



Data Sheet GigaSMART

72% of SecOps teams cannot scale their network infrastructure to meet the needs of increased data volume

67% cite network blind spots as a major obstacle to data protection

Key Benefits

Network Operations

- ✓ Optimize traffic delivered to monitoring tools
- ✓ Decrease network downtime

Security Operations

- ✓ Reduce hardware and software costs
- ✓ Increase security tool efficiency
- ✓ Expose threats hidden within encrypted traffic

Manage Your Network Traffic with Advanced Intelligence

GigaSMART® is a comprehensive set of technologies that extend the intelligence and value of the Gigamon Visibility Platform by enhancing the monitoring of your network infrastructure and improving security tool performance. A range of applications are available to optimize the traffic sent from your network to the tools you rely upon to monitor, manage, and secure the network. GigaSMART's advanced processing engine can be accessed anywhere within the Gigamon Visibility Platform without port- or card-based restrictions. GigaSMART engines can be combined to manage higher traffic loads and optimized for specific applications. Applications can be combined or service chained so traffic benefits from multiple functions that can be achieved at once, such as generating NetFlow and other network metadata or decrypting SSL/TLS traffic after packet duplicates have been removed, or stripping VLAN headers before load balancing the traffic and sending it out to the appropriate tools.

Network monitoring tools can perform more efficiently by eliminating unwanted content with the de-duplication and packet slicing features. Masking allows network security teams to hide confidential information like passwords, financial accounts, or medical data, helping companies to meet SOX, HIPAA and PCI compliance regulations. Enhanced packet distribution features available with Adaptive Packet Filtering or load balancing enable enhanced visibility into packet contents and, when combined with header stripping, allow tools to operate more effectively by removing unwanted protocol headers.

Top Use Cases






For Network Operations:	For Security Operations:
<ul style="list-style-type: none"> • Eliminating contention for network data due to SPAN port limitations • Reducing network downtime during upgrades • Avoiding data speed mismatches between the network and tools • Effectively filtering streaming media and network applications to optimize tool processing • Accessing and monitoring network data within SDN and private cloud environments 	<ul style="list-style-type: none"> • Automatically identify and decrypt SSL traffic and deliver to multiple tools for inspection • Generate metadata to expedite and simplify incident identification and response • Identify, filter and forward traffic corresponding to critical application sessions

GigaSMART technology is available on the available on GigaVUE H- and V-Series visibility nodes. GigaSMART applications can be applied to any network or tool port on the chassis or the entire cluster, allowing maximum flexibility in configuration and provisioning.

See what matters™

Source: "Hide and Seek: Cybersecurity and the Cloud," by Vanson Bourne (May 2017).

Table 1: Software Applications, Compatible Hardware and Benefits

GigaSMART Features/Applications		Benefits	GigaVUE-HC3	GigaVUE-HC2	GigaVUE-HC1	GigaVUE-HB1	GigaVUE HD Series
	Adaptive Packet Filtering	<ul style="list-style-type: none"> Filter across advanced encapsulation headers including VXLAN, VN-Tag, GTP, MPLS, etc., and inner (encapsulated) Layer 3/Layer 4 packet contents Provide advanced visibility into the application layer using pattern matching regular expressions-based filters Mask private and sensitive data in the packet before it gets stored, maintaining SOX, PCI, and HIPAA compliance Included with GTP correlation 	✓	✓	✓	✓	✓
	Application Session Filtering	<ul style="list-style-type: none"> Forward traffic corresponding to application sessions to security appliances increasing their efficacy and performance Classify flows of interest using signatures to filter applications such as video streaming, email, web 2.0, and other business applications Provide complete visibility into traffic flows by forwarding all packets from session initiation to termination to security and monitoring tools 	✓	✓	✓	✓	✓
	De-duplication	<ul style="list-style-type: none"> Relieve tool processing resources when packets are gathered from multiple collection points along a path by only forwarding a packet once Remove packet duplication caused by inter-VLAN communication or incorrect switch configuration 	✓	✓	✓	✓	✓
	ERSPAN Termination	<ul style="list-style-type: none"> Terminate ERSPAN tunnels to consolidate, filter, and forward relevant ERSPAN traffic Translate the ERSPAN III timestamp into a format readable by monitoring tools (GigaVUE H Series only) 	✓	✓	✓	✓	✓
	FlowVUE	<ul style="list-style-type: none"> Perform flow-aware sampling of active subscriber devices to selectively reduce traffic bound to monitoring and analytic tools Preserve or increase CEM based on real-time reduced data analytic throughput Turn Big Data into manageable data with deterministic results at a fraction of the data rate 	✓	✓	✓	✓	✓

See Table 2 for hardware requirements.

