SonicWall Network Security virtual (NSv) series

Next-gen security for public, private or hybrid cloud environments

The design, implementation and deployment of modern network architectures, such as virtualization and cloud, continue to be a game-changing strategy for many organizations. Virtualizing the data center, migrating to the cloud, or a combination of both, have demonstrated significant operational and economic advantages. However, vulnerabilities within virtual environments are well-documented. New vulnerabilities are discovered regularly that yield serious security implications and challenges. To ensure application services are delivered safely, efficiently and in a scalable manner, while combating threats harmful to all parts of the virtual framework including virtual machines (VM), application workloads and data must be among the top priorities.

SonicWall Network Security virtual (NSv) firewalls help security teams reduce these types of security risks and vulnerabilities, which can cause serious disruption to your business-critical services and operations. With full-featured security tools and services including reassembly-free deep packet inspection (RFDPI), security controls and networking services

equivalent to what a SonicWall physical firewall provides, NSv effectively shield all critical components of your private or public cloud environments.

NSv is easily deployed and provisioned in a multi-tenant virtual environment, typically between virtual networks (VNs). This allows it to capture communications and data exchanges between virtual machines for automated breach prevention, while establishing stringent access control measures for data confidentiality and VMs safety and integrity. Security threats (such as cross-virtual-machine or side-channel attacks and common network-based intrusions and application and protocol vulnerabilities) are neutralized successfully through SonicWall's comprehensive suite of security inspection services[1]. All VM traffic is subjected to multiple threat analysis engines, including intrusion prevention, gateway anti-virus and anti-spyware, cloud anti-virus, botnet filtering, application control and Capture Advanced Threat Protection multi-engine sandboxing.

Benefits:

Public and private cloud security

- Attain Next-Gen firewall capabilities coupled with agility, scalability and security of the cloud without performance impact

- Gain complete visibility and control of your virtual infrastructure for automated real-time threat prevention

- Ensure appropriate placement of security policies

- Deliver safe application enablement rules by application, user and device regardless of VM location

- Leverage multi-tenancy and micro-segmentation, with proper security zoning and isolations

- Platform support across private cloud platform (ESXi, Hyper-V[3]) and public cloud platforms (AWS[3], Azure)

- Flexible licensing models

Virtual machine protection

- Defend against zero-day vulnerabilities with Capture Advanced Threat Protection (ATP)

- Prevent unauthorized takeover of virtual systems

- Stop unauthorized access to protected data assets

- Block malicious and intrusive actions, such as spreading malware, executing operating system commands, file system browsing and C&C communication

- Prevent service disruption of any part or entire virtual ecosystem
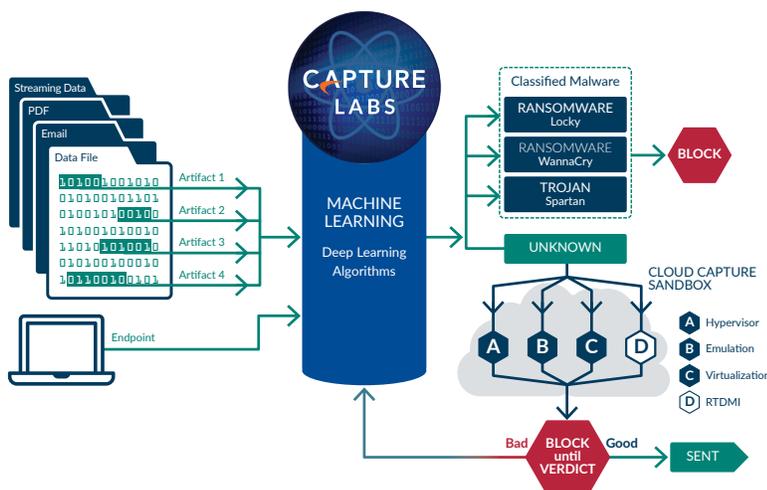
Segmentation Security

For optimal effectiveness against Advanced Persistent Threats (APTs), network security segmentation must apply an integrated set of dynamic, enforceable barriers to advanced threats. With segment-based security capabilities, NSv can group similar interfaces and apply the same policies to them, instead of having to write the same policy for each interface. By applying security policies to the inside of the VN, segmentation can be configured to organize network resources into different segments, and allow or restrict traffic between those segments. This way, access to critical internal resources can be strictly controlled.

NSv can automatically enforce segmentation restrictions based upon dynamic criteria, such as user identity credentials, geo-IP location and the security stature of mobile endpoints. For extended security, NSv it also capable of integrating multi-gigabit network switching into its security segment policy and enforcement. It directs segment policy to traffic at switching points throughout the network, and globally manage segment security enforcement from a single pane of glass.

Since segments are only as effective as the security that can be enforced between them, NSv applies intrusion prevention service (IPS) to scan incoming and outgoing traffic on the VLAN segment to enhance security for internal network traffic. For each segment, it enforces a full range of security services on multiple interfaces based on enforceable policy.

