Data Sheet
GigaSMART

Product Description

GigaSMART® technology extends the intelligence and value of the Gigamon Security Delivery Platform by enhancing your monitoring infrastructure and improving 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 that network. GigaSMART's advanced processing engine can be accessed anywhere within the Visibility Fabric™ without port- or card-based restrictions. GigaSMART engines can be combined to process higher traffic loads and/or dedicated and optimized for specific applications. Operations 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 SSL after duplicates have been removed, or stripping VLAN headers before load balancing the traffic and sending it out to tools.

Network monitoring tools can perform more efficiently by eliminating unwanted content with the de-duplication and packet slicing features. SSL decryption provides visibility into encrypted sessions, sending decrypted packets to out-of-band monitoring tools. 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. Organizations can improve accuracy by adding source or timing information at the point of collection with GigaSMART's source port labeling and time stamping capabilities. 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. GigaSMART's Application Session Filtering allows you to identify and forward traffic corresponding to application sessions to security appliances increasing their efficacy and performance.

The advanced processing capabilities of the GigaSMART engine can also be leveraged to summarize and generate NetFlow plus other metadata statistics from incoming traffic streams. Offloading NetFlow and metadata generation to the out-of-band Gigamon Visibility Fabric eliminates the risk of expending expensive production network resources in generating these analytics. Enhanced flow-level visibility across remote locations and Big Data environments can be used to derive usage patterns, top talkers, top applications, and more, for effective capacity planning and enforcing security policies.

With GTP correlation, service providers can more reliably filter and forward specified subscriber sessions (both GTP-c and GTP-u) to monitoring and analytic tools. Gigamon's FlowVUE™ application offers a sampling paradigm for active subscriber's device IPs (UE IPs) across GTP-u tunnels. The integrity of the sampled subscriber flows is preserved by forwarding all of the packets associated with the user-endpoint to the probes. The ability to filter and sample on subscriber devices and transmit all of the associated sessions of interest to the monitoring tool intelligently reduces the amount of data while enabling Big Data throughput processing with existing cost structures.

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

Table 1: Software Features and Benefits

GigaSMART Features/Applications	Benefits	GigaVUE H Series[1]	GigaVUE-HC1
🔒 **SSL Decryption**	• Provide visibility into encrypted sessions • Send decrypted packets to multiple out-of-band tools: IDS, DLP, APM, CEM, etc. • Protect private server keys with encryption and role-based access controls	✓	✗
◐ **De-duplication**	• 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	✓	✓
🌐 **Adaptive Packet Filtering**	• 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**	• 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	✓	✗
N **NetFlow and Metadata Generation**	• 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)	✓	✓
⦿ **GTP Correlation**	• 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	✓	✗
🔥 **FlowVUE**	• 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	✓	✗

Table 1: Software Features and Benefits continued

GigaSMART Features/Applications	Benefits	GigaVUE H Series[1]	GigaVUE-HC1
Load Balancing	• 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)	✓	✗
Header Stripping	• 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, and GTP-U	✓	✓
Tunneling	• 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	✓	✓
ERSPAN Termination	• 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)	✓	✓
Packet Slicing	• 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	✓	✓
Masking	• Overwrite packet data between a 64-9000 byte offset • Conceal private data including financial and medical information	✓	✓
Source Port Labeling	• Add labels to packets indicating the ingress port • Easily identify the origin of a packet	✓	✓

[1] Includes GigaVUE-HD8, GigaVUE-HD4, GigaVUE-HC2, and GigaVUE-HB1, excluding GigaVUE-HC1.
See Table 2 for hardware requirements.

Table 2: GigaSMART Performance[2]

Product	Description
GigaSMART for GigaVUE-HD4/HD8	• Processing up to 80Gb 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-HC2	*GigaSMART front module* • Processing up to 40Gb • Includes 16 SFP+/SFP ports* • Includes slicing, masking, source port, and GigaVUE tunneling de-encapsulation *GigaSMART rear module* • Processing up to 40Gb • 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 20Gb
GigaSMART for GigaVUE-HB1 (integrated)	Processing up to 10Gb

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

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-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-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 feature license per GigaSMART module

Table 6: 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)

Table 7: GigaSMART for the GigaVUE-HB1 Fabric Node

Part Number	Description
SMT-HB0-APF	GigaSMART, HB license, Adaptive Packet Filtering feature
SMT-HBO-ASF	GigaSMART, HB Series, Application Session Filtering feature license per GigaSMART module; requires SMT-HBO-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 8: Tunneling License

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

*Gigamon IP/UDP tunneling

For More Information

For more information about the Gigamon Unified Visibility Fabric or to contact your local representative, please visit:
www.gigamon.com