*Sending decrypted packets to multiple inline and out-of-band tools only available on GigaVUE-HC2 and GigaVUE-HC3.





Table 1: Software Applications, Compatible Hardware and Benefits continued

GigaSMART Features/Applications		Benefits	GigaVUE-HC3	GigaVUE-HC2	GigaVUE-HC1	GigaVUE-HB1	GigaVUE HD Series
	GTP Correlation	<ul style="list-style-type: none"> Optimize tool infrastructure by accurate filtering, replicating, and forwarding monitored subscriber sessions Correlate subscriber sessions (control and data) to offload tools, increasing throughput Facilitate drilldowns into roaming users across peer networks Includes Adaptive Packet Filtering license; GTP Whitelisting requires FlowVUE license 	✓	✓	✗	✓	✓
	Header Stripping	<ul style="list-style-type: none"> Eliminate the need for monitoring tools to decipher protocols Allow easy filtering, aggregation, and load balancing of packets with headers removed Headers and protocols removed: ISL, Cisco FabricPath, VXLAN, VN-Tag, VLAN, MPLS, GRE, GTP-U PPPoE, LISP, L2MPLS, SPB, VPLS, Trill Create custom templates with user-defined offsets and header length 	✓	✓	✓	✓	✓
	Load Balancing	<ul style="list-style-type: none"> Distribute traffic among multiple ports based on a variety of options: hashing, bandwidth, cumulative traffic, packet rate, connections, and round robin Apply weighting to the traffic distribution, supporting different tool capacities Utilize hashing options such as IP, IP-and-Port, five-tuple, and GTP-u tunnel ID Load balancing is included with all GigaVUE H Series GigaSMART licenses except NetFlow (including the Metadata Engine) 	✓	✓	✓	✓	✓
	Masking	<ul style="list-style-type: none"> Overwrite packet data between a 64-9000 byte offset Conceal private data including financial and medical information 	✓	✓	✓	✓	✓
	NetFlow and Metadata Generation	<ul style="list-style-type: none"> Offload NetFlow and metadata generation from network elements and generate critical security specific metadata such as URLs and HTTP response codes from any traffic Obtain high-fidelity, unsampled, 1:1 flow statistics Export records to up to six (6) collectors supporting NetFlow v5/v9, IPFIX as well as extensions for other metadata (ex. URL, HTTP response codes, SIP, DNS, and Certificates) 	✓	✓	✓	✓	✓

See Table 2 for hardware requirements.

*Sending decrypted packets to multiple inline and out-of-band tools only available on GigaVUE-HC2 and GigaVUE-HC3.


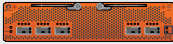


Table 1: Software Applications, Compatible Hardware and Benefits continued

GigaSMART Features/Applications	Benefits	GigaVUE-HC3	GigaVUE-HC2	GigaVUE-HC1	GigaVUE-HB1	GigaVUE HD Series
 Packet Slicing	<ul style="list-style-type: none"> Reduce packet size to increase processing and monitoring throughput Process fewer bits while maintaining the vital, relevant portions of each packet Significantly increase the capacity of forensic recording tools 	✓	✓	✓	✓	✓
 Source Port Labeling	<ul style="list-style-type: none"> Add labels to packets indicating the ingress port Easily identify the origin of a packet 	✓	✓	✓	✓	✓
 SSL/TLS Decryption	<ul style="list-style-type: none"> Provide automatic visibility into SSL/TLS traffic regardless of TCP port or application Selectively decrypt traffic using intelligent policies based on URL categories, IP address, ports, VLAN tags, domain names, and more Support both inline and out-of-band tools Scale performance with additional GigaSMART modules Integrate with other GigaSMART applications for comprehensive traffic management (e.g. de-duplication, masking, slicing) Protect private server certificates and keys with encryption and role-based access controls Send decrypted packets to multiple inline (e.g. IPS, NGFW) and out-of-band tools (e.g. DLP, APM, SIEM, analytics) security tools simultaneously* 	✓	✓	✓	✓	✓
*Out-of-band		✓	✓	✓	✓	✓
*Inline		✓	✓	✗	✗	✗
 Tunneling	<ul style="list-style-type: none"> Forward packets from remote sites to centralized monitoring tools using IP/UDP or L2GRE encapsulation Integrate virtualized tools into the Visibility Fabric via L2GRE tunnels 	✓	✓	✓	✓	✓

