

# Juniper Networks NetScreen ScreenOS 5.0 IPv6

## Product Overview

Increasing demand worldwide for mobile communications, VoIP, home networking, online gaming, video streaming, and other emerging applications, as well as the shortage of IPv4 addresses, particularly in emerging countries, continues to drive the industry to a singular, future-proof IP infrastructure. While IPv6 provides a clear migration path, security has proven to be one of the most critical IPv6 deployment challenges. For service providers and enterprises to transition to production IPv6 networks, they must be able to provide the same level of security that they provide for IPv4 networks. By providing the necessary security functionality, including stateful inspection firewall, IPSec VPN, denial of service protection, encryption and QoS to protect critical resources in an IPv6 network, Juniper Networks NetScreen ScreenOS 5.0 IPv6 enables service providers and enterprises to overcome the most critical roadblocks to implementing IPv6 network infrastructures.

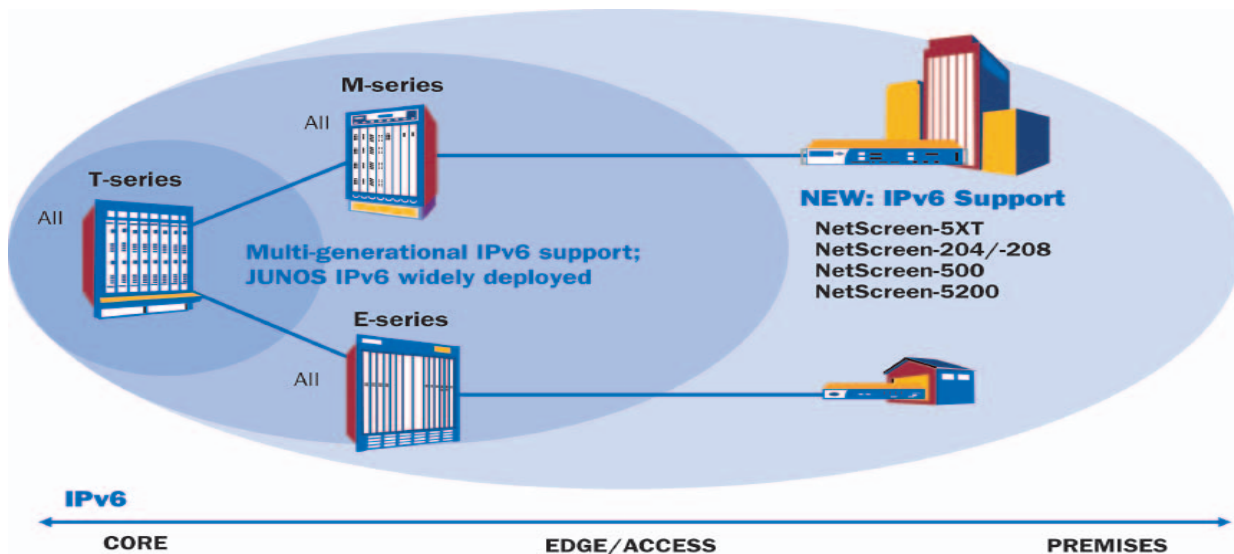
Juniper Networks provides production-grade, commercial availability of IPv6 support for both stateful firewall and IPSec VPN. This product has the required features, quality and support to be deployed in a production network environment as well as the ability to help service providers and enterprises ease the potentially significant transition from IPv4 to IPv6 networks.

## Production Ready IPv6 Security

Juniper Networks ScreenOS 5.0 IPv6 has the necessary features to implement the security devices into an IPv6 production network. With DHCPv6, customers can migrate to IPv6 without re-numbering their entire network. Support for the RIPng dynamic routing protocol allows customers a much more scalable deployment of IPv6 into production networks. With PPPoEv6, members of an IPv6 network can make individual PPPoE connections with their ISP, which is extremely important to service providers who typically connect customers to their networks using PPPoE as an access method. Service providers and enterprises can feel confident that they are implementing a security product in their IPv6 network that offers them the functionality to completely secure their production IPv6 network.

