

GigaVUE-FM Installation and Migration Guide

GigaVUE-FM

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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.

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| | | |

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About this Guide

This guide describes how to install and upgrade the GigaVUE-FM[®] Fabric Manager (GigaVUE-FM).

Installation

- Install GigaVUE-FM on VMware ESXi
- Install GigaVUE-FM on MS Hyper-V
- Install GigaVUE-FM on KVM

Upgrade

- Important GigaVUE-FM Upgrade Guidance
- Upgrade GigaVUE-FM

Reference

- Related GigaVUE-FM CLI Commands
- Related GigaVUE-FM CLI Commands

Install GigaVUE-FM on VMware ESXi

This section describes how to install GigaVUE-FM on VMware hypervisor, ESXi. It consists of the following main sections:

- Before You Install describes the minimum hardware and computing requirements.
- Install New GigaVUE-FM on VMware ESXi describes the steps to install and deploy GigaVUE-FM on VMware ESXi hypervisor.

Before You Install

This section describes the hardware and virtual computing requirements for GigaVUE-FM. Ensure that the time on the VMware ESXi host is set correctly to ensure accuracy of the trending data that is captured.

Prerequisites for GigaVUE-FM

Before Installing GigaVUE-FM, ensure that VMware vSphere Standard, Enterprise, or Enterprise Plus is installed on hardware that meets minimum requirements. The following VMware vSphere versions are supported. Note the minimum version requirements under Hardware Requirements.

VMware ESXi and NSX-V Hardware Requirements

The following table describes the hardware requirements on which VMware ESXi runs GigaVUE-FM.

| Hardware Require | ments |
|-------------------|--|
| VMware Hypervisor | vSphere ESXi: v5.5 and above. |
| CPU | One or more 64-bit x86 CPUs with virtualization assist (Intel-VT or AMD-V) enabled. |
| | Note : To run GigaVUE-FM, hardware support for virtualization must be enabled on the VMware ESXi host. Make sure that the BIOS option for virtualization support is not disabled. For more information, see your BIOS documentation |

Table 1: Hardware Requirements for VMware Hypervisor

| Hardware Require | ements |
|------------------|--|
| RAM | At least 16GB |
| Disk Space | At least 84GB shared (FC, iSCSI, NFS, or FCoE) or locally attached storage (PATA, SATA, SCSI) |
| | Note: Increase the disk space depending on the configuration load requirements for the given GigaVUE-FM instance. |
| Network | At least one 1Gb NIC |

The following table lists the virtual computing resources for GigaVUE-FM.

 Table 2: Minimum Virtual Computing Requirements for VMware Hypervisor

| Minimum Virtual Computing Requirements | |
|--|--|
| Memory | Minimum 16GB memory |
| Virtual CPU (vCPU) | 2 vCPU |
| Virtual Storage for Guest | 84GB using PVSCSI (VMware Paravirtual SCSI) |
| | • System Disk - 40GB |
| | • Swap Disk - 4GB |
| | • Data Disk - 40GB |
| Virtual Network Interfaces | One vNIC using VMXNET3 (VMware 3rd Generation Paravirtual NIC) |

Supported Browsers

GigaVUE-FM has been tested on the following browsers:

| Browser | Version |
|---|--|
| Mozilla Firefox [™] | • Version 49.00 |
| Apple [®] Safari [®] | Version 9.1 and Higher |
| Google [®] Chrome [®] | Version 54 and higher |
| Microsoft Edge | • Version 38 |

Notes:

- Only the browsers that support TLS v1.2 can access GigaVUE-FM.
- Internet Explorer 11 (IE11) is deprecated for security reasons and is no longer supported. IE users are strongly encouraged to switch to Microsoft Edge.

Install New GigaVUE-FM on VMware ESXi

The GigaVUE-FM software package is distributed as an OVA file. The following sections describe how to deploy a fresh installation of GigaVUE-FM on an ESXi host and perform its initial configuration:

- Deploy GigaVUE-FM from an OVA File
- Initial GigaVUE-FM Configuration

Deploy GigaVUE-FM from an OVA File

Use the vSphere Client to install the GigaVUE-FM OVA file. Starting from software version 5.3, you cannot deploy GigaVUE-FM directly from the ESXi host. You must login to the VCenter on the vSphere client to deploy a GigaVUE-FM instance.