See Table 2 for hardware requirements.

*Sending decrypted packets to multiple inline and out-of-band tools only available on GigaVUE-HC2 and GigaVUE-HC3.

Table 2: GigaSMART Performance²

Product	Description
GigaSMART for GigaVUE-HD4/HD8 	<ul style="list-style-type: none"> Processing up to 80Gbps per line card No additional ports Multiple GigaSMART line cards can be combined into a single system to provide scalable performance up to 160Gb on the GigaVUE-HD4 and 320Gb on the GigaVUE-HD8
GigaSMART for GigaVUE-HC3 	<ul style="list-style-type: none"> 2 GigaSMART engines with 100Gbps processing power per engine 5 x 100Gb QSFP ports Port Modes: 1 x 100Gb, 1 x 40Gb, or 4 x 10Gb*
GigaSMART for GigaVUE-HC2  	<p><i>GigaSMART front module</i></p> <ul style="list-style-type: none"> Processing up to 40Gbps Includes 16 SFP+/SFP ports** Includes slicing, masking, source port, and GigaVUE tunneling de-encapsulation <p><i>GigaSMART rear module</i></p> <ul style="list-style-type: none"> Processing up to 40Gbps No additional ports Includes slicing, masking, source port and GigaVUE tunneling de-encapsulation Up to 5 GigaSMART modules (front and rear) can be populated per GigaVUE-HC2 to provide scalable performance up to 200Gb
GigaSMART for GigaVUE-HC1 (integrated)	Processing up to 20Gbps
GigaSMART for GigaVUE-HB1 (integrated)	Processing up to 10Gbps

² Performance reflects processor speed and not bandwidth, which is dependent upon packet size, packet rate, and specific GigaSMART applications applied.

*Requires MPO-to-4xLC breakout cable or PNL-M341 module for G-TAP M Series

** 10Gb (10GBASE-SR/LR/ER/LRM), 1Gb optical SFP (1000BASE-SX/LX/ZX), 1Gb SFP copper (RJ45, 1000BASE-T)

Table 3: Physical Dimensions & Weight

GigaSMART Line Card/Module	Height	Width	Depth	Weight
For GigaVUE-HD4 and GigaVUE-HD8 fabric nodes	1.61in (4.08cm)	15.75in (40.01cm)	11.55in (29.33cm)	9.06lbs (4.11kg)
For GigaVUE-HC3 fabric node	1.9in (4.7cm)	8.5in (21.7cm)	16.1in (41.0cm)	4.40lbs (2.00kg)
For GigaVUE-HC2 fabric node GigaSMART front plus 16 x 10Gb module	1.6in (4.1cm)	8.0in (20.3cm)	10.2in (26.0cm)	4.40lbs (2.00kg)
For GigaVUE-HC2 fabric node GigaSMART rear module	1.6in (4.1cm)	9.3in (23.5cm)	13.2in (33.6cm)	4.39lbs (1.99kg)

Support and Services

Gigamon offers a range of support and maintenance services. For details regarding Gigamon's Limited Warranty and its Product Support and Software Maintenance Programs, visit www.gigamon.com/support-and-services/overview-and-benefits