Flexible Deployment Use Cases

With infrastructure support for high availability (HA) implementation, NSv fulfills scalability and availability requirements of Software Defined Data Centers (SDDC). It ensures system resiliency, service reliability, and regulatory conformance. Optimized for broad range of public, private and hybrid deployment use cases, NSv can adapt to service-level changes and ensure VMs and their application workloads and data assets are available, as well as secure. It can do it all at multi-Gbps speed and low latency.

Organizations gain all the security advantages of a physical firewall, with the operational and economic benefits of virtualization. This includes system scalability, operation agility, provisioning speed, simple management and cost reduction.

The NSv Series is available in multiple virtual flavors carefully packaged for broad range of virtualized and cloud deployment use cases. Delivering multi-gigabit threat prevention and encrypted traffic inspection performance, the NSv Series can adapt to capacity-level increases and ensure VNs safety and application workloads and data assets are available as well as secure.

Governs Centrally

NSv deployments are centrally managed using both on premise with SonicWall GMS[2], and with SonicWall Capture Security Center[2], an open, scalable cloud security management, monitoring, reporting and analytics software that is delivered as a cost-effective as-a-service offering.

Capture Security Center gives the ultimate in visibility, agility and capacity to govern the entire SonicWall virtual and physical firewall ecosystem with greater clarity, precision, and speed – all from a single-pane-of-glass.

Features

SonicOS Platform

The SonicOS architecture is at the core of every SonicWall physical and virtual firewall including the NSv and NSa Series, SuperMassive™ Series and TZ Series. Refer to the SonicWall SonicOS Platform datasheet for complete list of features and capabilities.

Automated breach prevention[1]

This includes complete advanced threat protection, including high-performance intrusion and malware prevention, and cloud-based sandboxing.

Around-the-clock security[1]

New threat updates are automatically pushed to firewalls in the field with active security services, and take effect immediately without reboots or interruptions.

Zero-day protection[1]

NSv protects against zero-day attacks with constant updates against the latest exploit methods and techniques that cover thousands of individual exploits.

Threat API

NSv receives and leverages any and all proprietary, original equipment manufacturer and third-party intelligence feeds to combat advanced threats, such as zero-day, malicious insider, compromised credentials, ransomware and advanced persistent threats.

Zone protection

NSv strengthens internal security by segmenting the network into multiple security zones, with intrusion prevention service keeping threats from propagating across the zone boundaries. Creating and applying access rules and NAT policies to traffic passing through the various interfaces, it can allow or deny internal or external network access based on various criteria.

Application intelligence and control[1]

With application-specific policies, NSv provides granular control over network traffic on the level of users, email addresses, schedules, and IP-subnets. It controls custom applications by creating signatures based on specific parameters or patterns unique to an application in its network communications. Internal or external network access are allowed or denied based on various criteria.

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GOVERNS CENTRALLY

- Establish an easy path to comprehensive security management, analytic reporting and compliance to unify your network security defense program

- Automate and correlate workflows to form a fully coordinated security governance, compliance and risk management strategy

COMPLIANCE

- Helps make regulatory bodies and auditors happy with automatic PCI, HIPAA and SOX security reports

- Customize any combination of security auditable data to help you move towards specific compliance regulations

RISK MANAGEMENT

- Move fast and drive collaboration, communication and knowledge across the shared security framework

- Make informed security policy decisions based on time-critical and consolidated threat information for higher level of security efficiency

GMS provides a holistic approach to security governance, compliance and risk management

Data leakage prevention

NSv provides the ability to scan streams of data for keywords. This restrict the transfer of certain file names, file types, email attachments, attachment types, email with certain subjects, and email or attachments with certain keywords or byte patterns.

Application layer bandwidth management

Using packet monitor, NSv can select among various bandwidth management settings to reduce network bandwidth usage by an application. This helps gain further control over the network.

Secure communication

NSv ensures that data exchange between groups of virtual machines is done securely, including isolation, confidentiality, integrity, and information flow control within these networks via use of segmentation.

Access control

NSv validates that only VMs that satisfy a given set of conditions are able to access data that belongs to another through the use of VLANs.

User authentication

NSv creates policies to control or restrict VM and workload access by unauthorized users.

Data confidentiality

NSv blocks information theft and illegitimate access to protected data and services.

Virtual network resilience and availability

NSv prevents disruption or degradation of application services and communications.

System safety and integrity

NSv stops unauthorized takeover of VM systems and services.

Traffic validation, inspection and monitoring mechanisms

NSv detects irregularities and malicious behaviors and stop attacks targeting VM workloads.

