



# GigaVUE Firewall Security Guide

**GigaVUE**

Product Version: 6.9

Document Version: 1.0

Last Updated: Thursday, December 6, 2024

(See Change Notes for document updates.)

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# Change Notes

When a document is updated, the document version number on the cover page will indicate a new version and will provide a link to this Change Notes table, which will describe the updates.

Product Version	Document Version	Date Updated	Change Notes
6.9	1.0	12/06/2024	The original release of this document with 6.9.00 GA.

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# Get started with GigaVUE Security

This guide provides information about the open ports in GigaVUE-FM, GigaVUE-FM High Availability, open ports in GigaVUE HC Series devices, open ports in GigaVUE HC Series and GigaVUE TA Series devices.

You can also get information about the Network Firewall or Security Group for requirements for GigaVUE Cloud Suite deployment, Kubernetes network requirements for GCB.

Topics:

- [Open Ports in GigaVUE-FM](#)
- [Network Firewall Requirement for GigaVUE Cloud Suite](#)
- [Network Firewall Requirements for VMware vCenter](#)
- [Network Firewall Requirements for VMware NSX-T](#)
- [Network Firewall Requirements for Nutanix](#)
- [Network Firewall Requirements for Gigamon Containerized Box](#)

## Open Ports in GigaVUE-FM

This appendix provides information about the open ports in GigaVUE-FM and also in the devices. Refer to the following sections:

- [Open Default Ports](#)
- [Open Ports for GigaVUE-FM Migration](#)
- [Open Ports for High Availability](#)
- [Open Ports for Communication Between Members of GigaVUE-FM High Availability Cluster](#)
- [Open Ports in GigaVUE HC Series Devices](#)
- [Open Ports in GigaVUE-FM](#)
- [Open Ports for Clustered Node Communication](#)

## Open Default Ports

The following table provides information about the default ports open in the firewall for GigaVUE-FM. The table is sorted by Protocol and then Port Number.

Port Number	Protocol	Service	Traffic Direction	Description
80	HTTP	GigaVUE-FM GUI	Bidirectional traffic between Web Browser and GigaVUE-FM	Used for redirecting the traffic internally to port 443. <b>Note:</b> You can choose to shut down port 80 for enhanced security.
443	HTTPS	GigaVUE-FM GUI	Bidirectional traffic between Web Browser and GigaVUE-FM Bidirectional traffic between GigaVUE-FM and GigaVUE-VM.	Used for normal GigaVUE-FM user interaction.
389	LDAP	AAA	Bidirectional traffic between LDAP server and GigaVUE-FM	Used for accessing and maintaining distributed directory information services over the Internet Protocol (IP) network.
636	LDAP	AAA	Bidirectional traffic between LDAP server and GigaVUE-FM	Used for secure LDAP protocol over SSL for accessing and maintaining distributed directory information services over the Internet Protocol (IP) network.
1812/1813 1645/1646	Radius	AAA	Bidirectional traffic between Radius server and GigaVUE-FM	Used for running the client/server protocol in the application layer. They can use either TCP or UDP as the transport protocol.
49	TACACS	AAA	Bidirectional traffic between TACACS server and GigaVUE-FM	Used for communicating with the authentication server in order to determine if you have access to the network.
22	TCP	SSH	Bidirectional traffic between Putty and GigaVUE-FM	<ul style="list-style-type: none"> <li>Used for GigaVUE-FM admin user login. Also, used for initial GigaVUE-FM IP configuration.</li> <li>Used by the web browser to communicate with GigaVUE-VM for troubleshooting purposes.</li> </ul>
514	TCP	Fluentd	Unidirectional traffic from physical nodes to	Used for sending device log messages via SSL from devices to GigaVUE-FM.

Port Number	Protocol	Service	Traffic Direction	Description
			GigaVUE-FM	
5672	TCP	RabbitMq	Unidirectional traffic from physical nodes to GigaVUE-FM	Used for sending event notifications via SSL from devices to GigaVUE-FM.
5671	TCP/SSL	RabbitMq	Unidirectional traffic from physical nodes to GigaVUE-FM	Used for sending event notifications via SSL from devices to GigaVUE-FM.
53	UDP	DNS	Bidirectional traffic between a DNS server and GigaVUE-FM	Used to resolve Fully Qualified Domain Names (FQDNs).
68	UDP	DHCP	Bidirectional traffic between GigaVUE-FM and DHCP server	Used only if DHCP is enabled on the GigaVUE-FM appliance.
123	UDP	NTP	Bidirectional traffic between a Network Time Protocol (NTP) server and GigaVUE-FM	Used only if GigaVUE-FM is configured to use NTP.
162	UDP	SNMP	Unidirectional traffic from managed appliances to GigaVUE-FM	Used to process incoming traps sent from managed appliances to GigaVUE-FM.
2055	UDP	NetFlow	Unidirectional traffic from managed Appliances to GigaVUE-FM	Used for receiving NetFlow traffic.

Port Number	Protocol	Service	Traffic Direction	Description
2056	UDP	Fluentd	Unidirectional traffic from physical and virtual nodes to GigaVUE-FM	Used by Application Intelligence for sending monitoring reports to GigaVUE-FM.
8443	TCP	HTTPS ALT	Bidirectional traffic between GigaVUE-FM and Apache Tomcat web server.	Port 8443 is an alternative HTTPS port and a primary protocol that the Apache Tomcat web server utilizes to open the SSL text service. In addition, this port is primarily used as an HTTPS Client Authentication connection protocol.
9514	TCP	Fluentd	Unidirectional traffic from nodes to GigaVUE-FM	Port used by Fluentd application.