NOTE: The OVA file must be stored in a location that is accessible to the vSphere Client. This location cannot be a datastore accessible to the ESXi host which will be the target of the deployment.

Note: Starting in software version 5.4.01, you cannot deploy the GigaVUE-FM OVA file on older versions of VMware ESXi. If you have an older version of ESXi, then you must upgrade your VMware ESXi to at least version 5.5. Otherwise, GigaVUE-FM OVA deployment will fail.

The following steps are shown using the ESXi version 6.x. To deploy a GigaVUE-FM instance:

- 1. Log in to the VMware vCenter web interface.
- 2. Go to Menu > VMs and Templates.
- Right-click the ESXi Host or data center on which you want to deploy GigaVUE-FM
 5.8, and then select Deploy OVF Template as shown in the following figure:



Figure 1vSphere Client: OVF Template

The Deploy OVF Template wizard opens.



Figure 2 vSphere Client: Find the Location of the OVA File

- 4. In the **Select an OVF template** page of the **Deploy OVF Template** wizard, choose one of the following options:
 - a. URL-Enter the URL from where you want to download and install the OVF package.
 - b. Local file-Click Browse to navigate to the OVA file available on your local machine, and then select the OVA file.
- 5. Click the **Next**. The **Select a name and folder** page of the **Deploy OVF Template** wizard appears.

| 1 Select an OVF template 2 Select a name and folder | Select a name and folder Specify a unique name and target location |
|--|---|
| 3 Select a compute resource 4 Review details | Virtual machine name: gigamon-gigavue-fm-5.8.00- |
| 5 Select storage | Select a location for the virtual machine |
| o Ready to complete | |
| | > TME-DC4-NSXT |
| | |
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Figure 3 vSphere Client: Enter Name and Location for OVA File on ESXi Server

- 6. Specify a unique name for the GigaVUE-FM instance, and then select a location and host to which you want to deploy the GigaVUE-FM instance.
- 7. Click Next. The Select a compute resource page of the Deploy OVF Template wizard appears.

| 1 Select an OVF template 2 Select a name and folder | Select a compute resource Select the destination compute resource for this operation |
|--|---|
| 3 Select a compute resource | |
| 4 Review details | ↓ □ Cloud-LAB |
| 5 Select storage | |
| 6 Ready to complete | > [[] Cloud-2 入間 Cloud-2 |
| | > [[_]] Cloud-3 |
| | |
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| | |
| | |
| | Compatibility |
| | |
| | Compatibility checks succeeded. |
| | |
| | |
| | |

Figure 4 *vSphere Client: Select a Compute Resource for the OVF Deployment*

- 8. Select a destination compute host for the OVF deployment. The Deploy OVF Template wizard performs a validation to ensure that the selected host has all the resources required for the GigaVUE-FM deployment.
- 9. Click Next. The Review details page of the Deploy OVF Template wizard appears.

| 1 Select an OVF template 2 Select a name and folder | Review details Verify the temp | ate details. |
|--|-----------------------------------|---|
| 4 Review details | | |
| 5 Select storage | Publisher | No certificate present |
| 6 Select networks 7 Customize template | Product | GigaVUE-FM |
| 8 Ready to complete | Version | 5.8.00 |
| | Vendor | Gigamon Inc. |
| | Description | This is a Gigamon GigaVUE-FM Appliance. It provides a centralized view across both physical and virtual Traffic Visibility Fabric Nodes. |
| | Download size | 4.1 GB |
| | Size on disk | 6.1 GB (thin provisioned) |
| | | 84.0 GB (thick provisioned) |
| | | |

Figure 5vSphere Client: Review Details

10. Verify the OVF template details, and then click **Next**. The **Select storage** page of the **Deploy OVF Template** wizard appears.