## Enhanced Security

Service providers and enterprises can secure their IPv6 networks with Juniper's stateful inspection firewall and deploy a VPN for encrypted communications throughout their entire network or organization. ScreenOS 5.0 IPv6 also provides protection against synflood and other attacks for their IPv6 network, allowing customers to protect against denial of service attacks originating from within IPv4 or IPv6 networks. This provides customers with an equivalent level of attack protection on their IPv6 network as with their IPv4 network. With Xauth, RADIUS, and mode config user authentication methods, ScreenOS 5.0 IPv6 provides a secure way for users to authenticate to an IPv6 network, allowing IPv6 service providers to allow only authorized users to access certain network resources.



Juniper Networks offers comprehensive IPv6 support from the enterprise premise to the service provider core.

# Juniper Networks NetScreen ScreenOS 5.0 IPv6

|   | Juniper Networks<br>NetScreen-5200 8G | Juniper Networks<br>NetScreen-500                      | Juniper Networks<br>NetScreen-208 | Juniper Networks<br>NetScreen-204 | Juniper Networks<br>NetScreen-5XT |
|---|---------------------------------------|--|-----------------------------------|-----------------------------------|-----------------------------------|
| <b>Maximum Performance &amp; Capacity</b>       |                                       |  |                                   |                                   |                                   |
| Firewall performance (IPv4 traffic)             | 4 Gbps                                | 700 Mbps   | 550 Mbps                          | 400 Mbps                          | 70 Mbps                           |
| Firewall performance (IPv6 traffic)             | 1 Gbps                                | 650 Mbps   | 500 Mbps                          | 350 Mbps                          | 70 Mbps                           |
| 3DES performance (IPv4 traffic)                 | 2 Gbps                                | 350 Mbps   | 200 Mbps                          | 200 Mbps                          | 20 Mbps                           |
| 3DES performance (IPv6 traffic)                 | 500 Mbps                              | 300 Mbps   | 180 Mbps                          | 180 Mbps                          | 20 Mbps                           |
| Concurrent sessions                             | 1,000,000                             | 250,000  | 128,000                           | 128,000                           | 2,000                             |
| New sessions/second                             | 26,000                                | 18,000   | 9,000                             | 9,000                             | 2,000                             |
| Policies  | 40,000                                | 20,000   | 4,000                             | 4,000                             | 100                               |
| Interfaces                                      | 8 mini GBIC (SX or LX)                | 8 10/100 or mini-GBIC<br>(SX or LX), 4 GBIC (SX or LX) | 8 10/100 Base-T                   | 4 10/100 Base-T                   | 5 10/100 Base-T                   |
| <b>Mode of Operation</b>                        |                                       |  |                                   |                                   |                                   |
| Layer 2 mode (transparent mode)                 | No                                    | No   | No                                | No                                | No                                |
| Layer 3 mode (route and/or NAT mode)            | Yes for both v4 and v6                | Yes for both v4 and v6                                 | Yes for both v4 and v6            | Yes for both v4 and v6            | Yes for both v4 and v6            |
| NAT (Network Address Translation)               | Yes for both v4 and v6                | Yes for both v4 and v6                                 | Yes for both v4 and v6            | Yes for both v4 and v6            | Yes for both v4 and v6            |
| NAT-PT (NAT Port Translation)                   | Yes for both v4 and v6                | Yes for both v4 and v6                                 | Yes for both v4 and v6            | Yes for both v4 and v6            | Yes for both v4 and v6            |
| Home/work zones                                 | No                                    | No   | No                                | No                                | Yes                               |
| Dual Untrust                                    | No                                    | No   | No                                | No                                | Yes                               |
| Dial backup                                     | No                                    | No   | No                                | No                                | Yes                               |
| Policy-based NAT                                | Yes for both v4 and v6                | Yes for both v4 and v6                                 | Yes for both v4 and v6            | Yes for both v4 and v6            | Yes for both v4 and v6            |
| Virtual IP                                      | 8/32 per VSYS                         | 4  | 4                                 | 4                                 | 1                                 |
| Mapped IP                                       | 10,000                                | 4,096  | 4,000                             | 4,000                             | 32                                |
| Users supported                                 | Unrestricted                          | Unrestricted   | Unrestricted                      | Unrestricted                      | 10 or Unrestricted                |
| <b>Firewall</b>                                 |                                       |  |                                   |                                   |                                   |
| Number of attacks detected (IPv4)               | 31                                    | 31   | 31                                | 31                                | 31                                |
| Number of attacks detected (IPv6 supported)     | 30 (syn proxy not supported)          | 30 (syn proxy not supported)                           | 30 (syn proxy not supported)      | 30 (syn proxy not supported)      | 30 (syn proxy not supported)      |
| Network attack detection                        | Yes                                   | Yes  | Yes                               | Yes                               | Yes                               |
| DoS and DDoS protections                        | Yes                                   | Yes  | Yes                               | Yes                               | Yes                               |
| TCP reassembly for fragmented packet protection | Yes                                   | Yes  | Yes                               | Yes                               | Yes                               |
| Malformed packet protections                    | Yes                                   | Yes  | Yes                               | Yes                               | Yes                               |
