DATA SHEET

FireEye

FireEye Network Security

Effective protection against cyber breaches for midsize to large organizations

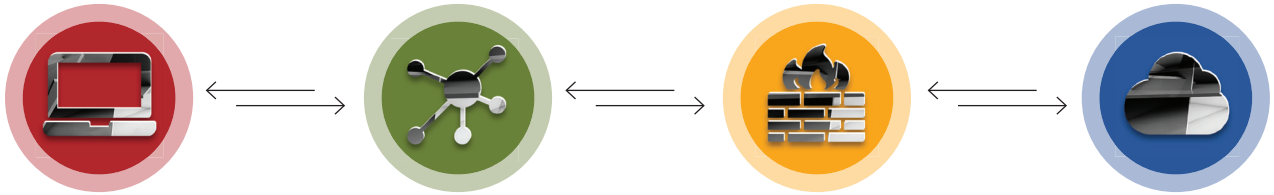
Overview

FireEye Network Security is an effective cyber threat protection solution that helps organizations minimize the risk of costly breaches by accurately detecting and immediately stopping advanced, targeted and other evasive attacks hiding in Internet traffic. It facilitates efficient resolution of detected security incidents in minutes with concrete evidence, actionable intelligence and response workflow integration. With FireEye Network Security, organizations are effectively protected against today's threats whether they exploit Microsoft Windows, Apple OS X operating systems, or application vulnerabilities; are directed at the headquarters or branch offices; or are hidden in a large volume of inbound Internet traffic that has to be inspected in real time.

At the core of FireEye Network Security are the Multi-Vector Virtual Execution™ (MVX) and Intelligence-Driven Analysis (IDA) technologies. MVX is a signature-less, dynamic analysis engine that inspects suspicious network traffic to identify attacks that evade traditional signature- and policy-based defenses. IDA is a collection of contextual, dynamic rules engines that detects and blocks malicious activity in real-time and retroactively, based on the latest machine-, attacker- and victim-intelligence. FireEye Network Security also includes intrusion prevention system (IPS) technology to detect common attacks using conventional signature matching.

FireEye Network Security is available in a variety of form factors, deployment and performance options. It is typically placed in the path of Internet traffic behind traditional network security appliances such as next-generation firewalls, IPS and secure web gateways (SWG). FireEye Network Security supplements these solutions by rapidly detecting both known and unknown attacks with high accuracy and a low rate of false positives, while facilitating an efficient response to each alert.

Figure 1. Typical configuration — Network Security solutions.



Capabilities	Benefits
Detection	
Accurate detection of advanced, targeted and other evasive cyber attacks	Minimizes risk of costly cyber breaches
Extensible, modular security architecture	Provides investment protection
Consistent level of protection for multi-OS environments and all Internet access points	Creates a strong defense across the entire organization for all types of devices
Integrated, distributed, physical, virtual, on-premise and cloud deployment options	Offers flexibility to align with organizational preferences and resources
Multi-vector correlation with Email and Content Security	Provides visibility across wider attack surface
Prevention	
Immediate blocking of attacks at line rates from 10 Mbps to 8 Gbps	Gives real-time protection against evasive attacks
Response	
Low rate of false alerts, riskware categorization and automated IPS alert validation	Reduces operational cost of triaging unreliable alerts
Pivot to investigation and alert validation, endpoint containment and incident response	**Automates and simplifies security workflows**
Execution evidence and actionable threat intelligence with contextual insight	**Accelerates prioritization and resolution of detected security incidents**
Scalability from one site to thousands of sites	**Supports business growth**

Technical Advantages

Accurate Threat Detection

FireEye Network Security uses multiple analysis techniques to detect attacks with high accuracy and a low rate of false alerts:

- **Multi-Vector Virtual Execution™ (MVX)** engine detects zero-day, multi-flow and other evasive attacks with dynamic, signature-less analysis in a safe, virtual environment. It stops infection and compromise phases of the cyber-attack kill chain by identifying never-before-seen exploits and malware.
- **Intelligence-Driven Analysis (IDA)** engines detect and block obfuscated, targeted and other customized attacks with contextual, rule-based analysis from real-time insights gathered on the front lines from millions of MVX verdicts, thousands of hours of incident response experience gathered by Mandiant, a FireEye company and hundreds of iSight threat researchers. It stops infection, compromise and intrusion phases of the cyber-attack kill chain by identifying malicious exploits, malware and command and control (CnC) callbacks. It also extracts and submits suspicious network traffic to the MVX engine for a definitive verdict analysis.
- **Structured Threat Intelligence eXpression (STIX)** allows the ingestion of third-party threat intelligence using an industry-standard format to add custom threat indicators into the IDA engines.

Immediate and Resilient Protection

FireEye Network Security offers flexible configuration modes including:

- Out-of-band monitoring via a TAP/SPAN, inline monitoring or inline active blocking. Inline blocking mode automatically blocks inbound exploits and malware and outbound multi-protocol callbacks. In inline monitoring mode, alerts are generated and organizations decide how to respond to them. In out-of-band prevention mode, FireEye Network Security issues TCP resets for out-of-band blocking of TCP, UDP or HTTP connections.
- Integration with the FireEye Active Fail Open (AFO) switch to ensure no network interruption.
- Selected models offer an active high availability (HA) option to provide resilience in case of network or device failures.

Wide Attack Surface Coverage

FireEye Network Security delivers a consistent level of protection for today's diverse network environments:

- Support for most common Microsoft Windows and Apple Mac OS X operating systems
- Analysis of over 140 different file types, including portable executables (PEs), web content, archives, images, Java, Microsoft and Adobe applications and multimedia
- Execution of suspicious network traffic against thousands of operating system, service pack, application type and application version combinations

Validated and Prioritized Alerts

In addition to detecting genuine attacks, FireEye MVX technology is also used to determine the reliability of alerts detected by conventional signature-matching methods and to identify and prioritize critical threats:

- Intrusion prevention system (IPS) with MVX engine validation reduces the time required to triage signature-based detection that is traditionally prone to false alerts
- Riskware categorization separates genuine breach attempts from undesirable, but less malicious activity (such as adware and spyware) to prioritize alert response

Actionable Threat Insights

Alerts generated by FireEye Network Security include concrete evidence and contextual intelligence to quickly respond to, prioritize and contain a threat:

- **Dynamic Threat Intelligence (DTI):** concrete, real-time, globally-shared data to quickly and proactively stop targeted and newly discovered attacks
- **Advanced Threat Intelligence (ATI):** contextual insights about the attack to accelerate response and prescriptive guidance to contain the threat

Response Workflow Integration

FireEye Network Security can be augmented in several ways to automate alert response workflows:

- FireEye Central Management correlates alerts from both FireEye Network Security and FireEye Email Security for a broader view of an attack and to set blocking rules that prevent the attack from spreading further
- FireEye Network Forensics integrates with FireEye Network Security to provide detailed packet captures associated with an alert and enable in-depth investigations
- FireEye Endpoint Security identifies, validates and contains compromises detected by FireEye Network Security to simplify containment and remediation of affected endpoints

Flexible Deployment Options

FireEye Network Security offers various deployment options to match an organization's needs and budget:

- **Integrated Network Security:** standalone, all-in-one hardware appliance with integrated MVX service to secure an Internet access point at a single site. FireEye Network Security is an easy-to-manage, clientless platform that deploys in under 60 minutes. It doesn't require rules, policies or tuning.
- **Distributed Network Security:** extensible appliances with centrally shared MVX service to secure Internet access points within organizations
  - **Network Smart Node:** physical or virtual appliances that analyze Internet traffic to detect and block malicious traffic and submit suspicious activity over an encrypted connection to the MVX service for definitive verdict analysis
  - **MVX Smart Grid:** on-premise, centrally located, elastic MVX service that offers transparent scalability, built-in N+1 fault tolerance and automated load balancing
  - **FireEye Cloud MVX:** FireEye-hosted MVX service subscription that ensures privacy by analyzing traffic on the Network Smart Node. Only suspicious objects are sent over an encrypted connection to the MVX service, where objects revealed as benign are discarded.

Figure 2. Examples of Integrated Network Security include NX 2550, NX 3500, NX 5500, NX 10450.

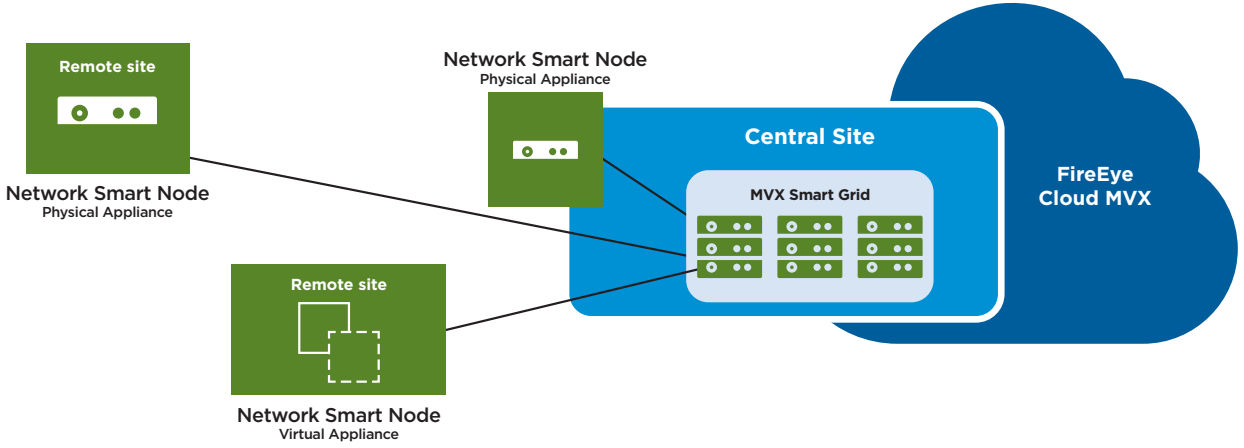


Figure 3. Distributed deployment models for Network Security.

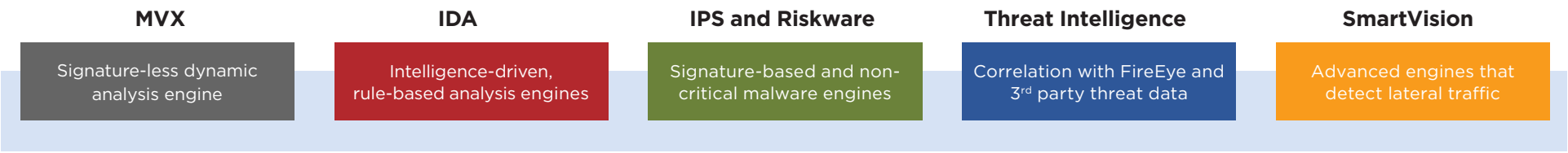


Figure 4. Modular components of FireEye Network Security.

Extensible Architecture

FireEye Network Smart Nodes feature a modular and extensible software architecture and system design to deliver multiple threat protection capabilities as software modules.

High Performance and Scalability

FireEye Network Security protects Internet access points at line rate with performance options for a wide variety of branch and central office sizes:

The MVX Smart Grid and FireEye Cloud MVX scalable architecture allows the MVX service to support one Network Smart Node to thousands and scale seamlessly as needed.

Form Factor	Performance
Integrated Network Security	50 Mbps to 4 Gbps
Physical Network Smart Node	50 Mbps to 10 Gbps
Virtual Network Smart Node	50 Mbps to 1 Gbps

Business Benefits

Designed to meet the needs of single-site and distributed multi-site organizations, FireEye Network Security delivers several benefits:

Minimizes Risk of Cyber Breaches

FireEye Network Security is a highly-effective cyber defense solution that:

- Prevents intruders from breaking into an organization to steal valuable assets or disrupt business by stopping advanced, targeted and other evasive attacks
- Stops attacks and contains intrusions faster with concrete evidence, actionable intelligence, inline blocking and response workflow automation
- Eliminates weak points from an organization's cyber defenses with consistent protection for various operating systems, application types, branches and central sites

Short Payback Period

According to a recent Forrester Consulting study[1], FireEye Network Security customers can expect a 152% ROI savings over three years and payback on their initial investment in just 9.7 months. FireEye Network Security:

- Focuses security team resources on real attacks to reduce operational expenses
- Optimizes capital spend with a shared MVX service and a large variety of performance points to rightsize deployment to meet requirements
- Future-proofs security investment by scaling smoothly when the number of branches or the amount of Internet traffic grows
- Protects existing investments by allowing cost-free migration from an integrated to a distributed deployment
- Reduces future capital outlay with modular and extensible architecture

Awards and Certifications

The FireEye Network Security product portfolio has been awarded a number of industry and government awards and certifications:

- In 2016, Frost & Sullivan recognized FireEye as the undisputed market leader with 56% market share, more than the next ten competitors combined[2]
- FireEye Network Security has been a recipient of numerous awards from SANS Institute, SC Magazine, CRN and others
- FireEye Network Security was the first security solution on the market to receive the US Department of Homeland Security SAFETY Act Certification

1 Forrester (May 2016). The Total Economic Impact of FireEye.
2 Frost & Sullivan (October 2016). Network Security Sandbox Market Analysis

Table 1. FireEye Network Security specifications, integrated appliance.

	NX 2500	NX 2550	NX 3500	NX 4500	NX 5500	NX 10450	NX10550
OS Support	Microsoft Windows Mac OS X	Microsoft Windows Mac OS X	Microsoft Windows Mac OS X	Microsoft Windows Mac OS X	Microsoft Windows Mac OS X	Microsoft Windows	Microsoft Windows Mac OS X
Performance *	Up to 50 Mbps or 100 Mbps	Up to 250 Mbps	Up to 500 Mbps	Up to 1 Gbps	Up to 2.5 Gbps	Up to 4 Gbps	Up to 4Gbps
Network Monitoring Ports	4x 10/100/1000 BASE-T Ports (in front panel)	4x 10GigE SFP+ 4x 1GigE Bypass	4x 10GigE SFP+ 4x 1GigE Bypass	8x 10GigE SFP+ 4x 1GigE Bypass	8x 10GigE SFP+ 4x 1GigE Bypass	8 x SFP+ (4 x 1000base and 4 x 10Gbase), 1000baseSX/ 10GbaseSR (LC, MMF), 1000baseLX/ 10GbaseLR (LC SMF), 1000baseT (RJ45, UTP5), 10GbaseCu (5m direct-attached cable)	8 x SFP+ (4 x 1000base and 4 x 10Gbase), 1000baseSX/ 10GbaseSR (LC, MMF), 1000baseLX/ 10GbaseLR (LC, SMF), 1000baseT (RJ45, UTP5), 10GbaseCu (5m direct-attached cable)
Network Ports Mode of Operation	In-line Monitor, Fail-Open, Fail- Close (HW Bypass) or TAP/SPAN	In-line Monitor, Fail-Open, Fail- Close (HW Bypass) or TAP/SPAN	In-line Monitor, Fail-Open, Fail- Close (HW Bypass) or TAP/SPAN	In-line Monitor, Fail-Open, Fail- Close (HW Bypass) or TAP/SPAN	In-line Monitor, Fail-Open, Fail- Close (HW Bypass) or TAP/SPAN	In-line Monitor, or Tap/Span	In-line Monitor or Tap/Span
High Availability (HA)	Not Available	Not Available	Not Available	Not Available	Not Available	Active-Passive HA	Active-Passive HA
High Availability (HA) Ports (rear panel)	Not Available	Not Available	Not Available	Not Available	2x 100/1000/10G Base-T Ports	2x 100/1000/10G Base-T Ports	2x 100/1000/10G Base-T Ports
Management Ports (rear panel)	2x 10/100/1000 BASE- T Ports (in front panel)	2x 10/100/1000 BASE- T Ports	2x 10/100/1000 BASE- T Ports	2x 10/100/1000 BASE- T Ports	2x 10/100/1000 BASE- T Ports	2x 10/100/1000 BASE- T Ports	2x 10/100/1000 Base-T Ports
IPMI Port (rear panel)	Included	Included	Included	Included	Included	Included	Included
Front LCD & Keypad	Not Available	Not Available	Not Available	Not Available	Not Available	Included	Included
VGA Port	No	Yes	Yes	Yes	Yes	Yes	Yes
USB Ports	2x Type A USB Ports (front panel)	4x Type A USB Ports 2 front, 2 rear	4x Type A USB Ports 2 front, 2 rear	4x Type A USB Ports 2 front, 2 rear	4x Type A USB Ports 2 front, 2 rear	2x Type A USB Ports	2x Type A USB Ports
Serial Port (rear panel)	115,200 bps, No Parity, 8 bits, 1 Stop Bit (RJ45 connector RJ45-to-Dsub adapter cable is included)	115,200 bps, No Parity, 8 Bits, 1 Stop Bit	115,200 bps, No Parity, 8 Bits, 1 Stop Bit	115,200 bps, No Parity, 8 Bits, 1 Stop Bit	115,200 bps, No Parity, 8 Bits, 1 Stop Bit	115,200 bps, No Parity, 8 Bits, 1 Stop Bit	115,200 bps, No Parity, 8 bits, 1 Stop Bit
Drive Capacity	Single 1TB 3.5 inch, SATA HDD, internal, fixed	2 x 4TB HDD, 3.5", SAS3, 7.2krpm, FRU RAID1	2 x 4TB HDD, 3.5", SAS3, 7.2krpm, FRU RAID1	2 x 4TB HDD, 3.5", SAS3, 7.2krpm, FRU RAID1	2 x 4TB HDD, 3.5", SAS3, 7.2krpm, FRU RAID1	4x 800 GB SSD, 2.5 inch, SATA, FRU RAID10	4x 960 GB SSD, 2.5 inch, SATA, FRU RAID10
Enclosure	1RU, Fits 19 inch Rack	1RU, Fits 19-inch Rack	2RU, Fits 19-inch Rack	2RU, Fits 19-inch Rack	2RU, Fits 19-inch Rack	2RU, Fits 19 inch Rack	2RU, Fits 19 inch Rack
Chassis Dimension WxDxH	17.2in(437mm) x 19.7in(500mm) x 1.7in(43.2 mm)	17.2in(437mm) x 25.6in(650mm) x 1.7in(43.2mm)	17.24in(438mm) x 24.41in(620mm) x 3.48in (88.4mm)	17.24in(438mm) x 24.41in(620mm) x 3.48in(88.4mm)	17.24in(438mm) x 24.41in(620mm) x 3.48in(88.4mm)	17.2in(437mm) x 27.9in(709mm) x 3.5in(89mm)	17.2in(437mm) x 33.5in(851mm) x 3.5in(89mm)