| 1 Select an OVF template 2 Select a name and folder | Select storage Select the storage for the | configuration and dis | k files | | |
|--|--|-----------------------|-------------|-----------|-----|
| 3 Select a compute resource | | | (C | | |
| 5 Select storage | Encrypt this virtual mad | chine (Requires Key M | | | |
| 6 Select networks | Select virtual disk format: | Thick Provision | ~ | | |
| 7 Customize template | VM Storage Policy: | Datastore Default | ~ | | |
| 8 Ready to complete | Name | Capacity | Provisioned | Free | Тур |
| | 10.210 K08.7 | 924 GB | 159.13 GB | 841.12 GB | VN |
| | | 924 GB | 710.94 GB | 460.91 GB | VN |
| | | | | | |
| | | | | | |
| | ٢ | | | | > |
| | < Compatibility | | | | > |
| | < Compatibility ✓ Compatibility checks | succeeded. | | | > |

Figure 6vSphere Client: Select Storage

11. From the **Select virtual disk format** drop-down list, select **Thick Provisioning** as the format for the virtual disks and provisioning.

NOTE: You must deploy GigaVUE-FM using **Thick Provisioning**. Any other choice results in GigaVUE-FM not working correctly.

- 12. Select the datastore where the virtual machine's files will be stored.
- 13. Click Next. The Select networks page of the Deploy OVF Template wizard appears.

| ▼ ✓ 1 items |
|-------------------|
| 1 items |
| 1 items |
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Figure 7 vSphere Client: Select Networks

- 14. Set network mapping by doing either of the following, depending on how your are deploying, and then click **Next**:
 - If you are not deploying on a standalone ESXi host, the Network Mapping displays under Source Networks. Use the drop-down lists to assign the correct **Destination Network** to the source network.
 - If you are deploying GigaVUE-FM on a standalone ESXi host, the network mapping is set automatically by assigning the destination network to the VM Network. In case of multiple port groups, you need to manually assign the destination network to the VM Network.

- 15. Click **Next**. The **Customize template** page of the **Deploy OVF Template** wizard appears.
- 16. In the **System Hostname** field, enter the hostname of the GigaVUE-FM instance, and then specify **40** GB as the size of the data disk.
- 17. Set the admin password. The admin password must be a minimum of 11 characters and a maximum of 30 characters. The characters must include at least:
 - One numerical character
 - One upper case character
 - One lower case character
 - One special character

Note: The password that you set here is applicable only to the GigaVUE-FM Shell. To access the GigaVUE-FM UI, the default username is admin and password is admin123A!!. You can change the password when you first login to the GigaVUE-FM UI.

If the password does not meet the complexity requirements:

- The system does not display any error message.
- The parameters configured above are not passed on to the GigaVUE-FM except the host name parameter.
- The static IP addresses that were configured originally will be unavailable after GigaVUE-FM is deployed.
- 18. (Optional) Complete the IP Networking configurations such as the default gateway for the management port, IP address of the DNS server, and the domain name for this GigaVUE-FM instance.
- 19. (Optional) Complete the NTP configurations such as the IP address and version of the NTP server, and then click **Next**.

| Select an OVF template 2 Select a name and folder | Customize template Customize the deployment properties of this software solution. | | |
|--|--|---|--|
| Review details | O All properties have valid values | | |
| 5 Select networks | Basic Configuration | 4 settings | |
| Ready to complete | 01. System Hostname | A Unique hostname for this instance. | |
| | 02. Size of Data Disk | The size of the Data Disk in gigabytes. 40 | |
| | 03. Optional admin password | If set, the default admin password will be set to this value to allow password based login. The password will be good for only a single login. You MUST specifiy either a password or an SSH Public Key, otherwise you will NOT be able to access your GigaVUE-FM instance. Password Confirm Password | |
| | | | |

Figure 8 vSphere Client: Customize Template

NOTE: You can also choose to perform the IP Networking and NTP configurations by running the **fmctI jump-start** command after you power on the GigaVUE-FM instance at the successful completion of the OVF template deployment. For details, refer to **Perform Network Configurations**