| Deep Inspection firewall                        | No                                    | No   | No                                | No                                | No                                |
| External antivirus (Trend Micro)                | No                                    | No   | No                                | No                                | No                                |
| Embedded antivirus (Trend Micro)                | No                                    | No   | No                                | No                                | No                                |
| Malicious URL filtering                         | Up to 48 URLs                         | Up to 48 URLs  | Up to 48 URLs                     | Up to 48 URLs                     | Up to 48 URLs                     |
| <b>VPN</b>                                      |                                       |  |                                   |                                   |                                   |
| Concurrent VPN tunnels                          | Up to 16,000                          | Up to 5,000  | Up to 1,000                       | Up to 1,000                       | Up to 10                          |
| Tunnel interfaces                               | Up to 1,024                           | Up to 1,024  | Up to 256                         | Up to 256                         | Up to 10                          |
| DES (56-bit), 3DES (168-bit) and AES encryption | Yes                                   | Yes  | Yes                               | Yes                               | Yes                               |
| MD-5 and SHA-1 authentication                   | Yes                                   | Yes  | Yes                               | Yes                               | Yes                               |
| Manual Key, IKE, PKI (X.509)                    | Yes                                   | Yes  | Yes                               | Yes                               | Yes                               |
| Perfect forward secrecy (DH Groups)             | 1,2,5                                 | 1,2,5  | 1,2,5                             | 1,2,5                             | 1,2,5                             |
| Prevent replay attack                           | Yes                                   | Yes  | Yes                               | Yes                               | Yes                               |
| Remote access VPN                               | No                                    | No   | No                                | No                                | No                                |
| IPSec NAT traversal                             | No                                    | No   | No                                | No                                | No                                |
| VPN tunnel monitor                              | Yes                                   | Yes  | Yes                               | Yes                               | Yes                               |
| <b>Firewall and VPN User Authentication</b>     |                                       |  |                                   |                                   |                                   |
| Built-in (internal) database - user limit       | Up to 25,000                          | Up to 1,500  | Up to 1,500                       | Up to 1,500                       | Up to 100                         |
| 3 <sup>rd</sup> Party user authentication       | RADIUSv6                              | RADIUSv6   | RADIUSv6                          | RADIUSv6                          | RADIUSv6                          |
| XAUTH VPN authentication                        | Yes                                   | Yes  | Yes                               | Yes                               | Yes                               |
| Mode Config                                     | Yes                                   | Yes  | Yes                               | Yes                               | Yes                               |
| Web-based authentication                        | Yes                                   | Yes  | Yes                               | Yes                               | Yes                               |
| <b>Transition Mechanisms</b>                    |                                       |  |                                   |                                   |                                   |
| IPv4/IPv6 Dual Stack Architecture               | Yes                                   | Yes  | Yes                               | Yes                               | Yes                               |
| <b>Translation:</b>                             |                                       |  |                                   |                                   |                                   |
| 4 to 6 Translation                              | Yes                                   | Yes  | Yes                               | Yes                               | Yes                               |
| 6 to 4 Translation                              | Yes                                   | Yes  | Yes                               | Yes                               | Yes                               |
| 6 in 4 Non-IPSec Tunneling                      | Yes                                   | Yes  | Yes                               | Yes                               | Yes                               |
| <b>IPSec Tunneling:</b>                         |                                       |  |                                   |                                   |                                   |
| 4 in 6 Tunneling                                | Yes                                   | Yes  | Yes                               | Yes                               | Yes                               |
| 6 in 4 Tunneling                                | Yes                                   | Yes  | Yes                               | Yes                               | Yes                               |
| 6 in 6 Tunneling                                | Yes                                   | Yes  | Yes                               | Yes                               | Yes                               |
| 4 in 4 Tunneling                                | Yes                                   | Yes  | Yes                               | Yes                               | Yes                               |
| <b>NAT-PT:</b>                                  |                                       |  |                                   |                                   |                                   |
| 4 to 6 NAT-PT                                   | Yes                                   | Yes  | Yes                               | Yes                               | Yes                               |
| 6 to 4 NAT-PT                                   | Yes                                   | Yes  | Yes                               | Yes                               | Yes                               |