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NSv Series system specifications

Firewall General	NSv 10	NSv 25	NSv 50	NSv 100
Operating system	SonicOS[1]			
Supported Hypervisors	VMware ESXi v5.5 / v6.0 / v6.5, Microsoft Hyper-V			
License Types	Perpetual, Non-perpetual	Perpetual	Perpetual, Non-perpetual	Perpetual
Max Supported vCPUs	2	2	2	2
Interface Count (ESXi)	8	8	8	8
Max Mgmt/DataPlane Cores	1/1	1/1	1/1	1/1
Min Memory[2]	4 GB	4 GB	4 GB	4 GB
Max Memory[3]	6 GB	6 GB	6 GB	6 GB
Supported IP/Nodes	10	25	50	100
Minimum Storage	60 GB			
SSO users	25	50	100	100
Logging	Analyzer, Local Log, Syslog			
High availability	Active/Passive			
Firewall/VPN Performance[5]	NSv 10	NSv 25	NSv 50	NSv 100
Firewall Inspection Throughput	2 Gbps	2.5 Gbps	3 Gbps	3.5 Gbps
Full DPI Throughput (GAV/GAS/IPS)	450 Mbps	550 Mbps	650 Mbps	750 Mbps
Application Inspection Throughput	1 Gbps	1.25 Gbps	1.5 Gbps	1.75 Gbps
IPS Throughput	1 Gbps	1.25 Gbps	1.5 Gbps	1.75 Gbps
Anti-Malware Inspection Throughput	450 Mbps	550 Mbps	650 Mbps	750 Mbps
IMIX Throughput	750 Mbps	850 Mbps	950 Mbps	1100 Mbps
TLS/SSL DPI Throughput	650 Mbps	750 Mbps	850 Mbps	950 Mbps
VPN Throughput	500 Mbps	550 Mbps	600 Mbps	650 Mbps
Connections per second	1,800	5,000	8,000	10,000
Maximum connections (SPI)	2,500	6,250	12,500	25,000
Maximum connections (DPI)	2,500	6,250	12,500	25,000
TLS/SSL DPI Connections	500	1,000	2,000	4,000
VPN	NSv 10	NSv 25	NSv 50	NSv 100
Site-to-Site VPN Tunnels	10	10	25	50
IPSec VPN clients	10	10	25	25
SSL VPN NetExtender Clients (Maximum)	2(10)	2(25)	2(25)	2(25)
Encryption/authentication	DES, 3DES, AES (128, 192, 256-bit)/MD5, SHA-1, Suite B, Common Access Card (CAC)			
Key exchange	Diffie Hellman Groups 1, 2, 5, 14v			
Route-based VPN	RIP, OSPF, BGP			
Networking	NSv 10	NSv 25	NSv 50	NSv 100
IP address assignment	Static, DHCP, internal DHCP server, DHCP relay			
NAT modes	1:1, many:1, 1:many, flexible NAT (overlapping IPs), PAT			
VLAN Interfaces	25	25	50	50
Routing protocols	BGP, OSPF, RIPv1/v2, static routes, policy-based routing			
QoS	Bandwidth priority, max bandwidth, guaranteed bandwidth, DSCP marking, 802.1p			
Authentication	XAUTH/RADIUS, Active Directory, SSO, LDAP, Novell, internal user database, Terminal Services, Citrix			
VoIP	SIP			
Standards	TCP/IP, ICMP, HTTP, HTTPS, IPSec, ISAKMP/IKE, SNMP, DHCP, L2TP, PPTP, RADIUS			

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NSv Series system specifications con't