The **Ready to Complete** page of the **Deploy OVF Template** wizard appears.

| 1 Select an OVF template 2 Select a name and folder | Ready to complete Click Finish to start creation. | | |
|--|---|--|--|
| 3 Select a compute resource4 Review details | | | |
| 5 Select storage | Provisioning type | Deploy OVF From Remote URL | |
| 6 Select networks 7 Customize template | Name | gigamon-gigavue-fm-5.8.00 | |
| 8 Ready to complete | Template name | gigamon-gigavue-fm-5.8.00 | |
| | Download size | 4.1 GB | |
| | Size on disk | 6.1 GB | |
| | Folder | Workload | |
| | Resource | Cloud-2 | |
| | Storage mapping | 1 | |
| | All disks | Datastore: 10.210.108.7; Format: Thick Provision | |
| | Network mapping | 1 | |
| | management | VM Network | |
| | IP allocation settings | | |
| | IP protocol | IPV4 | |
| | IP allocation | Static - Manual | |

Figure 9 vSphere Client: Final Verification Before Installation

20. Verify that all of the settings are correct, and then click **Finish**. The Recent Tasks pane of the vSphere Client Home page shows the progress of the deployment operation.

| Recent Tasks | Alarm | 5 | | | |
|---------------------|-------|----------------------|--------|------|-----------|
| Task Name | ~ | Target ~ | Status | ~ | Details ~ |
| Deploy OVF template | | 🗍 gigamon-gigavue-fm | | 5% 🔇 | |
| Import OVF package | | Cloud-2 | | 7% ⊗ | |

Figure 10 vSphere Client: OVF Deployment Progress

When the operation completes, you have successfully deployed a GigaVUE-FM instance.

Important: Clear the browser cache before logging in to GigaVUE-FM.

h.....

Redeploy GigaVUE-FM Instance (with VMs Already Deployed)

If there is a need to remove an existing instance of GigaVUE-FM and reinstall it, delete all the virtual centers configured in the Virtual > Management > Virtual Center tab prior to deleting the GigaVUE-FM. To re-install GigaVUE-FM, refer to the Install New GigaVUE-FM on VMware ESXi or Install GigaVUE-FM for Microsoft Hyper-V.

By deleting the virtual centers, you will lose all the GigaVUE-VM nodes and vMaps configured on those virtual centers and they will need to be recreated.

Initial GigaVUE-FM Configuration

After you have deployed a new GigaVUE-FM instance, you can choose to perform some initial configuration before you start using GigaVUE-FM. This procedure only needs to be performed once for each GigaVUE-FM instance deployed.

NOTE: Use care when Shutting Down or Rebooting a GigaVUE-FM. **Never** directly Power-Off the virtual machine. In VMware ESXi environment when using vSphere client, ALWAYS use **Shut Down Guest OS** or **Restart Guest** functions from VMware. Access is available from either the FILE menu or from the appropriate buttons on the GigaVUE-FM console. Failure to follow these steps may lead to database corruption issues.

Use Fault Tolerance for GigaVUE-FM Deployments (VMware ESXi only)

Gigamon recommends that you enable the VMware Fault Tolerance feature for the GigaVUE-FM virtual machine, providing redundancy in the case of a failure. Enabling the VMware Fault Tolerance feature provides a "hot" GigaVUE-FM virtual machine instance on another ESXi host in the cluster. If the ESXi host with the primary GigaVUE-FM instance goes down, you can take advantage of the Fault Tolerance feature to continue GigaVUE-FM operations.

When in Fault Tolerance mode, the MAC address and the UUID for both the primary GigaVUE-FM and the "hot" GigaVUE-FM virtual machine instance remains the same, therefore there is no need to update the existing licenses for GigaVUE-FM or GigaVUE-VM that are installed on the primary.

Both instances of the GigaVUE-FM implement VMware vLockstep technology to keep in virtual lockstep with each other. Any events are executed on the primary and then transmitted over a Gigabit Ethernet network to the other instance. Both instances access a common disk and appear as a single instance since they share the MAC address and UUID.