|  | Juniper Networks<br>NetScreen-5200 8G                  | Juniper Networks<br>NetScreen-500                     | Juniper Networks<br>NetScreen-208 | Juniper Networks<br>NetScreen-204 | Juniper Networks<br>NetScreen-5XT |
|--|--|---|-----------------------------------|-----------------------------------|-----------------------------------|
| <b>System Management</b>                       |  |   |                                   |                                   |                                   |
| WebUI (HTTP and HTTPS)                         | Yes  | Yes   | Yes                               | Yes                               | Yes                               |
| Command Line Interface (console)               | Yes  | Yes   | Yes                               | Yes                               | Yes                               |
| Command Line Interface (telnet)                | Yes  | Yes   | Yes                               | Yes                               | Yes                               |
| Command Line Interface (SSH)                   | Yes, v1.0 and v2.0 compatible                          | Yes, v1.0 and v2.0 compatible                         | Yes, v1.0 and v2.0 compatible     | Yes, v1.0 and v2.0 compatible     | Yes, v1.0 and v2.0 compatible     |
| NetScreen-Security Manager                     | No   | No  | No                                | No                                | No                                |
| All management via VPN tunnel on any interface | Yes  | Yes   | Yes                               | Yes                               | Yes                               |
| SNMP full custom MIB for IPv4                  | Yes  | Yes   | Yes                               | Yes                               | Yes                               |
| SNMP MIB for IPv6                              | Yes (1 MIB)  | Yes (1 MIB)   | Yes (1 MIB)                       | Yes (1 MIB)                       | Yes (1 MIB)                       |
| <b>Virtualization</b>                          |  |   |                                   |                                   |                                   |
| Custom security zones                          | 16 default, upgradeable to 1,016                       | 8 default, upgradeable to 25                          | 8                                 | 4                                 |                                   |
| Virtual routers (VRs)                          | 3 default, upgradeable to 502                          | 3 default, upgradeable to 27                          | 3 default, upgradeable to 7       | 3 default, upgradeable to 7       | 2, 3 with home/work               |
| VLANs supported                                | 4,000 max; 500 per port                                | 100   | 32                                | 32                                |                                   |
| Virtualization key                             | Yes, Optional upgrade                                  | Yes, Optional upgrade                                 | Yes, Optional upgrade             | Yes, Optional upgrade             | No                                |
| Virtual systems (vsys)                         | 0 default, upgradeable to 500 (for both IPv4 and IPv6) | 0 default, upgradeable to 25 (for both IPv4 and IPv6) | No                                | No                                | No                                |
| <b>Routing</b>                                 |  |   |                                   |                                   |                                   |
| OSPF/BGP dynamic routing (IPv4)                | Yes, Up to 8 instances each                            | Yes, Up to 8 instances each                           | Yes, 3 instances each             | Yes, 3 instances each             | Yes, 3 instances each             |
| RIPv2 dynamic routing (IPv4)                   | Yes, Up to 502 instances                               | Yes, 27 instances                                     | Yes, 8 instances                  | Yes, 8 instances                  | Yes, 3 instances                  |
| OSPF/BGP for v6                                | No   | No  | No                                | No                                | No                                |
| RIPv6 (RIPng)                                  | Yes  | Yes   | Yes                               | Yes                               | Yes                               |