Firewall General	NSv 200	NSv 300	NSv 400	NSv 800	NSv 1600
Operating system	SonicOS[1]				
Supported Hypervisors	VMware ESXi v5.5 / v6.0 / v6.5 , Microsoft Hyper-V				
License Types	Perpetual, Non-perpetual	Perpetual	Perpetual, Non-perpetual	Perpetual, Non-perpetual	Perpetual
Supported Public Cloud Platforms (Instance Type)	AWS (c5.large), Azure (Std D2 v2)	N/A	AWS (c5.xlarge), Azure (Std D3 v2)	AWS (c5.2xlarge), Azure (Std D4 v2)	AWS (c5.4xlarge), Azure (Std D5 v2)
Max Supported vCPUs	2	3	4	8	16
Interface Count (ESXi/AWS/Azure)	8/3/2	8/-/-	8/4/4	8/4/8	8/8/8
Max Mgmt/DataPlane Cores	1/1	1/2	1/3	1/7	1/15
Min Memory[2]	4 GB	6 GB	8 GB	10 GB	12 GB
Max Memory[3]	6 GB	8 GB	10 GB	14 GB	18 GB
Supported IP/Nodes	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited
Minimum Storage	60 GB				
SSO users	500	5,000	10,000	15,000	20,000
Logging	Analyzer, Local Log, Syslog				
High availability	Active/Passive[4]				
Firewall/VPN Performance[5]	**NSv 200**	**NSv 300**	**NSv 400**	**NSv 800**	**NSv 1600**
Firewall Inspection Throughput	4.1 Gbps	5.9 Gbps	7.8 Gbps	13.9 Gbps	17.2 Gbps
Full DPI Throughput (GAV/GAS/IPS)	900 Mbps	1.6 Gbps	2.2 Gbps	4.0 Gbps	6.4 Gbps
Application Inspection Throughput	2.3 Gbps	3.4 Gbps	4.1 Gbps	5.5 Gbps	6.4 Gbps
IPS Throughput	2.3 Gbps	3.4 Gbps	4.1 Gbps	5.5 Gbps	6.7 Gbps
Anti-Malware Inspection Throughput	900 Mbps	1.6 Gbps	2.2 Gbps	4.0 Gbps	6.6 Gbps
IMIX Throughput	1.5 Gbps	2.3 Gbps	2.8 Gbps	4.2 Gbps	5.3 Gbps
TLS/SSL DPI Throughput	1.1 Gbps	1.2 Gbps	1.8 Gbps	3.4 Gbps	5.1 Gbps
VPN Throughput	750 Mbps	1.4 Gbps	1.9 Gbps	4.2 Gbps	8.4 Gbps
Connections per second	13,760	24,360	37,270	75,640	125,000
Maximum connections (SPI)	225,000	1M	1.5M	3M	4M
Maximum connections (DPI)	125,000	500,000	1.5M	2M	2.5M
TLS/SSL DPI Connections	8,000	12,000	20,000	30,000	50,000
VPN	**NSv 200**	**NSv 300**	**NSv 400**	**NSv 800**	**NSv 1600**
Site-to-Site VPN Tunnels	75	100	6000	10,000	25,000
IPSec VPN clients (Maximum)	50(1000)	50(1000)	2000(4000)	2000(6000)	2000(10,000)
SSL VPN NetExtender Clients (Maximum)	2(100)	2(100)	2(100)	2(100)	2(100)
Encryption/authentication	DES, 3DES, AES (128, 192, 256-bit)/MD5, SHA-1, Suite B, Common Access Card (CAC)				
Key exchange	Diffie Hellman Groups 1, 2, 5, 14v				
Route-based VPN	RIP, OSPF, BGP				
Networking	**NSv 200**	**NSv 300**	**NSv 400**	**NSv 800**	**NSv 1600**
IP address assignment	Static, DHCP, internal DHCP server, DHCP relay				
NAT modes	1:1, many:1, 1:many, flexible NAT (overlapping IPs), PAT				
VLAN Interfaces	50	256	500	512	512
Routing protocols	BGP, OSPF, RIPv1/v2, static routes, policy-based routing				
QoS	Bandwidth priority, max bandwidth, guaranteed bandwidth, DSCP marking, 802.1p				
Authentication	XAUTH/RADIUS, Active Directory, SSO, LDAP, Novell, internal user database, Terminal Services, Citrix				
VoIP	SIP				
Standards	TCP/IP, ICMP, HTTP, HTTPS, IPSec, ISAKMP/IKE, SNMP, DHCP, L2TP, PPTP, RADIUS				

[1]*Currently supporting SonicOS 6.5.0. SonicOS 6.5.2 support available end of calendar year.*
[2]*Memory with Jumbo frame disabled.*
[3]*Memory with Jumbo frame enabled. Additional memory is required for Jumbo frame enabled.*
[4]*High availability available on VMware ESXi platform and Microsoft Hyper-V.*
[5]*Published performance numbers are up to the specification and the actual performance may vary depending on underlying hardware, network conditions; firewall configuration and activated services. Performance and capacities may also vary based on underlying virtualization infrastructure, and we recommend additional testing within your environment to ensure your performance and capacity requirements are met. Performance metrics were observed using Intel Xeon W Processor (W-2195 2.3GHz, 4.3GHz Turbo, 24.75M Cache) running SonicOSv 6.5.0.2 with VMware vSphere 6.5.*
Testing Methodologies:
Maximum performance based on RFC 2544 (for firewall).
Full DPI/Gateway AV/Anti-Spyware/IPS throughput measured using industry standard Spirent WebAvalanche HTTP performance test and Ixia test tools.
Testing done with multiple flows through multiple port pairs.

VPN throughput measured using UDP traffic at 1418 byte packet size adhering to RFC 2544. All specifications and features are subject to change.

