

**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 applications that extend the intelligence and value of the Gigamon 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.

You can access the GigaSMART advanced processing engine from anywhere within the Gigamon Platform without port- or card-based restrictions. Combine GigaSMART engines to manage higher traffic loads and optimized for specific applications. You can also combine applications or chain services so that traffic benefits from multiple functions at once. Examples include generating NetFlow and other network metadata, 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.

By using de-duplication and packet slicing to eliminate unwanted content, GigaSMART technology helps network monitoring tools perform more efficiently. Masking lets you hide confidential information like passwords, financial accounts or medical data, helping your organization 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"><li>• Eliminate contention for network data due to SPAN port limitations</li><li>• Reduce network downtime during upgrades</li><li>• Avoid data-speed mismatches between the network and tools</li><li>• Effectively filter streaming media and network applications to optimize tool processing</li><li>• Access and monitor network data within SDN and private cloud environments</li></ul>	<ul style="list-style-type: none"><li>• Automatically identify and decrypt SSL traffic and deliver it to multiple tools for inspection</li><li>• Generate metadata to expedite and simplify incident identification and response</li><li>• Identify, filter and forward traffic corresponding to critical application sessions</li></ul>

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

GigaSMART technology is 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 configuration and provisioning flexibility.

**Table 1: Software Applications, Compatible Hardware and Benefits**




GigaSMART Features/Applications	Benefits
 <b>Adaptive Packet Filtering</b>	<ul style="list-style-type: none"> <li>• Filter across advanced encapsulation headers including VXLAN, VN-Tag, GTP or MPLS and inner (encapsulated) Layer 3/Layer 4 packet contents</li> <li>• Provide advanced visibility into the application layer using pattern-matching regular expression-based filters</li> <li>• Mask private and sensitive data in the packet before it gets stored, maintaining SOX, PCI and HIPAA compliance</li> <li>• Included with GTP correlation</li> </ul>
 <b>Application Session Filtering</b>	<ul style="list-style-type: none"> <li>• Forward traffic corresponding to application sessions to security appliances to increase their efficacy and performance</li> <li>• Classify flows of interest using signatures to filter applications such as video streaming, email, web 2.0 and other business applications</li> <li>• Provide complete visibility into traffic flows by forwarding all packets from session initiation to termination to security and monitoring tools</li> </ul>
 <b>De-duplication</b>	<ul style="list-style-type: none"> <li>• Relieve tool processing resources when packets are gathered from multiple collection points along a path by forwarding a packet only once</li> <li>• Remove packet duplication caused by inter-VLAN communication or incorrect switch configuration</li> </ul>
 <b>ERSPAN Termination</b>	<ul style="list-style-type: none"> <li>• Terminate ERSPAN tunnels to consolidate, filter and forward relevant ERSPAN traffic</li> <li>• Translate the ERSPAN III timestamp into a format readable by monitoring tools (GigaVUE H Series only)</li> </ul>
 <b>FlowVUE®</b>	<ul style="list-style-type: none"> <li>• Perform flow-aware sampling of active subscriber devices to selectively reduce traffic bound to monitoring and analytic tools</li> <li>• Preserve or increase CEM based on real-time reduced data-analytic throughput</li> <li>• Turn big data into manageable data with deterministic results at a fraction of the data rate</li> </ul>
 <b>GTP Correlation</b>	<ul style="list-style-type: none"> <li>• Optimize tool infrastructure by accurate filtering, replicating and forwarding monitored subscriber sessions</li> <li>• Correlate subscriber sessions (control and data) to offload tools, increasing throughput</li> <li>• Facilitate drilldowns into roaming users across peer networks</li> <li>• Includes Adaptive Packet Filtering license; GTP Whitelisting requires FlowVUE license</li> </ul>
 <b>Header Stripping</b>	<ul style="list-style-type: none"> <li>• Eliminate the need for monitoring tools to decipher protocols</li> <li>• Allow easy filtering, aggregation and load balancing of packets with headers removed</li> <li>• Headers and protocols removed: ISL, Cisco FabricPath, VXLAN, VN-Tag, VLAN, MPLS, GRE, GTP-U PPPoE, LISP, L2MPLS, SPB, VPLS and Trill</li> <li>• Create custom templates with user-defined offsets and header length</li> </ul>
 <b>Load Balancing</b>	<ul style="list-style-type: none"> <li>• Distribute traffic among multiple ports based on a variety of options: hashing, bandwidth, cumulative traffic, packet rate, connections and round robin</li> <li>• Apply weighting to the traffic distribution, supporting different tool capacities</li> <li>• Utilize hashing options such as IP, IP-and-Port, five-tuple and GTP-u tunnel ID</li> <li>• Load balancing is included with all GigaVUE H Series GigaSMART licenses, except NetFlow (including the Metadata Engine)</li> </ul>