| Static routes                                  | 20,000   | 8,192   | 4,096                             | 4,096                             | 1,024                             |
| Source-based routing                           | Yes  | Yes   | Yes                               | Yes                               | Yes                               |
| <b>High Availability (HA)</b>                  |  |   |                                   |                                   |                                   |
|  | No   | No  | No                                | No                                | No                                |
| <b>IP Address Assignment</b>                   |  |   |                                   |                                   |                                   |
| Static for v4 and v6                           | Yes  | Yes   | Yes                               | Yes                               | Yes                               |
| DHCP for v4 and v6                             | Yes  | Yes   | Yes                               | Yes                               | Yes                               |
| PPPoE for v4 and v6                            | Yes  | Yes   | Yes                               | Yes                               | Yes                               |
| DNSv6 address assignment                       | Yes  | Yes   | Yes                               | Yes                               | Yes                               |
| DNS Proxy ("Split DNS")                        | Yes  | Yes   | Yes                               | Yes                               | Yes                               |
| <b>PKI Support</b>                             |  |   |                                   |                                   |                                   |
| PKI certificate requests (PKCS 7 and PKCS 10)  | Yes  | Yes   | Yes                               | Yes                               | Yes                               |
| Automated certificate enrollment (SCEP)        | Yes  | Yes   | Yes                               | Yes                               | Yes                               |
| Online Certificate Status Protocol (OCSP)      | Yes  | Yes   | Yes                               | Yes                               | Yes                               |
| Certificate Authorities Supported              |  |   |                                   |                                   |                                   |
| Verisign CA                                    | Yes  | Yes   | Yes                               | Yes                               | Yes                               |
| Entrust CA                                     | Yes  | Yes   | Yes                               | Yes                               | Yes                               |
| Microsoft CA                                   | Yes  | Yes   | Yes                               | Yes                               | Yes                               |
| RSA Keon CA                                    | Yes  | Yes   | Yes                               | Yes                               | Yes                               |
| iPlanet (Netscape) CA                          | Yes  | Yes   | Yes                               | Yes                               | Yes                               |
| Baltimore CA                                   | Yes  | Yes   | Yes                               | Yes                               | Yes                               |
| DOD PKI CA                                     | Yes  | Yes   | Yes                               | Yes                               | Yes                               |
| <b>Traffic Management</b>                      |  |   |                                   |                                   |                                   |
| Guaranteed bandwidth                           | No   | Yes   | Yes                               | Yes                               | Yes                               |
| Maximum bandwidth                              | Yes, per physical interface                            | Yes   | Yes                               | Yes                               | Yes                               |
| Priority bandwidth utilization                 | No   | Yes   | Yes                               | Yes                               | Yes                               |
| DiffServ stamp                                 | Yes, per policy  | Yes   | Yes                               | Yes                               | Yes                               |