Ordering Information

Table 4: GigaSMART for the GigaVUE-HD4 and GigaVUE-HD8 Fabric Nodes

Part Number	Description
SMT-HD0	GigaSMART, HD Series blade (includes Slicing, Masking, Source Port & GigaVUE Tunneling De-Encapsulation SW)
SMT-HD0-APF	GigaSMART, HD Series, Adaptive Packet Filtering feature license per GigaSMART blade
SMT-HD0-ASF	GigaSMART, HC Series, Application Session Filtering feature license per GigaSMART blade; requires SMT-HD0-APF
SMT-HD0-AT1	GigaSMART, HD Series, Advanced Tunneling feature license per GigaSMART blade
SMT-HD0-DD1	GigaSMART, HD Series, De-Duplication feature license per GigaSMART blade
SMT-HD0-FVU	GigaSMART, HD Series, FlowVUE feature license per GigaSMART blade
SMT-HD0-GTP250	GigaSMART, HD Series, GTP Filtering & Correlation feature license per GigaSMART blade, 250K subscribers
SMT-HD0-GTP500	GigaSMART, HD Series, GTP Filtering & Correlation feature license per GigaSMART blade, 500K subscribers
SMT-HD0-GTPMAX	GigaSMART, HD Series, GTP Filtering & Correlation feature license per GigaSMART blade, Maximum subscribers
SMT-HD0-HS1	GigaSMART, HD Series, Header Stripping feature license per GigaSMART blade
SMT-HD0-NF1	GigaSMART, HD Series, NetFlow Generation feature license per GigaSMART blade
SMT-HD0-SSL	GigaSMART, HD Series, SSL Decryption feature license per GigaSMART blade

Table 5: GigaSMART for the GigaVUE-HC3 Fabric Node

Part Number	Description
SMT-HC3-C05	GigaSMART, GigaVUE-HC3, 5x100G QSFP28 cages (includes Slicing, Masking, Source Port & GigaVUE Tunneling De-Encapsulation SW)
SMT-HC3-DD1	GigaSMART, GigaVUE-HC3, De-Duplication Feature License per GigaSMART module
SMT-HC3-HS1	GigaSMART, GigaVUE-HC3, Header Stripping Feature License per GigaSMART module
SMT-HC3-AT1	GigaSMART, GigaVUE-HC3, Advanced Tunneling Feature License per GigaSMART module
SMT-HC3-FVU	GigaSMART, GigaVUE-HC3, FlowVUE Feature License per GigaSMART module
SMT-HC3-APF	GigaSMART, GigaVUE-HC3, Adaptive Packet Filtering Feature License per GigaSMART module
SMT-HC3-ASF	GigaSMART, GigaVUE-HC3, Application Session Filtering Feature License per GigaSMART module; requires SMT-HC3-APF
SMT-HC3-NF1	GigaSMART, GigaVUE-HC3, NetFlow Generation Feature License per GigaSMART module
SMT-HC3-SSL	GigaSMART, GigaVUE-HC3, SSL Decryption for Out of Band Tools Feature License per GigaSMART module
SMT-HC3-INSSL	GigaSMART, GigaVUE-HC3, Inline SSL and Passive SSL Decryption feature license per GigaSMART module
SMT-HC3-GTPMAX	GigaSMART, GigaVUE-HC3, GTP Filtering & Correlation Feature License per GigaSMART module, Maximum subscribers