**Table 1: Software Applications, Compatible Hardware and Benefits continued**

GigaSMART Features/Applications	Benefits
 <b>Masking</b>	<ul style="list-style-type: none"> <li>• Overwrite packet data between a 64-9000 byte offset</li> <li>• Conceal private data, including financial and medical information</li> </ul>
 <b>NetFlow and Metadata Generation</b>	<ul style="list-style-type: none"> <li>• Offload NetFlow and metadata generation from network elements and generate critical security-specific metadata such as URLs and HTTP response codes from any traffic</li> <li>• Obtain high-fidelity, unsampled, 1:1 flow statistics</li> <li>• Export records to up to six collectors</li> <li>• NetFlow v5/v9, IPFIX, and CEF</li> <li>• Metadata extensions for URL, HTTP response codes, SIP, DNS and Certificates</li> </ul>
 <b>Packet Slicing</b>	<ul style="list-style-type: none"> <li>• Reduce packet size to increase processing and monitoring throughput</li> <li>• Process fewer bits while maintaining the vital, relevant portions of each packet</li> <li>• Significantly increase the capacity of forensic recording tools</li> </ul>
 <b>SIP/RTP Correlation</b>	<ul style="list-style-type: none"> <li>• Optimize tool infrastructure for monitoring VoIP and VoLTE traffic for voice quality, troubleshooting and voice recordings</li> <li>• Correlate control and bearer streams in voice traffic, load-balancing across multiple tools for complete session monitoring</li> <li>• Mask private information contained in message content</li> <li>• Create whitelists for specific users and sample call data (requires FlowVUE license)</li> </ul>
 <b>Source Port Labeling</b>	<ul style="list-style-type: none"> <li>• Add labels to packets indicating the ingress port</li> <li>• Easily identify the origin of a packet</li> </ul>
 <b>SSL/TLS Decryption</b>	<ul style="list-style-type: none"> <li>• Provide automatic visibility into SSL/TLS traffic, regardless of TCP port or application</li> <li>• Selectively decrypt traffic using intelligent policies based on URL categories, IP address, ports, VLAN tags, domain names and more</li> <li>• Support both inline and out-of-band tools</li> <li>• Scale performance with additional GigaSMART modules</li> <li>• Integrate with other GigaSMART applications for comprehensive traffic management (e.g. deduplication, masking, slicing)</li> <li>• Protect private server certificates and keys with encryption and role-based access controls</li> <li>• Send decrypted packets to multiple inline (e.g. IPS, NGFW) and out-of-band (e.g. DLP, APM, SIEM, analytics) security tools simultaneously</li> <li>• Supports Thales HSM for the storage and management of SSL keys for out-of-band SSL only</li> </ul>
 <b>Tunneling</b>	<ul style="list-style-type: none"> <li>• Forward packets from remote sites to centralized monitoring tools using IP/UDP or L2GRE encapsulation</li> <li>• Integrate virtualized tools into the Visibility Fabric via L2GRE tunnels</li> </ul>

See Table 2 for hardware requirements.

**Table 2: GigaSMART Performance<sup>2</sup>**

Product	Description
<p>GigaSMART for GigaVUE-HC3</p> 	<ul style="list-style-type: none"> <li>• 2 GigaSMART engines with 100Gbps processing power per engine</li> <li>• 5 x 100Gb QSFP ports</li> <li>• Port modes: 1 x 100Gb, 1 x 40Gb, or 4 x 10Gb*</li> <li>• Up to 4 GigaSMART modules can be populated per GigaVUE-HC3 to provide scalable performance up to 800Gbps</li> </ul>
<p>GigaSMART for GigaVUE-HC2</p>  	<p>GigaSMART front module</p> <ul style="list-style-type: none"> <li>• Processing up to 40Gbps</li> <li>• Includes 16 SFP+/SFP ports</li> <li>• Includes slicing, masking, source port and GigaVUE tunneling de-encapsulation</li> </ul> <p>GigaSMART rear module</p> <ul style="list-style-type: none"> <li>• Processing up to 40Gbps</li> <li>• No additional ports</li> <li>• Includes slicing, masking, source port and GigaVUE tunneling de-encapsulation</li> <li>• Up to 5 GigaSMART modules (front and rear) can be populated per GigaVUE-HC2 to provide scalable performance up to 200Gb</li> </ul>
<p>GigaSMART for GigaVUE-HC1 (integrated)</p>	<p>Processing up to 20Gbps</p>

<sup>2</sup> 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

**Table 3: Physical Dimensions and Weight**

GigaSMART Line Card/Module	Height	Width	Depth	Weight
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 our Limited Warranty and Product Support and Software Maintenance Programs, visit [www.gigamon.com/support-and-services/overview-and-benefits](http://www.gigamon.com/support-and-services/overview-and-benefits).