**Note:** The following ports are blocked by firewall internally (and no security issues have been observed). You cannot access GigaVUE-FM using these ports:

- 2181
- 8009
- 8080
- 9200

## Open Ports for GigaVUE-FM Migration

The following table provides details about ports that must be open during GigaVUE-FM migration.

Port Number	Protocol	Service	Traffic Direction	Description
443	HTTPS	GigaVUE-FM GUI	Bidirectional traffic between Web Browser and GigaVUE-FM	Used for API and GUI access related operations.
22	TCP	SSH	Bidirectional traffic between Putty and GigaVUE-FM	Used for transferring configuration files between two instances of GigaVUE-FM.



Port Number	Protocol	Service	Traffic Direction	Description
902	TCP/UDP	ESXi Host	Bidirectional traffic between VMware vCenter and ESXi hosts	<ul style="list-style-type: none"> <li>For migration and provisioning purposes, this port must be open between the VMware vCenter server and the VMware ESXi hosts. Otherwise, GigaVUE-FM bulk deployment fails.</li> <li>Used for sending data from vCenter Server to the ESXi host. The ESXi host uses this port to send regular heartbeat to the vCenter Server system.</li> </ul>

## Open Ports for High Availability

The following table provides details about ports that must be open for GigaVUE-FM High Availability.

Port Number	Protocol	Service	Traffic Direction	Description
22	TCP	SSH	Bidirectional traffic between Putty and GigaVUE-FM	<ul style="list-style-type: none"> <li>Used for GigaVUE-FM admin user login. Also, used for initial GigaVUE-FM IP configuration.</li> <li>Used by the web browser to communicate with GigaVUE-VM for troubleshooting purposes.</li> <li>Used for transferring configuration files between two GigaVUE-FM instances during migration.</li> </ul>
80	TCP	HTTP	Bidirectional traffic between Web Browser and GigaVUE-FM	Used for redirecting the traffic internally to port 443. <b>Note:</b> You can choose to shut down port 80 for enhanced security.
443	TCP	HTTPS	<ul style="list-style-type: none"> <li>Bidirectional traffic between Web Browser and GigaVUE-FM.</li> </ul>	Used for normal GigaVUE-FM user interaction.

Port Number	Protocol	Service	Traffic Direction	Description
			<ul style="list-style-type: none"> <li>• Bidirectional traffic between GigaVUE-FM and GigaVUE-VM.</li> <li>• Bidirectional traffic between the GigaVUE-FM instances in a High Availability group.</li> </ul>	
514	TCP/UDP	Shell/Syslog	Unidirectional traffic from physical nodes to GigaVUE-FM	Used for sending device log messages via SSL from devices to GigaVUE-FM.
4369	TCP	EPMD/RMQ	Bidirectional traffic between RMQ members in cluster.	Small additional process that runs alongside every RabbitMQ node and is used by the runtime to discover what port a particular node listens to. The port is then used by peer nodes.
5671	TCP	amqps	Unidirectional traffic from physical nodes to GigaVUE-FM	Used for sending event notifications via SSL from devices to GigaVUE-FM.
25672	TCP	RabbitMQ/ SNMP Traps	Bidirectional traffic between RMQ members in cluster.	
68	UDP	DHCP	Bidirectional traffic between GigaVUE-FM and DHCP server	Used only if DHCP is enabled on the GigaVUE-FM appliance.
162	UDP	SNMP	Unidirectional traffic from managed appliances to GigaVUE-FM	Used to process incoming traps sent from managed appliances to GigaVUE-FM.

**NOTE:** Ports 9514 and 9162 are used to receive the traffic forwarded by ports 514 and 162, respectively. Therefore, these ports need not be opened explicitly.

## Open Ports for Communication Between Members of GigaVUE-FM High Availability Cluster

The following table lists the ports that must be open for communication between the members of GigaVUE-FM High Availability cluster.

**NOTE:** These ports cannot be accessed by standalone GigaVUE-FM instances.

Port Number	Protocol	Service	Traffic Direction	Description
8300	TCP	Consul	Bidirectional traffic between members in GigaVUE-FM cluster.	Used To handle incoming requests from other agents.
8301	TCP/UDP	Consul	Bidirectional traffic between members in GigaVUE-FM cluster.	Used for inter-cluster communication over LAN.
8302	TCP	Consul	Bidirectional traffic between members in GigaVUE-FM cluster.	Used for inter-cluster communication over WAN.
30865	TCP	CSync2	Bidirectional traffic between members in GigaVUE-FM cluster.	Used for Synchronization of files/directories across cluster. For example, Image files during GigaVUE-FM HA Upgrade.
9300	TCP	Elastic Search	Bidirectional traffic between members in GigaVUE-FM cluster.	Used for inter-cluster communication.
27017	TCP	MongoDB	Bidirectional traffic between members in GigaVUE-FM cluster.	Used for data replication across clusters and data access through GigaVUE-OS CLI.

## Open Ports in GigaVUE HC Series Devices

The following table lists the open ports in GigaVUE-H series devices. GigaVUE-FM manages the devices using these open ports.