NOTE: Refer to the VMware Fault Tolerance documentation for deployment requirements and instructions.

Depending on the host configurations, there may be a need to shutdown GigaVUE-FM (primary) to enable the Fault Tolerance mode.

Perform Initial Configuration

Before powering on GigaVUE-FM, you can optionally perform the following:

- Perform Network Configurations
- Add Additional vNIC
- Increase the Memory
- Add vCPUs

Perform Network Configurations

To perform the initial configuration:

- 1. Log in to GigaVUE-FM using one of the following methods:
 - If you have a static IP address set up for the GigaVUE-FM, log in through SSH.
 - If you do not have a static IP address set up for the GigaVUE-FM, complete the following steps:
 - a. Log in to the VMware vCenter web interface.
 - b. Go to Menu > VMs and Templates.
 - c. Right-click the GigaVUE-FM virtual machine, and select **Open Remote Console**.
 - d. Log in with your GigaVUE-FM Shell credentials.
- 2. Perform the following steps to complete the initial configuration:
 - a. Run the **fmctI jump-start** command. The Initial System Configuration screen appears as shown in the following figure:

| Initial System (Hostname | Configuration unconfigured-gigavue-fm |
|---|--|
| Enable DHCP4 IPv4 Address CIDR Gateway | yes Enable DHCP6 yes IPv6 Address CIDR Gateway |
| DNS Servers Search Domains | |
| Enable NTP | no NTP Servers Ø.centos.pool.ntp.org 1.centos.poo NTP Version 4 |
| | < OK > <cancel></cancel> |

- b. Provide a unique hostname for GigaVUE-FM. Note that the hostname may contain letters, numbers, periods (.), and hyphens (-), but may not begin with a hyphen. No other special characters are permitted.
- c. Enter the required domain name.
- d. Decide whether to use DHCP for the management interface. Choose one of the following options:
 - If you enter yes, the IPv4 Address or IPv6 Address, CIDR, Gateway, DNS Servers, and Search Domains are dynamically set up for the management interface.
 - If you enter **no**, you must provide the following:
 - i. IPv4 Address or IPv6 Address, and the respective CIDR and Gateway.
 - ii. In the **DNS Servers** field, provide the address of any additional name servers required. Enter the set of IP addresses with spaces in between.
 - iii. In the **Search Domains** field, provide the required DNS domains with spaces in between.
- e. You can choose to either enable or disable NTP. In the **Enable NTP** field, enter one of the following:
 - Yes—Use NTP to synchronize the time between GigaVUE-FM virtual machine and the NTP server. In the NTP Servers and NTP Version fields, enter the NTP server address and the version number of the NTP server.
 - No—you can skip the next step and directly save your configurations.
- f. Select **OK** to save your configurations.
- g. Reboot your GigaVUE-FM virtual machine.

You can now access GigaVUE-FM by opening a browser and entering its IP address (the IP address you specified).

Add Additional vNIC

Gigamon allows you to configure GigaVUE-FM with two network interfaces–eth0 and eth1. The network interface eth0 can be configured to connect to a network used to manage Gigamon devices. The other network interface eth1 can be configured to connect to a network hosting different servers like SMTP server, Archive server, and so on.

To add an additional vNIC:

1. Right-click the GigaVUE-FM instance and select **Edit Settings...** Refer to Figure 11vSphere Client: Edit Settings.



Figure 11 *vSphere Client: Edit Settings*

- 2. In the Hardware tab, click Add.
- 3. In the Add Hardware dialog box, select **Ethernet Adapter** and then click **Next**.Refer to Figure 12vSphere Client: Selecting Ethernet Adapter.

| 🕜 Add Hardware | · · · · · | | | |
|--|---|---|--|--|
| Device Type What sort of device do you wish to add to your virtual machine? | | | | |
| Device Type Network connection Ready to Complete | Choose the type of device you w Serial Port Parallel Port Copy Drive Copy Drive USB Controller USB Controller USB Device (unavailable) Ethernet Adapter Hard Disk SCSI Device (unavailable) | ish to add. Information This device can be added to this Virtual Machine. | | |
| Help | | < Back Next > Cancel | | |