**Transition Mechanisms**

Integration and transition mechanisms play a key role in simplifying operations and minimizing conversion and operational costs when introducing a new technology as significant as IPv6. Without an easy transition, customers would be faced with replacing their entire existing infrastructure and rebuilding from the ground up. With ScreenOS 5.0 IPv6, Juniper Networks supports a dual stack architecture so customers can support and secure both IPv4 and IPv6 networks simultaneously on the same device. ScreenOS 5.0 IPv6 supports all of the major IPv6 "transition mechanisms," including 4 to 6 and 6 to 4 translation, 4 in 6 and 6 in 4 tunneling, as well as NAT-PT for IPv6. This dynamic translation capability allows service providers and enterprises to easily expand their networks and perform a seamless migration to IPv6 without performing an immediate "forklift" upgrade of their existing IPv4 network infrastructure. By offering such a broad range of transition mechanisms, customers are free to implement the transition mechanism which best suits their network topology.

**IPv6 Platform Support**

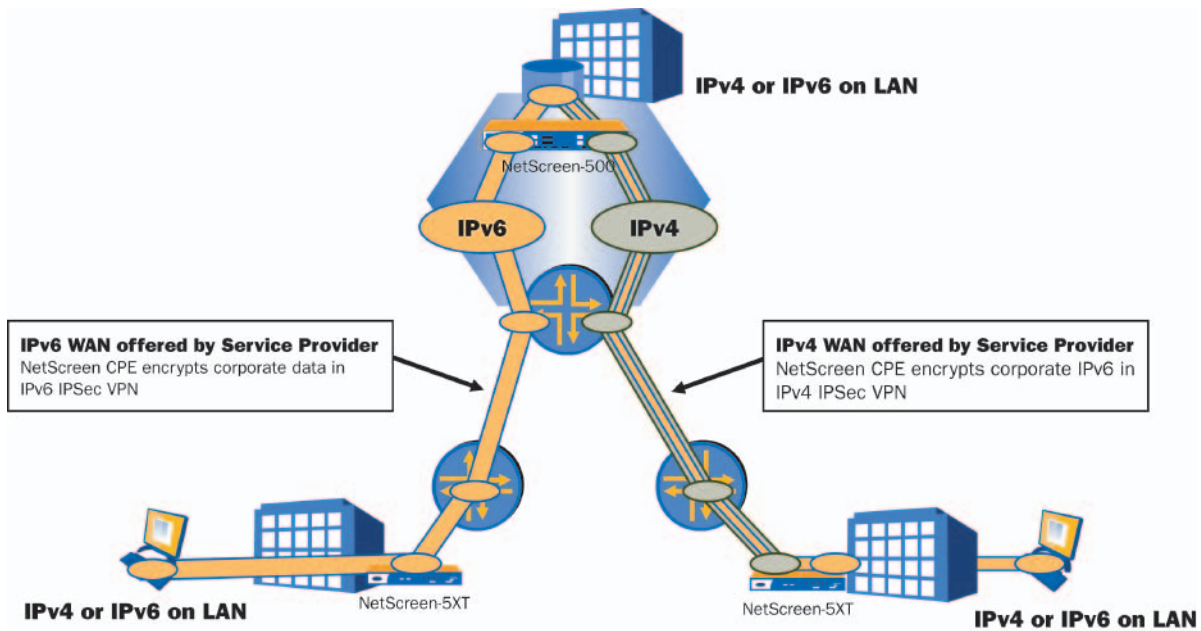
Juniper Networks NetScreen ScreenOS 5.0 IPv6 is currently available on the following platforms:

- NetScreen-5XT
- NetScreen-204/208
- NetScreen-500
- NetScreen-5200 8G

For platform ordering data, dimensions and other specifications, please contact your local sales representative or review the respective Juniper product datasheets.

**Software Pricing and Availability**

NetScreen ScreenOS 5.0 IPv6 is a limited release. It is available from the Juniper Networks support web site to customers with current and valid support contracts.



Juniper Networks supports a dual stack architecture so customers can secure both IPv4 and IPv6 networks on the same device.



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