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Features

RFDPI engine	
Feature	Description
Reassembly-Free Deep Packet Inspection (RFDPI)	This high-performance, proprietary and patented inspection engine performs stream-based, bi-directional traffic analysis, without proxying or buffering, to uncover intrusion attempts and malware and to identify application traffic regardless of port.
Bi-directional inspection	Scans for threats in both inbound and outbound traffic simultaneously to ensure that the network is not used to distribute malware and does not become a launch platform for attacks in case an infected machine is brought inside.
Stream-based inspection	Proxy-less and non-buffering inspection technology provides ultra-low latency performance for DPI of millions of simultaneous network streams without introducing file and stream size limitations, and can be applied on common protocols as well as raw TCP streams.
Highly parallel and scalable	The unique design of the RFDPI engine works with the multi-core architecture to provide high DPI throughput and extremely high new session establishment rates to deal with traffic spikes in demanding networks.
Single-pass inspection	A single-pass DPI architecture simultaneously scans for malware, intrusions and application identification, drastically reducing DPI latency and ensuring that all threat information is correlated in a single architecture.

Firewall and networking	
Feature	Description
REST APIs	Allows the firewall to receive and leverage any and all proprietary, original equipment manufacturer and third-party intelligence feeds to combat advanced threats such as zero-day, malicious insider, compromised credentials, ransomware and advanced persistent threats.
Stateful packet inspection	All network traffic is inspected, analyzed and brought into compliance with firewall access policies.
High availability[1]	The NSv series supports Active/Passive (A/P) with state synchronization.
DDoS/DoS attack protection	SYN flood protection provides a defense against DoS attacks using both Layer 3 SYN proxy and Layer 2 SYN blacklisting technologies. Additionally, it protects against DoS/DDoS through UDP/ICMP flood protection and connection rate limiting.
IPv6 support	Internet Protocol version 6 (IPv6) is in its early stages to replace IPv4. With SonicOS, the hardware will support filtering and wire mode implementations.
Flexible deployment options	The NSv series can be deployed in traditional NAT, Layer 2 bridge, wire and network tap modes.
WAN load balancing	Load-balances multiple WAN interfaces using Round Robin, Spillover or Percentage methods.
Advanced quality of service (QoS)	Guarantees critical communications with 802.1p, DSCP tagging, and remapping of VoIP traffic on the network.
SIP proxy support	Blocks spam calls by requiring that all incoming calls are authorized and authenticated by SIP proxy.
Biometric authentication	Supports mobile device authentication such as fingerprint recognition that cannot be easily duplicated or shared to securely authenticate the user identity for network access.
Open authentication and social login	Enable guest users to use their credentials from social networking services such as Facebook, Twitter, or Google+ to sign in and access the Internet and other guest services through a host's wireless, LAN or DMZ zones using pass-through authentication.

Management and reporting	
Feature	Description
Cloud-based and on-premises management	Configuration and management of SonicWall appliances is available via the cloud through the SonicWall Capture Security Center and on-premises using SonicWall Global Management System (GMS).
Powerful single device management	An intuitive web-based interface allows quick and convenient configuration, in addition to a comprehensive command-line interface and support for SNMPv2/3.
IPFIX/NetFlow application flow reporting	Exports application traffic analytics and usage data through IPFIX or NetFlow protocols for real-time and historical monitoring and reporting with tools such as SonicWall Scrutinizer or other tools that support IPFIX and NetFlow with extensions.

Virtual private networking (VPN)	
Feature	Description
Auto-provision VPN	Simplifies and reduces complex distributed firewall deployment down to a trivial effort by automating the initial site-to-site VPN gateway provisioning between SonicWall firewalls while security and connectivity occurs instantly and automatically.
IPSec VPN for site-to-site connectivity	High-performance IPSec VPN allows the NSv series to act as a VPN concentrator for thousands of other large sites, branch offices or home offices.
SSL VPN or IPSec client remote access	Utilizes clientless SSL VPN technology or an easy-to-manage IPSec client for easy access to email, files, computers, intranet sites and applications from a variety of platforms.
Redundant VPN gateway	When using multiple WANs, a primary and secondary VPN can be configured to allow seamless, automatic failover and failback of all VPN sessions.
Route-based VPN	The ability to perform dynamic routing over VPN links ensures continuous uptime in the event of a temporary VPN tunnel failure, by seamlessly re-routing traffic between endpoints through alternate routes.

[1]High availability is currently not supported on AWS and Azure

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Content/context awareness	
Feature	Description
User activity tracking	User identification and activity are made available through seamless AD/LDAP/Citrix1/Terminal Services1 SSO integration combined with extensive information obtained through DPI.
GeoIP country traffic identification	Identifies and controls network traffic going to or coming from specific countries to either protect against attacks from known or suspected origins of threat activity, or to investigate suspicious traffic originating from the network. Ability to create custom country and Botnet lists to override an incorrect country or Botnet tag associated with an IP address. Eliminates unwanted filtering of IP addresses due to misclassification.
Regular expression DPI filtering	Prevents data leakage by identifying and controlling content crossing the network through regular expression matching. Provides the ability to create custom country and Botnet lists to override an incorrect country or Botnet tag associated with an IP address.