Port Number	Protocol	Service	Traffic Direction	Description
22	SSH	Device Management	Bidirectional traffic between GigaVUE-FM and devices.	Used for image download, configuration backup/restore operations
80	HTTP	Communication	Bidirectional traffic between GigaVUE-FM and devices.	Used for initial communication setup. Assumption is that HTTP redirect

Port Number	Protocol	Service	Traffic Direction	Description
				will be turned ON in all GigaVUE devices and GigaVUE-FM will use HTTP(S) henceforth.
443	HTTPS	Communication	Bidirectional traffic between GigaVUE-FM and devices.	<p>GigaVUE-FM to device communication. Refer to the following notes:</p> <ul style="list-style-type: none"> <li>Starting in software version 5.9.00, XML Gateway services are shutdown in the devices. Therefore, if you change the HTTPS port number of a device using CLI, then: <ul style="list-style-type: none"> <li>For devices that are not added and managed by GigaVUE-FM: You must update the HTTPS port number when adding the nodes using the Add Physical Nodes page in GigaVUE-FM GUI. Refer to the <i>Add Nodes Manually</i> section for more details.</li> <li>For devices that have already been added and managed by GigaVUE-FM: You must update the HTTPS port number from the Node Details page (<b>Admin &gt; System &gt; Node Details</b>). In the Node Details page, select the device and click <b>Edit</b> to update the port number and click <b>Save</b>.</li> </ul> </li> <li>Failure to do so will terminate communication between the device and GigaVUE-FM</li> </ul> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>NOTE:</b> Until software version 6.9, if the HTTPS port number is changed using CLI, then GigaVUE-FM will learn the port number through the XML Gateway request.</p> </div>

Port Number	Protocol	Service	Traffic Direction	Description
				<ul style="list-style-type: none"> <li>Devices with software version greater than or equal to software version 5.9.00 are XSRF enabled, by default.</li> </ul>

## Open Ports for Clustered Node Communication

The following table lists the open ports in GigaVUE HC Series and GigaVUE TA Series devices.

Port Number	Protocol	Service	Traffic Direction	Description
5353	UDP	Communication	Bidirectional	Used for cluster communication
6379	TCP	Communication	Bidirectional	Used to communicate with clients that need to reach the cluster nodes

- [Open Default Ports](#)
- [Open Ports for GigaVUE-FM Migration](#)
- [Open Ports for High Availability](#)
- [Open Ports for Communication Between Members of GigaVUE-FM High Availability Cluster](#)
- [Open Ports in GigaVUE HC Series Devices](#)
- [Open Ports in GigaVUE-FM](#)
- [Open Ports for Clustered Node Communication](#)

## Network Firewall Requirement for GigaVUE Cloud Suite

The following table lists the Network Firewall / Security Group requirements for GigaVUE Cloud Suite.

**NOTE:** When using dual stack network, the below mentioned ports must be opened for both IPv4 and IPv6.

<b>GigaVUE-FM</b>				
<b>Direction</b>	<b>Protocol</b>	<b>Port</b>	<b>Source CIDR</b>	<b>Purpose</b>
Inbound	TCP	443	Administrator Subnet	Allows GigaVUE-FM to accept Management connection using REST API. Allows users to access GigaVUE-FM UI securely through HTTPS connection.
Inbound	TCP	22	Administrator Subnet	Allows CLI access to user-initiated management and diagnostics.
Inbound (This is the port used for Third Party Orchestration)	TCP	443	UCT-V Controller IP	Allows GigaVUE-FM to receive registration requests from UCT-V Controller using REST API.
Inbound (This is the port used for Third Party Orchestration)	TCP	443	GigaVUE V Series Node IP	Allows GigaVUE-FM to receive registration requests from GigaVUE V Series Node using REST API when GigaVUE V Series Proxy is not used.
Inbound (This is the port used for Third Party Orchestration)	TCP	443	GigaVUE V Series Proxy IP	Allows GigaVUE-FM to receive registration requests from GigaVUE V Series Proxy using REST API.
Inbound	TCP	443	UCT-C Controller IP	Allows GigaVUE-FM to receive registration requests from UCT-C Controller using REST API.
Inbound	TCP	5671	GigaVUE V Series Node IP	Allows GigaVUE-FM to receive traffic health updates from GigaVUE V Series Nodes.
Inbound	TCP	5671	UCT-V Controller IP	Allows GigaVUE-FM to receive statistics from UCT-V Controllers.
Inbound	TCP	5671	UCT-C Controller IP	Allows GigaVUE-FM to receive statistics from UCT-C Controllers.
Inbound	UDP	2056	GigaVUE V Series Node IP	Allows GigaVUE-FM to receive Application Intelligence and Application Visualization reports from GigaVUE V Series Node.