Table 1. FireEye Network Security specifications, integrated appliance. (continued)

	NX 2500	NX 2550	NX 3500	NX 4500	NX 5500	NX 10450	NX10550
AC Power Supply	Single 250 watt, 90-264 VAC, 3.5 - 1.5 A, 50-60 Hz, IEC60320-C14, inlet, Internal, Fixed	Redundant (1+1) 750 watt, 100 - 240 VAC 9.0 - 4.5A, 50-60 Hz IEC60320-C14 inlet, FRU	Redundant (1+1) 800 watt, 100 - 240 VAC 10.5 – 4.0A, 50-60 Hz IEC60320-C14 inlet, FRU	Redundant (1+1) 800 watt, 100 - 240 VAC 10.5 – 4.0A, 50-60 Hz IEC60320-C14 inlet, FRU	Redundant (1+1) 800 watt, 100 - 240 VAC 10.5 – 4.0A, 50-60 Hz IEC60320-C14 inlet, FRU	Redundant (1+1) 1200 watt, 100-140 VAC, 14.7 - 10.5 A 1400 watt, 180-240 VAC, 9.5 - 7.2 A, 50-60 Hz, FRU IEC60320-C14 inlet, FRU	Redundant (1+1) 800W: 100-127V, 9.8A-7A 1000W: 220-240V, 7-5A, 50-60Hz, FRU IEC60320-C14 inlet, (In Process) FRU
Power Consumption Maximum (watts)	85 watts	265 watts	426 watts	519 watts	658 watts	850 watts	760 watts
Thermal Dissipation Maximum (BTU/h)	290 BTU/h	904 BTU/h	1,454 BTU/hr	1,771 BTU/h	2,245 BTU/h	2,908 BTU/h	2,594 BTU/h
MTBF (h)	56,400 h	54,200 h	65,466 h	57,766 h	52,802 h	40,275 h	36,101 h
Appliance Alone / As Shipped Weight lb. (kg)	16.2 lb (7.3 kg) / 28.2 lb (2.95 kg)	29.8 lbs (13.5 Kg) / 40.8 lbs (18.5 Kg)	37.4 lbs (17.0 Kg) / 58.6 lbs (26.6 kg)	42.4 lbs (19.2 Kg) / 63.5 lbs (28.8 kg)	42.7 lbs (19.2 Kg) / 63.8 lbs (29.0 kg)	51 lb. (23 kg) / 66 lb. (30 kg)	46 lb (21 kg) / 90 lb (40.2 kg)
Regulatory Compliance Safety	IEC 60950 EN 60950-1 UL 60950 CSA/CAN-C22.2	IEC 60950 EN 60950-1 UL 60950 CSA/CAN-C22.2	IEC 60950 EN 60950-1 UL 60950 CSA/CAN-C22.2	IEC 60950 EN 60950-1 UL 60950 CSA/CAN-C22.2	IEC 60950 EN 60950-1 UL 60950 CSA/CAN-C22.2	IEC 60950 EN 60950-1 UL 60950 CSA/CAN-C22.2	IEC 60950 EN 60950-1 UL 60950 CSA/CAN-C22.2
Security Certifications	FIPS 140-2 Level 1 CC NDPP v1.1	FIPS 140-2 Level 1 CC NDPP v1.1	FIPS 140-2 Level 1 CC NDPP v1.1	FIPS 140-2 Level 1 CC NDPP v1.1	FIPS 140-2 Level 1 CC NDPP v1.1	FIPS 140-2 Level 1 CC NDPP v1.1	FIPS 140-2 Level 1 CC NDPP v1.1 (In Process)
Regulatory Compliance EMC	FCC Part 15 ICES-003 Class A AS/NZS CISPR 22 CISPR 32 EN 55032 EN 55024 IEC/EN 61000-3-2 IEC/EN 61000-3-3 IEC/EN 61000-4-2 V-2/2015 &V-3/2015	FCC Part 15 ICES-003 Class A AS/NZS CISPR 22 CISPR 32 EN 55032 EN 55024 IEC/EN 61000-3-2 IEC/EN 61000-3-3 IEC/EN 61000-4-2 V-2/2015 &V-3/2015	FCC Part 15 ICES-003 Class A AS/NZS CISPR 22 CISPR 32 EN 55032 EN 55024 IEC/EN 61000-3-2 IEC/EN 61000-3-3 IEC/EN 61000-4-2 V-2/2015 &V-3/2015	FCC Part 15 ICES-003 Class A AS/NZS CISPR 22 CISPR 32 EN 55032 EN 55024 IEC/EN 61000-3-2 IEC/EN 61000-3-3 IEC/EN 61000-4-2 V-2/2015 &V-3/2015	FCC Part 15 ICES-003 Class A AS/NZS CISPR 22 CISPR 32 EN 55032 EN 55024 IEC/EN 61000-3-2 IEC/EN 61000-3-3 IEC/EN 61000-4-2 V-2/2015 &V-3/2015	FCC Part 15 ICES-003 Class A AS/NZS CISPR 22 CISPR 32 EN 55032 EN 55024 IEC/EN 61000-3-2 IEC/EN 61000-3-3 IEC/EN 61000-4-2 V-2/2015 &V-3/2015	FCC Part 15 ICES-003 Class A AS/NZS CISPR 22 CISPR 32 EN 55032 EN 55024 IEC/EN 61000-3-2 IEC/EN 61000-3-3 IEC/EN 61000-4-2 V-2/2015 &V-3/2015
Environmental Compliance	RoHS Directive 2011/65/EU REACH WEEE Directive 2012/19/EU	RoHS Directive 2011/65/EU REACH WEEE Directive 2012/19/EU	RoHS Directive 2011/65/EU REACH WEEE Directive 2012/19/EU	RoHS Directive 2011/65/EU REACH WEEE Directive 2012/19/EU	RoHS Directive 2011/65/EU REACH WEEE Directive 2012/19/EU	RoHS Directive 2011/65/EU REACH WEEE Directive 2012/19/EU	RoHS Directive 2011/65/EU REACH WEEE Directive 2012/19/EU
Operating Temperature	0 ~ 40°C 32 ~ 104°F	0 ~ 35°C 32 ~ 95°F	0 ~ 35°C 32 ~ 95°F	0 ~ 35°C 32 ~ 95°F	0 ~ 35°C 32 ~ 95°F	10 ~ 35°C 50 ~ 95°F	10 ~ 35°C 50 ~ 95°F
Non-Operating Temperature	-20 ~ 80°C -4 ~ 176°F	-40 ~ 70°C -40 ~ 158°F	-40 ~ 70°C -40 ~ 158°F	-40 ~ 70°C -40 ~ 158°F	-40 ~ 70°C -40 ~ 158°F	-40 ~ 70°C -40 ~ 158°F	-40 ~ 70°C -40 ~ 158°F
Operating Relative Humidity	5% - 85% non-condensing	10 ~ 95% @ 40° C, non-condensing	10 ~ 95% @ 40° C, non-condensing	10 ~ 95% @ 40° C, non-condensing	10 ~ 95% @ 40° C, non-condensing	10% - 85% non-condensing	10% - 85% non-condensing
Non-Operating Relative Humidity	5% - 95% non-condensing	10 ~ 95% @ 60° C, non-condensing	10 ~ 95% @ 60° C, non-condensing	10 ~ 95% @ 60° C, non-condensing	10 ~ 95% @ 60° C, non-condensing	5% - 95% non-condensing	5% - 95% non-condensing
Operating Altitude	3,000 m 9,842 ft	3,000 m 9,842 ft	3,000 m 9,842 ft	3,000 m 9,842 ft	3,000 m 9,842 ft	3,000 m 9,842 ft	3,000 m 9,842 ft