Breach prevention subscription services

Capture Advanced Threat Protection	
Feature	Description
Multi-engine sandboxing	The multi-engine sandbox platform, which includes virtualized sandboxing, full system emulation, and hypervisor level analysis technology, executes suspicious code and analyzes behavior, providing comprehensive visibility to malicious activity.
Real-Time Deep Memory Inspection (RTDMI)	This patent-pending cloud-based technology detects and blocks malware that does not exhibit any malicious behavior and hides its weaponry via encryption. By forcing malware to reveal its weaponry into memory, the RTDMI engine proactively detects and blocks mass-market, zero-day threats and unknown malware.
Block until verdict	To prevent potentially malicious files from entering the network, files sent to the cloud for analysis can be held at the gateway until a verdict is determined.
Broad file type and size analysis	Supports analysis of a broad range of file types, either individually or as a group, including executable programs (PE), DLL, PDFs, MS Office documents, archives, JAR, and APK plus multiple operating systems including Windows, Android, Mac OS X and multi-browser environments.
Rapid deployment of signatures	When a file is identified as malicious, a signature is immediately deployed to firewalls with SonicWall Capture ATP subscriptions and Gateway Anti-Virus and IPS signature databases and the URL, IP and domain reputation databases within 48 hours.
Capture Client	Capture Client is a unified client platform that delivers multiple endpoint protection capabilities, including advanced malware protection and support for visibility into encrypted traffic. It leverages layered protection technologies, comprehensive reporting and endpoint protection enforcement.
Encrypted threat prevention	
Feature	Description
TLS/SSL decryption and inspection	Decrypts and inspects TLS/SSL encrypted traffic on the fly, without proxying, for malware, intrusions and data leakage, and applies application, URL and content control policies in order to protect against threats hidden in encrypted traffic. Included with security subscriptions for all NSv series models.
SSH inspection	Deep packet inspection of SSH (DPI-SSH) decrypts and inspect data traversing over SSH tunnel to prevent attacks that leverage SSH.
Intrusion prevention	
Feature	Description
Countermeasure-based protection	Tightly integrated intrusion prevention system (IPS) leverages signatures and other countermeasures to scan packet payloads for vulnerabilities and exploits, covering a broad spectrum of attacks and vulnerabilities.
Automatic signature updates	The SonicWall Threat Research Team continuously researches and deploys updates to an extensive list of IPS countermeasures that covers more than 50 attack categories. The new updates take immediate effect without any reboot or service interruption required.
Intra-zone IPS protection	Bolsters internal security by segmenting the network into multiple security zones with intrusion prevention, preventing threats from propagating across the zone boundaries.
Botnet command and control (CnC) detection and blocking	Identifies and blocks command and control traffic originating from bots on the local network to IPs and domains that are identified as propagating malware or are known CnC points.
Protocol abuse/anomaly	Identifies and blocks attacks that abuse protocols in an attempt to sneak past the IPS.
Zero-day protection	Protects the network against zero-day attacks with constant updates against the latest exploit methods and techniques that cover thousands of individual exploits.
Anti-evasion technology	Extensive stream normalization, decoding and other techniques ensure that threats do not enter the network undetected by utilizing evasion techniques in Layers 2-7.

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Threat prevention	
Feature	Description
Gateway anti-malware	The RFDPI engine scans all inbound, outbound and intra-zone traffic for viruses, Trojans, key loggers and other malware in files of unlimited length and size across all ports and TCP streams.
Capture Cloud malware protection	A continuously updated database of tens of millions of threat signatures resides in the SonicWall cloud servers and is referenced to augment the capabilities of the onboard signature database, providing RFDPI with extensive coverage of threats.
Around-the-clock security updates	New threat updates are automatically pushed to firewalls in the field with active security services, and take effect immediately without reboots or interruptions.
Bi-directional raw TCP inspection	The RFDPI engine is capable of scanning raw TCP streams on any port bi-directionally preventing attacks that they to sneak by outdated security systems that focus on securing a few well-known ports.
Extensive protocol support	Identifies common protocols such as HTTP/S, FTP, SMTP, SMBv1/v2 and others, which do not send data in raw TCP, and decodes payloads for malware inspection, even if they do not run on standard, well-known ports.

Application intelligence and control	
Feature	Description
Application control	Control applications, or individual application features, that are identified by the RFDPI engine against a continuously expanding database of over thousands of application signatures, to increase network security and enhance network productivity.
Custom application identification	Control custom applications by creating signatures based on specific parameters or patterns unique to an application in its network communications, in order to gain further control over the network.
Application bandwidth management	Granularly allocate and regulate available bandwidth for critical applications or application categories while inhibiting nonessential application traffic.
Granular control	Control applications, or specific components of an application, based on schedules, user groups, exclusion lists and a range of actions with full SSO user identification through LDAP/AD/Terminal Services/Citrix integration.

