times and optimizes server infrastructures
- Delivers robust high availability for any application infrastructure

**Application Security**
- Protects application availability with denial of service (DoS) attack defenses
- Blocks Web-based worms and application attacks with intrusion protection features
- Secures remote access to data with ICSA-certified SSL VPN support
SSL ACCELERATION

NetScaler Application Switch integrates ASIC-based SSL acceleration to off-load the compute-intensive processes of SSL connection setup and bulk encryption from Web servers. SSL acceleration reduces CPU utilization on servers, which frees resources for more users. NetScaler Application Switch is also available in a FIPS-compliant model providing secure key generation and storage.

COMPREHENSIVE APPLICATION SECURITY

Citrix’s patented Request Switching® technology enables NetScaler Application Switch to proxy legitimate client requests and block illegitimate requests. NetScaler Application Switch includes built-in defenses against damaging denial of service (DoS) attacks, including SYN floods, Tear Drop and ICMP attacks. Content inspection capabilities enable NetScaler Application Switch to identify and block application-based attacks, including request floods, worms, and viruses. Legitimate surges in application traffic are automatically handled with configurable Surge Protection and Priority Queuing features.

SECURE REMOTE ACCESS VIA SSL VPN

NetScaler Application Switch also integrates ICSA-certified SSL VPN capabilities to provide policy-managed secure remote access to applications for employees and business partners. SSL VPN traffic leverages the acceleration functionality of NetScaler Application Switch to deliver unparalleled performance for remote user access. SSL VPN functionality requires no additional client or server software, and supports a broad range of user authentication methods.

REDUCED DEPLOYMENT AND OPERATING COSTS

NetScaler Application Switch cuts application deployment costs by reducing the number of required servers and by optimizing available bandwidth. Additionally, it reduces ongoing operational expenses by consolidating multiple capabilities in a single solution managed with either a Web-based graphical user interface (GUI), or a powerful command-line interface (CLI).

**NETSCALER OPERATING SYSTEM**

The NetScaler Operating System is at the core of the Citrix NetScaler family of application delivery systems. The NetScaler Operating System is an advanced, multilayered operating system that delivers superior application availability, optimization and security.
**Key Features**

**Load Balancing and Content Switching**
- **Layer 4 Load Balancing**
  - Session Persistence Methods: Source IP, Cookie, Server, Group, SSL, Session
  - Server Monitoring: Ping, TCP, URL, ECV, scriptable health checks
  - Firewall, server and link load balancing

- **Layer 7 Content Switching**
  - Policies: URL, URL Query, URL Wildcard, Domain, Source/ Destination IP, and HTTP Header, Custom
  - Global Server Load Balancing (GSLB)
  - Site health checking on status, connection load and packet rate
  - Flexible traffic distribution policies
  - Proximity GSLB (optional)

**Application Acceleration**
- **TCP Optimization**
  - TCP multiplexing
  - TCP buffering
  - Client connection keep alive

- **AppCompress**
  - GZIP-based compression for HTTP traffic
  - Multiprotocol data compression

- **AppCompress Extreme**
  - Differential HTTP traffic compression for accelerating dynamic Web content

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

**Comprehensive Application Security**
- **DDoS Attack Defense**
  - Continue service to legitimate users while protecting servers from attacks such as: SYN Flood, Tear Drop, Land, Fraggle, Zombie connection, Ping of Death, and ICMP attacks
  - ICMP and UDP rate control

- **Application-Intelligent Intrusion Prevention**
  - Filters and blocks intrusions including worm attacks such as Nimda and Code Red, and buffer overflow attacks

**Surge Protection**
- Adaptive rate control for TCP connections and HTTP requests

**Priority Queuing**
- 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

**Secure Remote Access (SSL VPN)**
- Broad Application Support
  - Intranet, e-mail, native client/ server, terminal access, file share and other applications

- Authentication
  - Authentication methods include: LDAP, Radius, Active Directory, NTLM, SecurID, and a local database

- Authorization
  - Highly granular authorization control of Web and non-Web applications based on flexible policy engine

**Access Control**
- Based on users, groups and client settings

**Auditing**
- Comprehensive logging of all user activity

**Administration**
- Administrative monitoring and control of user sessions

**Simplified Installation and Management**
- User Interface
  - Secure Web-based GUI
  - CLI, Telnet, SSH, Console
  - Real-time performance dashboard
  - Load balancer configuration wizard

- Third-party Management Support
  - SNMP: NetScaler MIB and MIB-II support
  - XML/SOAP API for automated application-driven configuration

- Real-time Consolidated Logging
  - Off-loads logging from application server to central location

- Licensing (SSL VPN Option)
  - Support for 50 to 5,000 concurrent users

**Platform Specifications—NetScaler Application Switch Model 7000**

- **Dimensions**
  - 1.75"H x 17.25"W x 18.75"D (1U)
  - 4.4cm H x 43.8cm W x 47.6cm D

- **Weight**
  - 28 Lbs (12.7 kg)

- **Power Supply**
  - 90-264VAC Full Range
  - 47-63 Hz, 250W

- **Interface Ports**
  - 6 x 10/100 BASE-T
  - 2 x 10/100/1000 BASE-T

- **Operating Ranges**
  - Temperature and Humidity 0-50C; 5%-95%

- **Certifications**
  - Emissions: FCC (Part 15 Class A), DoC, CE, VCCI, CNS, AN/NES
  - Safety: TUV-C, US

- **Warranty**
  - 1 year hardware; 90 days software; extended support plans available.

**Platform Specifications—NetScaler Application Switch Models 9800 & 9950**

- **Dimensions**
  - 3.5"H x 17"W x 16"D
  - 8.9cm H x 43.2cm W x 40.6cm D (2U)

- **Weight**
  - 34 Lbs (15.4 kg)

- **Power Supply**
  - 90-264VAC Full Range
  - 47-63 Hz, 335W

- **Interface Ports**
  - 4 x 10/100/1000 BASE-T + 1 x 10/100/1000 BASE-T or 4 x 1000 BASE-SX Fiber ports + 1 x 10/100/1000 BASE-T

- **Operating Ranges**
  - Temperature and Humidity 0-50C; 5%-95%

- **Certifications**
  - Emissions: FCC (Part 15 Class A), DoC, CE, VCCI, CNS, AN/NES
  - Safety: TUV-C, US

- **Warranty**
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**Feature Summary**

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Optimize your applications

Find out how Citrix NetScaler application delivery solutions can make your Web applications run up to 15 times faster, while enhancing application security and dramatically reducing operational expenses.

Visit us at www.citrix.com/netscaler or call +1 (800) 638 7225 or +1 (408) 678 1600 to learn more.

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