Direction	Protocol	Port	Destination CIDR	Purpose
Outbound	TCP	9900	GigaVUE-FM IP	Allows GigaVUE-FM to communicate control and management plane traffic with UCT-V Controller.
Outbound (optional)	TCP	8890	GigaVUE V Series Proxy IP	Allows GigaVUE-FM to communicate control and management plane traffic to GigaVUE V Series Proxy.
Outbound	TCP	8889	GigaVUE V Series Node IP	Allows GigaVUE-FM to communicate control and management plane traffic to GigaVUE V Series Node.
Outbound	TCP	8443 (default)	UCT-C Controller IP	Allows GigaVUE-FM to communicate control and management plane traffic to UCT-C Controller.
Outbound	TCP	443	Any IP Address	Allows GigaVUE-FM to reach the Public Cloud Platform APIs.
<b>UCT-V Controller</b>				
Direction	Protocol	Port	Source CIDR	Purpose
Inbound	TCP	9900	GigaVUE-FM IP	Allows UCT-V Controller to communicate control and management plane traffic with GigaVUE-FM
Inbound	TCP	9900	UCT-V or Subnet IP	Allows UCT-V Controller to receive traffic health updates from UCT-V.
Inbound (This is the port used for Third Party Orchestration)	TCP	8891	UCT-V or Subnet IP	Allows UCT-V Controller to receive the registration requests from UCT-V.
Inbound	TCP	22	Administrator Subnet	Allows CLI access for user-initiated management and diagnostics, specifically when using third party orchestration.
Direction	Protocol	Port	Destination CIDR	Purpose
Outbound (This is the port used for Third Party Orchestration)	TCP	443	GigaVUE-FM IP	Allows UCT-V Controller to send the registration requests to GigaVUE-FM using REST API.

Outbound	TCP	9901	UCT-V Controller IP	Allows UCT-V Controller to communicate control and management plane traffic with UCT-Vs.
Outbound	TCP	5671	GigaVUE-FM IP	Allows UCT-V Controller to send traffic health updates to GigaVUE-FM.
<b>UCT-V</b>				
Direction	Protocol	Port	Source CIDR	Purpose
Inbound	TCP	9901	UCT-V Controller IP	Allows UCT-V to receive control and management plane traffic from UCT-V Controller
Direction	Protocol	Port	Destination CIDR	Purpose
Outbound (This is the port used for Third Party Orchestration)	TCP	8891	UCT-V Controller IP	Allows UCT-V to communicate with UCT-V Controller for registration and Heartbeat
Outbound	UDP (VXLAN)	VXLAN (default 4789)	GigaVUE V Series Node IP	Allows UCT-V to tunnel VXLAN traffic to GigaVUE V Series Nodes
Outbound	IP Protocol (L2GRE)	L2GRE (IP 47)	GigaVUE V Series Node IP	Allows UCT-V to tunnel L2GRE traffic to GigaVUE V Series Nodes
Outbound (Optional - This port is used only for Secure Tunnels)	TCP	11443	GigaVUE V Series Node IP	Allows UCT-V to securely transfer the traffic to the GigaVUE V Series Node
Outbound	TCP	9900	UCT-V Controller IP	Allows UCT-V to send traffic health updates to UCT-V Controller.
<b>GigaVUE V Series Node</b>				
Direction	Protocol	Port	Source CIDR	Purpose
Inbound	TCP	8889	GigaVUE-FM IP	Allows GigaVUE V Series Node to communicate control and management plane traffic with GigaVUE-FM
Inbound	TCP	8889	GigaVUE V Series Proxy IP	Allows GigaVUE V Series Node to communicate control and management plane traffic with GigaVUE V Series Proxy.



Inbound	UDP (VXLAN)	VXLAN (default 4789)	UCT-V Subnet IP	Allows GigaVUE V Series Nodes to receive VXLAN tunnel traffic to UCT-V
Inbound	IP Protocol (L2GRE)	L2GRE	UCT-V Subnet IP	Allows GigaVUE V Series Nodes to receive L2GRE tunnel traffic to UCT-V
Inbound	UDPGRE	4754	Ingress Tunnel	Allows GigaVUE V Series Node to receive tunnel traffic from UDPGRE Tunnel
Inbound	TCP	22	Administrator Subnet	Allows CLI access for user-initiated management and diagnostics, specifically when using third party orchestration.
Inbound (Optional - This port is used only for Secure Tunnels)	TCP	11443	UCT-V subnet	Allows to securely transfer the traffic to GigaVUE V Series Nodes.
Inbound (Optional - This port is used only for configuring AWS Gateway Load Balancer)	UDP (GENEVE)	6081	Ingress Tunnel	Allows GigaVUE V Series Node to receive tunnel traffic from AWS Gateway Load Balancer.
Direction	Protocol	Port	Destination CIDR	Purpose
Outbound	TCP	5671	GigaVUE-FM IP	Allows GigaVUE V Series Node to send traffic health updates to GigaVUE-FM.
Outbound	UDP (VXLAN)	VXLAN (default 4789)	Tool IP	Allows GigaVUE V Series Node to tunnel output to the tool.
Outbound	IP Protocol (L2GRE)	L2GRE (IP 47)	Tool IP	Allows GigaVUE V Series Node to tunnel output to the tool.
Outbound	UDP	2056	GigaVUE-FM IP	Allows GigaVUE V Series Node to send Application Intelligence and Application Visualization reports to GigaVUE-FM.
Outbound	UDP	2055	Tool IP	Allows GigaVUE V Series Node to send NetFlow Generation traffic to an external tool.
Outbound	UDP	514	Tool IP	Allows GigaVUE V Series Node to send Application Metadata Intelligence log