Content filtering	
Feature	Description
Inside/outside content filtering	Enforce acceptable use policies and block access to HTTP/HTTPS websites containing information or images that are objectionable or unproductive with Content Filtering Service and Content Filtering Client.
Enforced Content Filtering Client	Extend policy enforcement to block internet content for Windows, Mac OS, Android and Chrome devices located outside the firewall perimeter.
Granular controls	Block content using the predefined categories or any combination of categories. Filtering can be scheduled by time of day, such as during school or business hours, and applied to individual users or groups.
Web caching	URL ratings are cached locally on the SonicWall firewall so that the response time for subsequent access to frequently visited sites is only a fraction of a second.

Enforced antivirus and anti-spyware	
Feature	Description
Multi-layered protection	Utilize the firewall capabilities as the first layer of defense at the perimeter, coupled with endpoint protection to block, viruses entering network through laptops, thumb drives and other unprotected systems.
Automated enforcement option	Ensure every computer accessing the network has the appropriate antivirus software and/or DPI-SSL certificate installed and active, eliminating the costs commonly associated with desktop antivirus management.
Automated deployment and installation option	Machine-by-machine deployment and installation of antivirus and anti-spyware clients is automatic across the network, minimizing administrative overhead.
Next-generation antivirus	Capture Client uses a static artificial intelligence (AI) engine to determine threats before they can execute and roll back to a previous uninfected state.
Spyware protection	Powerful spyware protection scans and blocks the installation of a comprehensive array of spyware programs on desktops and laptops before they transmit confidential data, providing greater desktop security and performance.

Licensing	
Feature	Description
Bring Your Own License (BYOL) Perpetual	NSv is available as a BYOL perpetual license for 1/3/5 year terms. Firewall license does not expire, whereas security service licenses do expire.
Bring Your Own License (BYOL) Non-Perpetual	NSv is available as a BYOL non-perpetual license for 12 month terms. Firewall and security services are available as a single SKU, and expires together.

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SonicOS feature summary

Firewall

- Stateful packet inspection
- Reassembly-Free Deep Packet Inspection
- DDoS attack protection (UDP/ICMP/SYN flood)
- IPv4/IPv6
- Biometric authentication for remote access
- DNS proxy
- REST APIs

TLS/SSL/SSH decryption and inspection[1]

- Deep packet inspection for TLS/SSL/SSH
- Inclusion/exclusion of objects, groups or hostnames
- TLS/SSL control
- Granular DPI SSL controls per zone or rule

Capture advanced threat protection[1]

- Real-Time Deep Memory Inspection
- Cloud-based multi-engine analysis
- Virtualized sandboxing
- Hypervisor level analysis
- Full system emulation
- Broad file type examination
- Automated and manual submission
- Real-time threat intelligence updates
- Block until verdict
- Capture Client

Intrusion prevention[1]

- Signature-based scanning
- Automatic signature updates
- Bi-directional inspection
- Granular IPS rule capability
- GeoIP enforcement
- Botnet filtering with dynamic list
- Regular expression matching

Anti-malware[1]

- Stream-based malware scanning
- Gateway anti-virus
- Gateway anti-spyware
- Bi-directional inspection
- No file size limitation
- Cloud malware database

Application identification[1]

- Application control
- Application bandwidth management
- Custom application signature creation
- Data leakage prevention
- Application reporting over NetFlow/IPFIX
- Comprehensive application signature database

Traffic visualization and analytics

- User activity
- Application/bandwidth/threat usage
- Cloud-based analytics

Web content filtering[1]

- URL filtering
- Proxy avoidance
- Keyword blocking
- HTTP header insertion
- Bandwidth manage CFS rating categories
- Unified policy model with app control
- Content Filtering Client

VPN

- Auto-provision VPN
- IPSec VPN for site-to-site connectivity
- SSL VPN and IPSec client remote access
- Redundant VPN gateway
- Mobile Connect for iOS, Mac OS X, Windows, Chrome, Android and Kindle Fire
- Route-based VPN (OSPF, RIP, BGP)

Networking

- PortShield
- Jumbo frames
- Enhanced logging
- VLAN trunking[2]
- RSTP (Rapid Spanning Tree Protocol)
- Layer-2 QoS
- Port security
- Dynamic routing (RIP/OSPF/BGP)
- Policy-based routing (ToS/metric and ECMP)
- NAT
- DNS/DNS proxy
- DHCP server
- Bandwidth management
- A/P high availability with state sync[3]
- Inbound/outbound load balancing
- Wire mode[4]
- Asymmetric routing
- Common Access Card (CAC) support

VoIP

- Granular QoS control
- Bandwidth management
- SIP transformations per access rule
- SIP proxy support

Management and monitoring

- Capture Security Center, GMS, Web UI, CLI, REST APIs, SNMPv2/v3
- Logging
- Netflow/IPFix exporting
- Cloud-based configuration backup