Table 2. FireEye Network Security IPS performance, integrated appliance.

	NX 2500	NX 2550	NX 3500	NX 4500	NX 5500	NX 10450	NX10550
Max IPS Performance	Up to 50 Mbps or 100 Mbps	Up to 250 Mbps	Up to 500 Mbps	Up to 1 Gbps	Up to 2.5 Gbps	Up to 4 Gbps	Up to 4 Gbps
Max Concurrent Connections	15K or 80K	80K	160K	500K	1M	2M	2M
New Connections Per Second	750/Sec or 4K/Sec	4K/Sec	8K/Sec	10K/Sec	20K/Sec	40K/Sec	40K/Sec

Table 3. FireEye Network Security smart node, physical specifications.

	NX 1500	NX 2500	NX 2550	NX 3500	NX 4500	NX 5500	NX 10450	NX10550
OS Support	Microsoft Windows Mac OS X	Microsoft Windows Mac OS X	Microsoft Windows Mac OS X	Microsoft Windows Mac OS X	Microsoft Windows Mac OS X	Microsoft Windows Mac OS X	Microsoft Windows	Microsoft Windows Mac OS X
Performance	Up to 50 Mbps	Up to 100 Mbps or 250 Mbps	Up to 500 Mbps	Up to 1 Gbps	Up to 2 Gbps	Up to 5 Gbps	Up to 8 Gbps	Up to 10 Gbps
Network Monitoring Ports	4x 10/100/1000 BASE-T Ports	4x 10/100/1000 BASE-T Ports (in front panel)	4x 10GigE SFP+ 4x 1GigE Bypass	4x 10GigE SFP+ 4x 1GigE Bypass	8x 10GigE SFP+ 4x 1GigE Bypass	8x 10GigE SFP+ 4x 1GigE Bypass	8 x SFP+ (4 x 1000base and 4 x 10Gbase), 1000baseSX/ 10GbaseSR (LC, MMF), 1000baseLX/ 10GbaseLR (LC SMF), 1000baseT (RJ45, UTP5), 10GbaseCu (5m direct-attached cable)	8 x SFP+ (4 x 1000base and 4 x 10Gbase), 1000baseSX/ 10GbaseSR (LC, MMF), 1000baseLX/ 10GbaseLR (LC, SMF), 1000baseT (RJ45, UTP5), 10GbaseCu (5m direct-attached cable)
Network Ports Mode of Operation	In-line Monitor, Fail-Close or Tap	In-line Monitor, Fail-Open, Fail- Close (HW Bypass) or TAP/SPAN	In-line Monitor, Fail-Open, Fail- Close (HW Bypass) or TAP/SPAN	In-line Monitor, Fail-Open, Fail- Close (HW Bypass) or TAP/SPAN	In-line Monitor, Fail-Open, Fail- Close (HW Bypass) or TAP/SPAN	In-line Monitor, Fail-Open, Fail- Close (HW Bypass) or TAP/SPAN	In-line Monitor; TAP; or SPAN	In-line Monitor or TAP/SPAN
High Availability (HA)	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Active-Passive HA	Active-Passive HA
High Availability (HA) Ports (rear panel)	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	2x 100/1000/10G Base-T Ports	2x 100/1000/10G Base-T Ports
Management Ports (rear panel)	2x 10/100/1000 BASE- T Ports	4x 10/100/1000 BASE- T Ports (in front panel)	2x 10/100/1000 BASE- T Ports	2x 10/100/1000 BASE- T Ports	2x 10/100/1000 BASE- T Ports	2x 10/100/1000 BASE- T Ports	2x 10/100/1000 BASE- T Ports	2x 10/100/1000 Base-T Ports
IPMI Port (rear panel)	Not Available	Rear Panel	Included	Included	Included	Included	Included	Included
Front LCD & Keypad	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Included	Included

Table 3. FireEye Network Security smart node, physical specifications. (continued)