				messages to external tools.
Bidirectional (optional)	ICMP	<ul style="list-style-type: none"> <li>• echo request</li> <li>• echo reply</li> </ul>	Tool IP	Allows GigaVUE V Series Node to send health check tunnel destination traffic.
Outbound (This is the port used for Third Party Orchestration)	TCP	8891	GigaVUE V Series Proxy IP	Allows GigaVUE V Series Node to send registration requests and heartbeat messages to GigaVUE V Series Proxy when GigaVUE V Series Proxy is used.
Outbound (This is the port used for Third Party Orchestration)	TCP	443	GigaVUE-FM IP	Allows GigaVUE V Series Node to send registration requests and heartbeat messages to GigaVUE-FM when GigaVUE V Series Proxy is not used.
Outbound (Optional - This port is used only for Secure Tunnels)	TCP	11443	Tool IP	Allows to securely transfer the traffic to an external tool.
<b>GigaVUE V Series Proxy (optional)</b>				
Direction	Protocol	Port	Source CIDR	Purpose
Inbound	TCP	8890	GigaVUE-FM IP	Allows GigaVUE-FM to communicate control and management plane traffic with GigaVUE V Series Proxy.
Inbound (This is the port used for Third Party Orchestration)	TCP	8891	GigaVUE V Series Node IP	Allows GigaVUE V Series Proxy to receive registration requests and heartbeat messages from GigaVUE V Series Node.
Inbound	TCP	22	Administrator Subnet	Allows CLI access for user-initiated management and diagnostics, specifically when using third party orchestration.
Direction	Protocol	Port	Destination CIDR	Purpose
Outbound	TCP	443	GigaVUE-FM IP	Allows GigaVUE V Series Proxy to communicate the registration requests to GigaVUE-FM
Outbound	TCP	8889	GigaVUE V Series Node IP	Allows GigaVUE V Series Proxy to communicate control and management plane traffic with GigaVUE V

				Series Node
<b>Universal Cloud Tap - Container</b> deployed inside Kubernetes worker node				
Direction	Protocol	Port	Destination CIDR	Purpose
Outbound	TCP	42042	Any IP address	Allows UCT-C to send statistical information to UCT-C Controller.
Outbound	UDP	VXLAN (default 4789)	Any IP address	Allows UCT-C to tunnel traffic to the GigaVUE V Series Node or other destination.
<b>UCT-C Controller</b> deployed inside Kubernetes worker node				
Direction	Protocol	Port	Source CIDR	Purpose
Inbound	TCP	8443 (configurable)	GigaVUE-FM IP	Allows GigaVUE-FM to communicate with UCT-C Controller.
Direction	Protocol	Port	Destination CIDR	Purpose
Outbound	TCP	5671	Any IP address	Allows UCT-C Controller to send statistics to GigaVUE-FM.
Outbound	TCP	443	GigaVUE-FM IP	Allows UCT-C Controller to communicate with GigaVUE-FM.

## Network Firewall Requirements for VMware vCenter

Following are the Network Firewall Requirements for GigaVUE V Series Node deployment.

Source	Destination	Source Port	Destination Port	Protocol	Service	Purpose
GigaVUE-FM	ESXi hosts	Any (1024-65535)	443	TCP	https	Allows GigaVUE-FM to communicate with vCenter and all ESXi hosts to import the V Series OVA files. OVA files require access to the host IP/URL for bulk deployment
	vCenter					
GigaVUE-FM	GigaVUE V Series Nodes	Any (1024-65535)	8889	TCP	Custom API	Allows GigaVUE-FM to communicate with GigaVUE V Series Node
GigaVUE-FM	GigaVUE V Series Nodes	Any (1024-65535)	5671	TCP	Custom TCP	Allows GigaVUE-FM to receive the traffic health updates with GigaVUE V Series Node
Administrator	GigaVUE-FM	Any (1024-65535)	443	TCP	https	Management connection to GigaVUE-FM
			22		ssh	
Administrator	GigaVUE V Series Nodes	Not Applicable	22		ssh	Troubleshooting GigaVUE V Series Nodes.
Remote Source	GigaVUE V Series Nodes	Custom Port (VXLAN and UDPGRE),N/A for GRE	4789	UDP	VXLAN	Allows to UDPGRE Tunnel to communicate and tunnel traffic to GigaVUE V Series Nodes (Applicable for Tunnel Ingress option only)
			N/A	IP 47	GRE	
			4754	UDP	UDPGRE	

GigaVUE V Series Nodes	Tool/ GiagVUE HC Series instance	Custom Port (VXLAN),N/A for GRE	4789	UDP	VXLAN	Allows GigaVUE V Series Node to communicate and tunnel traffic to the Tool
			Not Applicable	IP 47	GRE	
GigaVUE V Series Nodes	Tool/ GigaVUE HC Series instance	Not Applicable	Not Applicable	ICMP	Echo Request	Allows GigaVUE V Series Node to health check tunnel destination traffic (Optional)
					Echo Response	
GigaVUE V Series Nodes	GigaVUE-FM	Any (1024-65535)	Any (1024-65535)	TCP	Custom TCP	Allows GigaVUE V Series Nodes to communicate the traffic health updates with GigaVUE-FM

## Network Firewall Requirements for VMware NSX-T

Following are the Network Firewall Requirements for GigaVUE V Series Node deployment.