Table 6: GigaSMART for the GigaVUE-HC2 Fabric Node

Part Number	Description
SMT-HC0-R	GigaSMART, HC Series, Rear Module (includes Slicing, Masking, Source Port & GigaVUE Tunneling De-Encapsulation SW)
SMT-HC0-X16	GigaSMART, HC Series, Front Module, 16 10Gb cages (includes Slicing, Masking, Source Port & GigaVUE Tunneling De-Encapsulation SW)
SMT-HC0-APF	GigaSMART, HC Series, Adaptive Packet Filtering feature license per GigaSMART module
SMT-HC0-ASF	GigaSMART, HC Series, Application Session Filtering feature license per GigaSMART module; requires SMT-HC0-APF
SMT-HC0-AT1	GigaSMART, HC Series, Advanced Tunneling feature license per GigaSMART module
SMT-HC0-DD1	GigaSMART, HC Series, De-Duplication feature license per GigaSMART module
SMT-HC0-FVU	GigaSMART, HC Series, FlowVUE feature license per GigaSMART module
SMT-HC0-GTP250	GigaSMART, HC Series, GTP Filtering & Correlation feature license for 250K simultaneous subscribers per GigaSMART module
SMT-HC0-GTP500	GigaSMART, HC Series, GTP Filtering & Correlation feature license for 500K simultaneous subscribers per GigaSMART module
SMT-HC0-GPTMAX	GigaSMART, HC Series, GTP Filtering & Correlation feature license for maximum supported subscribers per GigaSMART module
SMT-HC0-HS1	GigaSMART, HC Series, Header Stripping feature license per GigaSMART module
SMT-HC0-NF1	GigaSMART, HC Series, NetFlow Generation feature license per GigaSMART module
SMT-HC0-SSL	GigaSMART, HC Series, SSL Decryption for Out of Band Tools feature license per GigaSMART module
SMT-HC0-INSSL	GigaSMART, HC Series, SSL Decryption for Inline and Out of Band Tools feature license per GigaSMART module

Table 7: GigaSMART for the GigaVUE-HC1 Fabric Node

Part Number	Description
SMT-HC1-BSE	GigaSMART, HC1 license combo, includes Slicing, Masking, & Source Port features
SMT-HC1-DD1	GigaSMART, HC1 license, De-Duplication feature
SMT-HC1-HS1	GigaSMART, HC1 license, Header Stripping feature
SMT-HC0-NF1	GigaSMART, HC1 license, NetFlow Generation feature
SMT-HC1-TUN	GigaSMART, HC1 license, Tunneling feature (includes tunnel generation/termination & ERSPAN termination)
SMT-HC1-FVU	GigaSMART, GigaVUE-HC1 license, FlowVUE feature license
SMT-HC1-APF	GigaSMART, GigaVUE-HC1 license, Adaptive Packet Filtering feature
SMT-HC1-ASF	GigaSMART, GigaVUE-HC1 license, Application Session Filtering feature license; requires SMT-HC1-APF
SMT-HC1-SSL	GigaSMART, GigaVUE-HC1, SSL Decryption for Out of Band Tools Feature License

Table 8: GigaSMART for the GigaVUE-HB1 Fabric Node

Part Number	Description
SMT-HB0-APF	GigaSMART, HB license, Adaptive Packet Filtering feature
SMT-HB0-ASF	GigaSMART, HB Series, Application Session Filtering feature license per GigaSMART module; requires SMT-HB0-APF
SMT-HB1-BSE	GigaSMART, HB license combo, includes Slicing, Masking, & Source Port features
SMT-HB1-DD1	GigaSMART, HB license, De-Duplication feature
SMT-HB0-FVU	GigaSMART, HB license, FlowVUE feature
SMT-HB0-GTP250	GigaSMART, HB license, GTP Filtering & Correlation feature, 250K subscribers
SMT-HB1-HS1	GigaSMART, HB license, Header Stripping feature
SMT-HB0-NF1	GigaSMART, HB license, NetFlow Generation feature
SMT-HB1-SSL	GigaSMART, HB license, SSL Decryption feature
SMT-HB1-TUN	GigaSMART, HB license, Tunneling feature (includes tunnel generation/termination & ERSPAN termination)

Table 9: Tunneling License

Feature	GigaVUE-HD8/HD4	GigaVUE-HC3	GigaVUE-HC2	GigaVUE-HC1	GigaVUE-HB1
Tunnel De-Encapsulation: L2GRE & GMIP*	Included with SMT-HD0	Included with SMT-HC3-C05	Included with SMT-HC0-X16 and SMT-HC0-R	SMT-HC1-TUN	SMT-HB1-TUN
Tunnel Encapsulation: L2GRE & GMIP*	SMT-HD0-AT1	SMT-HC3-AT1	SMT-HC0-AT1	SMT-HC1-TUN	SMT-HB1-TUN
ERSPAN Termination	SMT-HD0-AT1	SMT-HC3 AT1	SMT-HC0-AT1	SMT-HC1-TUN	SMT-HB1-TUN

*Gigamon IP/UDP tunneling

For More Information

For more information about the Gigamon Visibility Platform or to contact your local representative, please visit:

www.gigamon.com