	NX 1500	NX 2500	NX 2550	NX 3500	NX 4500	NX 5500	NX 10450	NX10550
VGA Port	Not Available	Not Available	Yes	Yes	Yes	Yes	Yes	Yes
USB Ports	2x Type A USB Ports	2x Type A USB Ports (front panel)	4x Type A USB Ports 2 front, 2 rear	4x Type A USB Ports 2 front, 2 rear	4x Type A USB Ports 2 front, 2 rear	4x Type A USB Ports 2 front, 2 rear	4x Type A USB Ports 2 front, 2 rear	4x Type A USB Ports 2 front, 2 rear
Serial Port (rear panel)	115,200 bps, No Parity, 8 bits, 1 Stop Bit (RJ45 connector; RJ45-to-Dsub adapter cable is included)	115,200 bps, No Parity, 8 bits, 1 Stop Bit (RJ45 connector RJ45-to-Dsub adapter cable is included)	115,200 bps, No Parity, 8 Bits, 1 Stop Bit	115,200 bps, No Parity, 8 Bits, 1 Stop Bit	115,200 bps, No Parity, 8 Bits, 1 Stop Bit	115,200 bps, No Parity, 8 Bits, 1 Stop Bit	115,200 bps, No Parity, 8 Bits, 1 Stop Bit	115,200 bps, No Parity, 8 bits, 1 Stop Bit
Drive Capacity	Single 500GB 2.5 inch SATA HDD, internal, fixed	Single 1TB 3.5 inch SATA HDD, internal, fixed	2 x 4TB HDD, 3.5", SAS3, 7.2krpm, FRU RAID1	2 x 4TB HDD, 3.5", SAS3, 7.2krpm, FRU RAID1	2 x 4TB HDD, 3.5", SAS3, 7.2krpm, FRU RAID1	2 x 4TB HDD, 3.5", SAS3, 7.2krpm, FRU RAID1	4x 800 GB SSD, 2.5 inch, SATA, FRU RAID10	4x 960 GB SSD, 2.5 inch, SATA, FRU RAID10
Enclosure	Desktop formfactor	1RU, Fits 19 inch Rack	1RU, Fits 19 inch Rack	2RU, Fits 19 inch Rack	2RU, Fits 19 inch Rack	2RU, Fits 19 inch Rack	2RU, Fits 19 inch Rack	2RU, Fits 19 inch Rack
Chassis Dimension WxDxH	11in(280mm) x 6.9in(175mm) x 1.8in(45.7mm)	17.2in(437mm) x 19.7in(500mm) x 1.7in(43.2mm)	17.2in(437mm) x 25.6in(650mm) x 1.7in(43.2mm)	17.24in(438mm) x 24.41in(620mm) x 3.48in (88.4mm)	17.24in(438mm) x 24.41in(620mm) x 3.48in(88.4mm)	17.24in(438mm) x 24.41in(620mm) x 3.48in(88.4mm)	17.2in(437mm) x 27.9in(709mm) x 3.5in(89 mm)	17.2in(437mm) x 33.5in(851mm) x 3.5in(89 mm)
AC Power Supply	External 60 Watt 12V@5A Ouput AC Adapter, 90-264 VAC, 50-60 Hz, IEC60320-C14, inlet, FRU	Single 250 watt, 90-264 VAC, 3.5 - 1.5 A, 50-60 Hz, IEC60320-C14, inlet, Internal, Fixed	Redundant (1+1) 750 watt, 100 - 240 VAC 9 – 4.5A, 50-60 Hz IEC60320-C14 inlet, FRU	Redundant (1+1) 800 watt, 100 - 240 VAC 9 – 4.5A, 50-60 Hz IEC60320-C14 inlet, FRU	Redundant (1+1) 800 watt, 100 - 240 VAC 9 – 4.5A, 50-60 Hz IEC60320-C14 inlet, FRU	Redundant (1+1) 800 watt, 100 - 240 VAC 10.5 – 4.0A, 50-60 Hz IEC60320-C14 inlet, FRU	Redundant (1+1) 1200 watt, 100-140 VAC, 14.7 - 10.5 A 1400 watt, 180-240 VAC, 9.5 - 7.2 A, 50-60 Hz, FRU IEC60320-C14 inlet, FRU	Redundant (1+1) 800W: 100-127V, 9.8A-7A 1000W: 220-240V, 7-5A, 50-60Hz, FRU IEC60320-C14 inlet, FRU
Power Consumption Maximum (watts)	27 watts	85 watts	265 watts	426 watts	519 watts	658 watts	850 watts	760 watts
Thermal Dissipation Maximum (BTU/h)	92 BTU/h	290 BTU/h	904 BTU/h	1,454 BTU/h	1,771 BTU/h	2,245 BTU/h	2,908 BTU/h	2,594 BTU/h
MTBF (h)	95,400 h	56,400 h	54,200 h	65,466 h	57,766 h	52,802 h	40,275 h	36,101 h
Appliance Alone / As Shipped Weight lb. (kg)	3.75 lb (1.7 kg) / 6.5 lb (2.95 kg)	16.2 lb (7.3 kg) / 28.2 lb (2.95 kg)	29.8 lbs (13.5 kg) / 40.8 lbs (18.5 Kg)	37.4 lbs (17.0 kg) / 58.6 lbs (26.6 kg	42.4 lbs (19.2 kg) / 63.5 lbs (28.8 kg)	42.7 lbs (19.2 kg) / 63.8 lbs (29.0 kg)	51 lb. (23 kg) / 66 lb. (30 kg)	46 lb (21 kg) / 90 lb (40.2 kg)
Regulatory Compliance Safety	IEC 60950 EN 60950-1 UL 60950 CSA/CAN-C22.2	IEC 60950 EN 60950-1 UL 60950 CSA/CAN-C22.2	IEC 60950 EN 60950-1 UL 60950 CSA/CAN-C22.2	IEC 60950 EN 60950-1 UL 60950 CSA/CAN-C22.2	IEC 60950 EN 60950-1 UL 60950 CSA/CAN-C22.2	IEC 60950 EN 60950-1 UL 60950 CSA/CAN-C22.2	IEC 60950 EN 60950-1 UL 60950 CSA/CAN-C22.2	IEC 60950 EN 60950-1 UL 60950 CSA/CAN-C22.2
Security Certifications	FIPS 140-2 Level 1 CC NDPP v1.1	FIPS 140-2 Level 1 CC NDPP v1.1	FIPS 140-2 Level 1 CC NDPP v1.1	FIPS 140-2 Level 1 CC NDPP v1.1	FIPS 140-2 Level 1 CC NDPP v1.1	FIPS 140-2 Level 1 CC NDPP v1.1	FIPS 140-2 Level 1 CC NDPP v1.1	

Table 3. FireEye Network Security smart node, physical specifications. (continued)