Source	Destination	Source Port	Destination Port	Protocol	Service	Purpose
GigaVUE-FM	NSX-T Manager	Any (1024-65535)	443	TCP	https	Allows GigaVUE-FM to communicate with vCenter and NSX-T.
	vCenter					
GigaVUE-FM	GigaVUE V Series Node	Any (1024-65535)	8889	TCP	Custom API	Allows GigaVUE-FM to communicate with GigaVUE V Series Node

Administrator	GigaVUE-FM	Any (1024-65535)	443	TCP	https	Management connection to GigaVUE-FM
			22		ssh	
Administrator	GigaVUE V Series Nodes	Not Applicable	22		ssh	Troubleshooting GigaVUE V Series Nodes.
GigaVUE-FM	GigaVUE V Series Node	Any (1024-65535)	5671	TCP	Custom TCP	Allows GigaVUE-FM to receive the traffic health updates with GigaVUE V Series Node
Remote Source	GigaVUE V Series Node	Custom Port (VXLAN and UDPGRE),N/A for GRE	4789	UDP	VXLAN	Allows to UDPGRE Tunnel to communicate and tunnel traffic to GigaVUE V Series Nodes (Applicable for Tunnel Ingress option only)
			N/A	IP 47	GRE	
			4754	UDP	UDPGRE	
GigaVUE V Series Node	Tool/ GigaVUE HC Series instance	Custom Port (VXLAN),N/A for GRE	4789	UDP	VXLAN	Allows GigaVUE V Series Node to communicate and tunnel traffic to the Tool
			N/A	IP 47	GRE	
GigaVUE V Series Node	Tool/ GigaVUE HC Series instance	N/A	N/A	ICMP	echo Request	Allows V Series node to health check tunnel destination traffic (Optional)
					echo Response	
GigaVUE V Series Node	GigaVUE-FM	Any (1024-65535)	5671	TCP	Custom TCP	Allows GigaVUE V Series Nodes to communicate the traffic health updates with GigaVUE-FM

GigaVUE-FM	External Image Server URL	Any (1024-65535)	Custom port on web Server	TCP	http	Access to image server to image lookup and checks, and downloading the image
NSX-T Manager						
vCenter						
NSX-T Manager	GigaVUE-FM	Any (1024-65535)	443	TCP	http	When using GigaVUE-FM as the image server for uploading the GigaVUE V Series Image.
vCenter						

## Network Firewall Requirements for Nutanix

Following are the Network Firewall Requirements for GigaVUE Cloud Suite for Nutanix

Direction	Type	Protocol	Port	CIDR	Purpose
<b>GigaVUE-FM</b>					
Inbound	HTTPS	TCP	443	Anywhere Any IP	Allows GigaVUE® V Series Nodes, GigaVUE V Series Proxy, and GigaVUE-FM administrators to communicate with GigaVUE-FM
Inbound	SSH	TCP	22	Anywhere Any IP	Allows GigaVUE® V Series Nodes, GigaVUE V Series Proxy, and GigaVUE-FM administrators to communicate with GigaVUE-FM
Outbound (optional)	Custom TCP Rule	TCP	8890	GigaVUE V Series Proxy IP	Allows GigaVUE-FM to communicate with GigaVUE V Series Proxy
Outbound	Custom TCP Rule	TCP	8889	GigaVUE V Series Node IP	Allows GigaVUE-FM to communicate with GigaVUE V Series Node
Outbound	Custom TCP Rule	TCP	9440	Prism Central IP, Prism Element IP	Allows GigaVUE-FM to communicate with Prism Central and Prism Element.

Direction	Type	Protocol	Port	CIDR	Purpose
<b>GigaVUE V Series Node</b>					
Inbound	Custom TCP Rule	TCP	9903	GigaVUE V Series Proxy IP	Allows GigaVUE V Series Proxy to communicate with GigaVUE® V Series Nodes
Inbound	UDP	UDPGRE	4754	Ingress Tunnel	Allows to UDPGRE tunnel to communicate and tunnel traffic to GigaVUE V Series Nodes
Outbound	Custom TCP Rule	TCP	5671	GigaVUE-FM IP	Allows GigaVUE® V Series Node to communicate and tunnel traffic to the Tool
Outbound	Custom UDP Rule	<ul style="list-style-type: none"> <li>UDP (VXLAN)</li> <li>IP Protocol (L2GRE)</li> </ul>	<ul style="list-style-type: none"> <li>VXLAN (default 4789)</li> <li>L2GRE (IP 47)</li> </ul>	Tool IP	Allows GigaVUE® V Series Node to communicate and tunnel traffic to the Tool
Outbound (optional)	Custom ICMP Rule	ICMP	<ul style="list-style-type: none"> <li>echo request</li> <li>echo reply</li> </ul>	Tool IP	Allows GigaVUE® V Series Node to health check the tunnel destination traffic.
<b>GigaVUE V Series Proxy (optional)</b>					
Inbound	Custom TCP Rule	TCP	8890	GigaVUE-FM IP	Allows GigaVUE-FM to communicate with GigaVUE V Series Proxy
Outbound	Custom TCP Rule	TCP	8889	GigaVUE V Series Node IP	Allows GigaVUE-FM to communicate with GigaVUE V Series Node

## Network Firewall Requirements for Gigamon Containerized Box

Following are the Network Firewall Requirements for Gigamon Containerized Box (GCB).

Direction	Type	Protocol	Port	CIDR	Purpose
<b>Gigamon Containerized Broker</b> deployed inside Kubernetes worker node					
Outbound	HTTPS	TCP	443	Any IP address	Allows GCB Controller to communicate with GigaVUE-FM



Direction	Type	Protocol	Port	CIDR	Purpose
Inbound	HTTPS	TCP	8443 (configurable)	Any IP address	Allows GigaVUE-FM to communicate with GCB Controller.
Outbound	HTTPS	TCP	42042	Any IP address	Allows GCB to communicate with GigaVUE-FM to send statistics data.