## Ordering Information

**Table 4: GigaSMART for the GigaVUE-HC3 Fabric Node**

Part Number	Description
SMT-HC3-C05	GigaSMART, GigaVUE-HC3, 5x100G QSFP28 cages (includes Slicing, Masking, Source Port and 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 and Correlation Feature License per GigaSMART module, Maximum subscribers

**Table 5: GigaSMART for the GigaVUE-HC2 Fabric Node**

Part Number	Description
SMT-HC0-R	GigaSMART, GigaVUE-HC2, Rear Module (includes Slicing, Masking, Source Port and GigaVUE Tunneling De-Encapsulation SW)
SMT-HC0-X16	GigaSMART, GigaVUE-HC2, Front Module, 16 10Gb cages (includes Slicing, Masking, Source Port and GigaVUE Tunneling De-Encapsulation SW)
SMT-HC0-APF	GigaSMART, GigaVUE-HC2, Adaptive Packet Filtering feature license per GigaSMART module
SMT-HC0-ASF	GigaSMART, GigaVUE-HC2, Application Session Filtering feature license per GigaSMART module; requires SMT-HC0-APF
SMT-HC0-AT1	GigaSMART, GigaVUE-HC2, Advanced Tunneling feature license per GigaSMART module
SMT-HC0-DD1	GigaSMART, GigaVUE-HC2, De-Duplication feature license per GigaSMART module
SMT-HC0-FVU	GigaSMART, GigaVUE-HC2, FlowVUE feature license per GigaSMART module
SMT-HC0-GTP250	GigaSMART, GigaVUE-HC2, GTP Filtering and Correlation feature license for 250K simultaneous subscribers per GigaSMART module
SMT-HC0-GTP500	GigaSMART, GigaVUE-HC2, GTP Filtering and Correlation feature license for 500K simultaneous subscribers per GigaSMART module

**Table 5: GigaSMART for the GigaVUE-HC2 Fabric Node continued**

Part Number	Description
SMT-HC0-GPTMAX	GigaSMART, GigaVUE-HC2, GTP Filtering and Correlation feature license for maximum supported subscribers per GigaSMART module
SMT-HC0-HS1	GigaSMART, GigaVUE-HC2, Header Stripping feature license per GigaSMART module
SMT-HC0-NF1	GigaSMART, GigaVUE-HC2, NetFlow Generation feature license per GigaSMART module
SMT-HC0-SSL	GigaSMART, GigaVUE-HC2, 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 6: GigaSMART for the GigaVUE-HC1 Fabric Node**

Part Number	Description
SMT-HC1-BSE	GigaSMART, GigaVUE-HC1 license combo, includes Slicing, Masking and Source Port features
SMT-HC1-DD1	GigaSMART, GigaVUE-HC1 license, De-Duplication feature
SMT-HC1-HS1	GigaSMART, GigaVUE-HC1 license, Header Stripping feature
SMT-HC1-NF1	GigaSMART, GigaVUE-HC1 license, NetFlow Generation feature
SMT-HC1-TUN	GigaSMART, GigaVUE-HC1 license, Tunneling feature (includes tunnel generation/termination and 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
SMT-HC1-INSSL	GigaSMART, GigaVUE-HC1, SSL Decryption for Inline and Out of Band Tools Feature License

**Table 7: Tunneling License**

Feature	GigaVUE-HC3	GigaVUE-HC2	GigaVUE-HC1
<b>Tunnel De-Encapsulation: L2GRE and GMIP*</b>	Included with SMT-HC3-C05	Included with SMT-HC0-X16 and SMT-HC0-R	SMT-HC1-TUN
<b>Tunnel Encapsulation: L2GRE and GMIP*</b>	SMT-HC3-AT1	SMT-HC0-AT1	SMT-HC1-TUN
<b>ERSPAN Termination</b>	SMT-HC3 AT1	SMT-HC0-AT1	SMT-HC1-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](http://www.gigamon.com).