	NX 1500	NX 2500	NX 2550	NX 3500	NX 4500	NX 5500	NX 10450	NX10550
Regulatory Compliance EMC	FCC Part 15 ICES-003 Class A AS/NZS CISPR 22 CISPR 32 EN 55032 EN 55024 IEC/EN 61000-3-2 IEC/EN 61000-3-3 IEC/EN 61000-4-2 V-2/2015 &V-3/2015	FCC Part 15 ICES-003 Class A AS/NZS CISPR 22 CISPR 32 EN 55032 EN 55024 IEC/EN 61000-3-2 IEC/EN 61000-3-3 IEC/EN 61000-4-2 V-2/2015 &V-3/2015	FCC Part 15 ICES-003 Class A AS/NZS CISPR 22 CISPR 32 EN 55032 EN 55024 IEC/EN 61000-3-2 IEC/EN 61000-3-3 IEC/EN 61000-4-2 V-2/2015 &V-3/2015	FCC Part 15 ICES-003 Class A AS/NZS CISPR 22 CISPR 32 EN 55032 EN 55024 IEC/EN 61000-3-2 IEC/EN 61000-3-3 IEC/EN 61000-4-2 V-2/2015 &V-3/2015	FCC Part 15 ICES-003 Class A AS/NZS CISPR 22 CISPR 32 EN 55032 EN 55024 IEC/EN 61000-3-2 IEC/EN 61000-3-3 IEC/EN 61000-4-2 V-2/2015 &V-3/2015	FCC Part 15 ICES-003 Class A AS/NZS CISPR 22 CISPR 32 EN 55032 EN 55024 IEC/EN 61000-3-2 IEC/EN 61000-3-3 IEC/EN 61000-4-2 V-2/2015 &V-3/2015	FCC Part 15 ICES-003 Class A AS/NZS CISPR 22 CISPR 32 EN 55032 EN 55024 IEC/EN 61000-3-2 IEC/EN 61000-3-3 IEC/EN 61000-4-2 V-2/2015 &V-3/2015	FCC Part 15 ICES-003 Class A AS/NZS CISPR 22 CISPR 32 EN 55032 EN 55024 IEC/EN 61000-3-2 IEC/EN 61000-3-3 IEC/EN 61000-4-2 V-2/2015 &V-3/2015
Environmental Compliance	RoHS Directive 2011/65/EU REACH WEEE Directive 2012/19/EU	RoHS Directive 2011/65/EU REACH WEEE Directive 2012/19/EU	RoHS Directive 2011/65/EU REACH WEEE Directive 2012/19/EU	RoHS Directive 2011/65/EU REACH WEEE Directive 2012/19/EU	RoHS Directive 2011/65/EU REACH WEEE Directive 2012/19/EU	RoHS Directive 2011/65/EU REACH WEEE Directive 2012/19/EU	RoHS Directive 2011/65/EU REACH WEEE Directive 2012/19/EU	RoHS Directive 2011/65/EU REACH WEEE Directive 2012/19/EU
Operating Temperature	0 ~ 40°C 32 ~ 104°F	0 ~ 40°C 32 ~ 104°F	0 ~ 35°C 32 ~ 95°F	0 ~ 35°C 32 ~ 95°F	0 ~ 35°C 32 ~ 95°F	0 ~ 35°C 32 ~ 95°F	10 ~ 35°C 50 ~ 95°F	10 ~ 35°C 50 ~ 95°F
Non-Operating Temperature	-20 ~ 80°C -4 ~ 176°F	-20 ~ 80°C -4 ~ 176°F	-40 ~ 70°C -40 ~ 158°F	-40 ~ 70°C -40 ~ 158°F	-40 ~ 70°C -40 ~ 158°F	-40 ~ 70°C -40 ~ 158°F	-40 ~ 70°C -40 ~ 158°F	-40 ~ 70°C -40 ~ 158°F
Operating Relative Humidity	5% - 85% non-condensing	5% - 85% non-condensing	10 ~ 95% @ 40° C, non-condensing	10 ~ 95% @ 40° C, non-condensing	10 ~ 95% @ 40° C, non-condensing	10 ~ 95% @ 40° C, non-condensing	10% - 85% non-condensing	10% - 85% non-condensing
Non-Operating Relative Humidity	5% - 95% non-condensing	5% - 95% non-condensing	10 ~ 95% @ 60° C, non-condensing	10 ~ 95% @ 60° C, non-condensing	10 ~ 95% @ 60° C non-condensing	10 ~ 95% @ 60° C non-condensing	5% - 95% non-condensing	5% - 95% non-condensing
Operating Altitude	3,000 m 9,842 ft	3,000 m 9,842 ft	3,000 m 9,842 ft	3,000 m 9,842 ft	3,000 m 9,842 ft	3,000 m 9,842 ft	3,000 m 9,842 ft	3,000 m 9,842 ft

Table 4. FireEye Network smart node IPS, physical specifications.

	NX 1500	NX 2500	NX 2550	NX 3500	NX 4500	NX 5500	NX 10450	NX10550
Max IPS Performance	Up to 50 Mbps	Up to 100 /250 Mbps	Up to 500 Mbps	Up to 1 Gbps	Up to 2 Gbps	Up to 5 Gbps	Up to 8 Gbps	Up to 10 Gbps
Max Concurrent Connections	15K	80K	160K	500K	1M	2M	4M	4M
New Connections Per Second	750/sec	4K/Sec	8K/Sec	10K/Sec	20K/sec	40K/Sec	80K/Sec	80K/Sec

Table 5. FireEye Network smart node, virtual specifications.