Storage

- Logs
- Reports
- Firmware backups

[1]Requires added subscription
[2]VLAN interface not supported on AWS/Azure
[3]High availability not supported on AWS/Azure
[4]Wire mode not supported on AWS/Azure

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NSv Series ordering information

Product	ESXi SKU	Azure SKU
SonicWall NSv 10 Virtual Appliance TotalSecure Advanced Edition (1-year)	01-SSC-5875	—
SonicWall NSv 25 Virtual Appliance TotalSecure Advanced Edition (1-year)	01-SSC-5923	—
SonicWall NSv 50 Virtual Appliance TotalSecure Advanced Edition (1-year)	01-SSC-5926	—
SonicWall NSv 100 Virtual Appliance TotalSecure Advanced Edition (1-year)	01-SSC-5929	—
SonicWall NSv 200 Virtual Appliance TotalSecure Advanced Edition (1-year)	01-SSC-5950	02-SSC-0868
SonicWall NSv 300 Virtual Appliance TotalSecure Advanced Edition (1-year)	01-SSC-5964	—
SonicWall NSv 400 Virtual Appliance TotalSecure Advanced Edition (1-year)	01-SSC-6084	02-SSC-0888
SonicWall NSv 800 Virtual Appliance TotalSecure Advanced Edition (1-year)	01-SSC-6101	02-SSC-0889
SonicWall NSv 1600 Virtual Appliance TotalSecure Advanced Edition (1-year)	01-SSC-6109	02-SSC-0895
Product	**ESXi SKU**	**Azure SKU**
SonicWall NSv 10 Virtual Appliance TotalSecure Advanced Edition (3-year)	01-SSC-5008	—
SonicWall NSv 25 Virtual Appliance TotalSecure Advanced Edition (3-year)	01-SSC-4830	—
SonicWall NSv 50 Virtual Appliance TotalSecure Advanced Edition (3-year)	01-SSC-5165	—
SonicWall NSv 100 Virtual Appliance TotalSecure Advanced Edition (3-year)	01-SSC-5161	—
SonicWall NSv 200 Virtual Appliance TotalSecure Advanced Edition (3-year)	01-SSC-5194	02-SSC-0866
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SonicWall NSv 800 Virtual Appliance TotalSecure Advanced Edition (3-year)	01-SSC-5216	02-SSC-0891
SonicWall NSv 1600 Virtual Appliance TotalSecure Advanced Edition (3-year)	01-SSC-5306	02-SSC-0897
Product	**ESXi SKU**	**Azure SKU**
SonicWall NSv 10 Virtual Appliance TotalSecure Advanced Edition (5-year)	01-SSC-5584	—
SonicWall NSv 25 Virtual Appliance TotalSecure Advanced Edition (5-year)	01-SSC-5587	—
SonicWall NSv 50 Virtual Appliance TotalSecure Advanced Edition (5-year)	01-SSC-5649	—
SonicWall NSv 100 Virtual Appliance TotalSecure Advanced Edition (5-year)	01-SSC-5671	—
SonicWall NSv 200 Virtual Appliance TotalSecure Advanced Edition (5-year)	01-SSC-5581	02-SSC-0864
SonicWall NSv 300 Virtual Appliance TotalSecure Advanced Edition (5-year)	01-SSC-5681	—
SonicWall NSv 400 Virtual Appliance TotalSecure Advanced Edition (5-year)	01-SSC-5684	02-SSC-0886
SonicWall NSv 800 Virtual Appliance TotalSecure Advanced Edition (5-year)	01-SSC-5690	02-SSC-0890
SonicWall NSv 1600 Virtual Appliance TotalSecure Advanced Edition (5-year)	01-SSC-5693	02-SSC-0896

Please consult with your local SonicWall reseller for a complete list of SKUs

SonicWall NSv Firewall Promotion
The following NSa/NSsp series firewalls are eligible to receive a one-year license to the corresponding NSv Virtual Appliance TotalSecure Subscription* at no additional cost.

Eligible Hardware Firewall	Corresponding NSv Firewall
NSa 5650	NSv 200
NSa 6650	NSv 200
NSa 9250	NSv 400
NSa 9450	NSv 400
NSa 9650	NSv 400
NSsp 12400	NSv 800
NSsp 12800	NSv 800

NSv Virtual Appliance TotalSecure Subscription includes NSv virtual firewall, Gateway Anti-Virus, Anti-Spyware, Intrusion Prevention and Application Firewall Service, Content Filtering Premium Service, Capture Security Center and 24x7 Support.

About Us
SonicWall has been fighting the cybercriminal industry for over 27 years, defending small, medium-sized businesses and enterprises worldwide. Our combination of products and partners has enabled an automated real-time breach detection and prevention solution tuned to the specific needs of the more than 500,000 organizations in over 215 countries and territories, so you can do more business with less fear. For more information, visit www.sonicwall.com or follow us on Twitter, LinkedIn, Facebook and Instagram.

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