# Additional Sources of Information

This appendix provides additional sources of information. Refer to the following sections for details:

- [Documentation](#)
- [Documentation Feedback](#)
- [Contact Technical Support](#)
- [Contact Sales](#)
- [The VUE Community](#)

## Documentation

This table lists all the guides provided for GigaVUE software and hardware. The first row provides an All-Documents Zip file that contains all the guides in the set for the release.

**NOTE:** In the online documentation, view [What's New](#) to access quick links to topics for each of the new features in this Release; view [Documentation Downloads](#) to download all PDFs.

Table 1: Documentation Set for Gigamon Products

GigaVUE 6.9 Hardware and Software Guides
<p><b>DID YOU KNOW?</b> If you keep all PDFs for a release in common folder, you can easily search across the doc set by opening one of the files in Acrobat and choosing <b>Edit &gt; Advanced Search</b> from the menu. This opens an interface that allows you to select a directory and search across all PDFs in a folder.</p>
<p><b>Hardware</b></p> <p>how to unpack, assemble, rackmount, connect, and initially configure ports the respective GigaVUE devices; reference information and specifications for the respective GigaVUE devices</p>
<b>GigaVUE-HC1 Hardware Installation Guide</b>
<b>GigaVUE-HC3 Hardware Installation Guide</b>
<b>GigaVUE-HC1-Plus Hardware Installation Guide</b>
<b>GigaVUE-HCT Hardware Installation Guide</b>
<b>GigaVUE-TA25 Hardware Installation Guide</b>
<b>GigaVUE-TA25E Hardware Installation Guide</b>
<b>GigaVUE-TA100 Hardware Installation Guide</b>
<b>GigaVUE-TA200 Hardware Installation Guide</b>

<b>GigaVUE 6.9 Hardware and Software Guides</b>	
<b>GigaVUE-TA200E Hardware Installation Guide</b>	
<b>GigaVUE-TA400 Hardware Installation Guide</b>	
<b>GigaVUE-OS Installation Guide for DELL S4112F-ON</b>	
<b>G-TAP A Series 2 Installation Guide</b>	
<b>GigaVUE M Series Hardware Installation Guide</b>	
<b>GigaVUE-FM Hardware Appliances Guide</b>	
<b>Software Installation and Upgrade Guides</b>	
<b>GigaVUE-FM Installation, Migration, and Upgrade Guide</b>	
<b>GigaVUE-OS Upgrade Guide</b>	
<b>GigaVUE V Series Migration Guide</b>	
<b>Fabric Management and Administration Guides</b>	
<b>GigaVUE Administration Guide</b>	covers both GigaVUE-OS and GigaVUE-FM
<b>GigaVUE Fabric Management Guide</b>	how to install, deploy, and operate GigaVUE-FM; how to configure GigaSMART operations; covers both GigaVUE-FM and GigaVUE-OS features
<b>Cloud Guides</b>	
how to configure the GigaVUE Cloud Suite components and set up traffic monitoring sessions for the cloud platforms	
<b>GigaVUE V Series Applications Guide</b>	
<b>GigaVUE V Series Quick Start Guide</b>	
<b>GigaVUE Cloud Suite Deployment Guide - AWS</b>	
<b>GigaVUE Cloud Suite Deployment Guide - Azure</b>	
<b>GigaVUE Cloud Suite Deployment Guide - OpenStack</b>	
<b>GigaVUE Cloud Suite Deployment Guide - Nutanix</b>	
<b>GigaVUE Cloud Suite Deployment Guide - VMware (ESXi)</b>	
<b>GigaVUE Cloud Suite Deployment Guide - VMware (NSX-T)</b>	
<b>GigaVUE Cloud Suite Deployment Guide - Third Party Orchestration</b>	
<b>Universal Cloud TAP - Container Deployment Guide</b>	
<b>Gigamon Containerized Broker Deployment Guide</b>	

## GigaVUE 6.9 Hardware and Software Guides

**GigaVUE Cloud Suite Deployment Guide - AWS Secret Regions**

**GigaVUE Cloud Suite Deployment Guide - Azure Secret Regions**

### Reference Guides

**GigaVUE-OS CLI Reference Guide**

library of GigaVUE-OS CLI (Command Line Interface) commands used to configure and operate GigaVUE HC Series and GigaVUE TA Series devices

**GigaVUE-OS Security Hardening Guide**

**GigaVUE Firewall and Security Guide**

**GigaVUE Licensing Guide**

**GigaVUE-OS Cabling Quick Reference Guide**

guidelines for the different types of cables used to connect Gigamon devices

**GigaVUE-OS Compatibility and Interoperability Matrix**

compatibility information and interoperability requirements for Gigamon devices

**GigaVUE-FM REST API Reference in GigaVUE-FM User's Guide**

samples uses of the GigaVUE-FM Application Program Interfaces (APIs)

**Factory Reset Guidelines for GigaVUE-FM and GigaVUE-OS Devices**

Sanitization guidelines for GigaVUE Fabric Management Guide and GigaVUE-OS devices.