	VA-NXS 1500	VA-NXS 2500	VA-NXS 2550	VA-NXS 4500	VA-NXS 6500
OS Support	Microsoft Windows Mac OS X	Microsoft Windows Mac OS X	Microsoft Windows Mac OS X	Microsoft Windows Mac OS X	Microsoft Windows Mac OS X
Performance *	Up to 50 Mbps	Up to 100 Mbps	Up to 250 Mbps	Up to 500 Mbps	Up to 1 Gbps
Network Monitoring Ports	1-8	1-8	1-8	1-8	1-8
Network Management Ports	1 or 2	1 or 2	1 or 2	1 or 2	1 or 2
Network Ports Mode of Operation	Inline, SPAN	Inline, SPAN	Inline, SPAN	Inline, SPAN	Inline, SPAN
CPU Cores	3	6	8	8	16
Memory	10GB	16GB	16GB	32 GB	32 GB
Drive Capacity	384 GB	384 GB	384 GB	512 GB	512 GB
Network Adapters	VMXNet 3, vNIC	VMXNet 3, vNIC	VMXNet 3, vNIC	VMXNet 3, vNIC	VMXNet 3, vNIC
Hypervisor Support	VMWare ESXi 6.0 or later	VMWare ESXi 6.0 or later	VMWare ESXi 6.0 or later	VMWare ESXi 6.0 or later	VMWare ESXi 6.0 or later
Security Certifications	FIPS 140-2 Level 1 CC NDPP v1.1 (In Process)	FIPS 140-2 Level 1 CC NDPP v1.1 (In Process)	FIPS 140-2 Level 1 CC NDPP v1.1 (In Process)	FIPS 140-2 Level 1 CC NDPP v1.1 (In Process)	FIPS 140-2 Level 1 CC NDPP v1.1 (In Process)

Table 6. FireEye Network smart node IPS, virtual specifications.

	VA-NXS 1500	VA-NXS 2500	VA-NXS 2550	VA-NXS 4500	VA-NXS 6500
Max IPS Performance	Up to 50 Mbps	Up to 100 Mbps	Up to 250 Mbps	Up to 500 Mbps	Up to 1 Gbps
Max Concurrent Connections	15K	80K	80K	160K	500K
New Connections Per Second	750/Sec	4K/Sec	4K/Sec	8K/Sec	10K/Sec

Table 7. FireEye MVX smart grid specifications.

	VX 5500	VX 12500
OS Support	Microsoft Windows Mac OS X	Microsoft Windows Mac OS X
Performance *	Up to 2 Gbps	Up to 10 Gbps
High Availability **	N+1	N+1
Management Ports (rear panel)	1x 10/100/1000 Mbps BASE- T Ports	1x 10/100/1000 Mbps BASE- T Ports
Cluster Ports (rear panel)	3x 10/100/1000 Mbps BASE-T Ports	1x 10/100/1000 Mbps BASE-T Ports, 2x 10 Gbps BASE-T Ports
IPMI Port (rear panel)	Included	Included
Front LCD & Keypad	Not Available	Included
VGA Ports	Included	Included
USB Ports (rear panel)	4x Type A USB Ports	2x Type A USB Ports
Serial Port (rear panel)	115,200 bps, No Parity, 8 bits, 1 Stop Bit	115,200 bps, No Parity, 8 Bits, 1 Stop Bit
Drive Capacity	2x 2TB 3.5 SAS HDD, RAID 1, hot-swappable, FRU	4 x 900GB HDD, RAID 10, 2.5 inch, FRU
Enclosure	1RU, Fits 19 inch Rack	2RU, Fits 19 inch Rack
Chassis Dimension WxDxH	17. 2x25.6x1.7 Inches (437 x 650 x 43.2 mm)	17.2x33.5x3.5 Inches (437 x 851 x 89 mm)
DC Power Supply	Not Available	Not Available
AC Power Supply	Redundant (1+1) 750 watt, 100-240 VAC, 8 - 3.8 A, 50-60 Hz, IEC60320-C14, inlet, hot-swappable, FRU	Redundant (1+1) 800W: 100-127V, 9.8A-7A 1000W: 220-240V, 7-5A, 50-60Hz, FRU IEC60320-C14 inlet, FRU
Power Consumption Maximum (watts)	285 watts	760 watts
Thermal Dissipation Maximum (BTU/h)	972 BTU/h	2594 BTU/h
MTBF (h)	54,200 h	38,836 h
Appliance Alone / As Shipped Weight lb. (kg)	33 lb (15 kg) / 48 lb (21.8 kg)	46 lb (21 kg) / 90 lb (40.2 kg)
Security Certification	FIPS 140-2 Level 1, CC NDPP v1.1 (Pending)	FIPS 140-2 Level 1, CC NDPP v1.1 (Pending)
Regulatory Compliance Safety	IEC 60950 EN 60950-1 UL 60950 CSA/CAN-C22.2	IEC 60950 EN 60950-1 UL 60950 CSA/CAN-C22.2

Table 7. FireEye MVX smart grid specifications.

	VX 5500	VX 12500
Regulatory Compliance EMC	FCC Part 15 ICES-003 Class A AS/NZS CISPR 22 CISPR 32 EN 55032 EN 55024 IEC/EN 61000-3-2 IEC/EN 61000-3-3 IEC/EN 61000-4-2 V-2/2015 &V-3/2015	FCC Part 15 ICES-003 Class A AS/NZS CISPR 22 CISPR 32 EN 55032 EN 55024 IEC/EN 61000-3-2 IEC/EN 61000-3-3 IEC/EN 61000-4-2 V-2/2015 &V-3/2015
Environmental Compliance	RoHS Directive 2011/65/EU REACH WEEE Directive 2012/19/EU	RoHS Directive 2011/65/EU REACH WEEE Directive 2012/19/EU
Operating Temperature	10 ~ 35°C (50 ~ 95°F)	10 ~ 35°C (50 ~ 95°F)
Non-Operating Temperature	-40 ~ 70°C (-40 ~ 158°F)	-40 ~ 70°C (-40 ~ 158°F)
Operating Relative Humidity	10% - 85% non-condensing	10% - 85% non-condensing
Non-Operating Relative Humidity	5% - 95% non-condensing	5% - 95% non-condensing
Operating Altitude	3000 m 9842 ft	3000 m 9842 ft

Table 8. Active fail open switch technical specifications.

	AFO 10G SWITCH
Dimensions (WxDxH)	6.5 x 14.0 x 1.125 (16.5 x 35.6 x 2.8 cm)
Management Ports	1 X DB9 Serial Console, 1 X RJ45 Cat5e Port (10/100)
Network Ports	1 X Quad LC Connector
Monitoring Ports	2 X XFP Ports
AC Power Input	100 ~ 240 VAC, 1.0 A, 47-63 Hz
Operating Temp	0 ~ 40°C (32 ~ 104°F)

*All performance values vary depending on the system configuration and traffic profile being processed.

** With appropriate redundant hardware configurations

Support Services

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