### Release Notes

**GigaVUE-OS, GigaVUE-FM, GigaVUE-VM, G-TAP A Series, and GigaVUE Cloud Suite Release Notes**

new features, resolved issues, and known issues in this release ;  
important notes regarding installing and upgrading to this release

**NOTE:** Release Notes are not included in the online documentation.

**NOTE:** Registered Customers can log in to [My Gigamon](#) to download the Software and Release Notes from the Software and Docs page on to [My Gigamon](#). Refer to [How to Download Software and Release Notes from My Gigamon](#).

### In-Product Help

**GigaVUE-FM Online Help**

how to install, deploy, and operate GigaVUE-FM.

## How to Download Software and Release Notes from My Gigamon

Registered Customers can download software and corresponding Release Notes documents from the **Software & Release Notes** page on to [My Gigamon](#). Use the My Gigamon Software & Docs page to download:

- Gigamon Software installation and upgrade images,
- Release Notes for Gigamon Software, or
- Older versions of PDFs (pre-v5.7).

**To download release-specific software, release notes, or older PDFs:**

1. Log in to [My Gigamon](#).
2. Click on the **Software & Release Notes** link.
3. Use the **Product** and **Release** filters to find documentation for the current release. For example, select Product: "GigaVUE-FM" and Release: "5.6," enter "pdf" in the search box, and then click **GO** to view all PDF documentation for GigaVUE-FM 5.6.xx.

**NOTE:** My Gigamon is available to registered customers only. Newer documentation PDFs, with the exception of release notes, are all available through the publicly available online documentation.

## Documentation Feedback

We are continuously improving our documentation to make it more accessible while maintaining accuracy and ease of use. Your feedback helps us to improve. To provide feedback and report issues in our documentation, send an email to:

[documentationfeedback@gigamon.com](mailto:documentationfeedback@gigamon.com)

Please provide the following information in the email to help us identify and resolve the issue. Copy and paste this form into your email, complete it as able, and send. We will respond as soon as possible.

Documentation Feedback Form		
<b>About You</b>	<b>Your Name</b>	
	<b>Your Role</b>	
	<b>Your Company</b>	
<b>For Online Topics</b>	<b>Online doc link</b>	<i>(URL for where the issue is)</i>
	<b>Topic Heading</b>	<i>(if it's a long topic, please provide the heading of the section where the issue is)</i>

<b>For PDF Topics</b>	<b>Document Title</b>	<i>(shown on the cover page or in page header )</i>
	<b>Product Version</b>	<i>(shown on the cover page)</i>
	<b>Document Version</b>	<i>(shown on the cover page)</i>
	<b>Chapter Heading</b>	<i>(shown in footer)</i>
	<b>PDF page #</b>	<i>(shown in footer)</i>
<b>How can we improve?</b>	<b>Describe the issue</b>	<i>Describe the error or issue in the documentation. (If it helps, attach an image to show the issue.)</i>
	<b>How can we improve the content?</b> <b>Be as specific as possible.</b>	
	<b>Any other comments?</b>	

## Contact Technical Support

For information about Technical Support: Go to **Settings**  > **Support** > **Contact Support** in GigaVUE-FM.

You can also refer to <https://www.gigamon.com/support-and-services/contact-support> for Technical Support hours and contact information.

Email Technical Support at [support@gigamon.com](mailto:support@gigamon.com).

## Contact Sales

Use the following information to Gigamon channel partner or Gigamon sales representatives.

**Telephone:** +1.408.831.4025

**Sales:** [inside.sales@gigamon.com](mailto:inside.sales@gigamon.com)

**Partners:** [www.gigamon.com/partners.html](http://www.gigamon.com/partners.html)

## Premium Support

Email Gigamon at [inside.sales@gigamon.com](mailto:inside.sales@gigamon.com) for information on purchasing 24x7 Premium Support. Premium Support entitles you to round-the-clock phone support with a dedicated Support Engineer every day of the week.

## The VÜE Community

The **VÜE Community** is a technical site where Gigamon users, partners, security and network professionals and Gigamon employees come together to share knowledge and expertise, ask questions, build their network and learn about best practices for Gigamon products.

Visit the VÜE Community site to:

- Find knowledge base articles and documentation
- Ask and answer questions and learn best practices from other members.
- Join special-interest groups to have focused collaboration around a technology, use-case, vertical market or beta release
- Take online learning lessons and tutorials to broaden your knowledge of Gigamon products.
- Open support tickets (Customers only)
- Download the latest product updates and documentation (Customers only)

The VÜE Community is a great way to get answers fast, learn from experts and collaborate directly with other members around your areas of interest.

**Register today at** [community.gigamon.com](http://community.gigamon.com)

**Questions?** Contact our Community team at [community@gigamon.com](mailto:community@gigamon.com).

# Glossary

## D

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### decrypt list

need to decrypt (formerly blacklist)

### decryptlist

need to decrypt - CLI Command (formerly blacklist)

### drop list

selective forwarding - drop (formerly blacklist)

## F

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### forward list

selective forwarding - forward (formerly whitelist)

## L

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### leader

leader in clustering node relationship (formerly master)

## M

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### member node

follower in clustering node relationship (formerly slave or non-master)

## N

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### no-decrypt list

no need to decrypt (formerly whitelist)



**nodecryptlist**

no need to decrypt- CLI Command (formerly whitelist)

**P**

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**primary source**

root timing; transmits sync info to clocks in its network segment (formerly grandmaster)

**R**

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**receiver**

follower in a bidirectional clock relationship (formerly slave)

**S**

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**source**

leader in a bidirectional clock relationship (formerly master)