Figure 12 vSphere Client: Selecting Ethernet Adapter

4. In the **Adapter Type** drop-down list, select an appropriate adapter type. Refer to Figure 13vSphere Client: Selecting Device Type.

| 🕗 Add Hardware | × |
|--|---|
| Network Type What type of network do | o you want to add? |
| Device Type Network connection Ready to Complete | Adapter Type Type: VMXNET 3 Adapter choice can affect both networking performance and migration compatibility. Consult the VMware KnowledgeBase for more information on choosing among the network adapters supported for various guest operating systems and hosts. Network Connection Named network with specified label: VM Network C Legacy network: Legacy network: Device Status V Connect at power on |
| Help | <back next=""> Cancel</back> |

Figure 13 vSphere Client: Selecting Device Type

5. In the **Named network with specified label** drop-down list, select an appropriate network and click **Next**.

The Network adapter 2 is added to GigaVUE-FM.

Increase the Memory

Based on the requirement, you can increase the memory of the GigaVUE-FM instance.

To increase the memory:

1. Right-click the GigaVUE-FM instance and select **Edit Settings...** Refer to Figure 14vSphere Client: Edit Settings.



Figure 14 vSphere Client: Edit Settings

- 2. In the Hardware tab, select Memory.
- 3. In Memory Configuration, increase the size of the memory as per your requirement. Refer to the recommended size for your guest OS in the dialog box. Refer to Figure 15vSphere Client: Increasing Memory.



Figure 15 vSphere Client: Increasing Memory

4. Click OK.

Add vCPUs

Based on the requirement, you can add additional vCPUs to the GigaVUE-FM instance.

- 1. Right-click the GigaVUE-FM instance and select Edit Settings...
- 2. In the Hardware tab, select CPUs. Refer to Figure 16vSphere Client: Adding vCPUs.

| 🕝 GigaVUE-FM50-22-89 - Virtua | I Machine Properties | | |
|---|--|--|--|
| Hardware Options Resources | Profiles VServices | | Virtual Machine Version: 8 |
| Show All Devices | Add Remove | Number of virtual sockets: | 1 💌 |
| Hardware | Summary | Number of cores per socket: | 2 💌 |
| Memory | 8192 MB | Tabel such as a farmer | |
| 🛄 CPUs | 2 | lotal number of cores: | 2 |
| video card VHCI device SCSI controller 0 CD/DVD drive 1 Hard disk 1 Network adapter 1 Network adapter 2 | video card Restricted Paravirtual [datastore1]GigaVUE Virtual Disk VM Network VM Network VM Network | Changing the number of virb OS is installed might make yourstable. The virbual CPU configuration might violate the license of the statement of the st | ual CPUs after the guest ur virtual machine |
| Help | | | OK Cancel |

Figure 16 vSphere Client: Adding vCPUs

- 3. In the Number of virtual sockets field, enter the appropriate number of sockets.
- 4. In the **Number of cores per socket** field, enter the appropriate number of cores per socket.
- 5. Click OK.

Install Third-Party Certificate

Use the following procedure to install a third-party certificate on GigaVUE-FM. Refer to the following sections:

- Rules and Notes
- Steps

Rules and Notes

- When you copy the contents of the certificate file, do not delete the EOL characters at the start of each line.
- In case of chain of certificates, bundle the server, intermediate, and root certificates into a single certificate file before replacing the <code>localhost.crt</code>.
- For chain of certificates, add the SSLCertificateChainFile directive to /etc/httpd/conf.d/ssl.conf: sudo vim /etc/httpd/conf.d/ssl.conf. Add the following line:sslCertificateChainFile /etc/pki/tls/certs/localhost.crt.
- When replacing the certificate key and file ensure to adhere to the following naming convention:
 - For Certificate: localhost.crt
 - For Certificate Key: localhost.key

Steps

1. Generate a certificate and a private key file in pem format. Use the following command on Linux or a Linux app (such as Cygwin) for generating the files:

openssl req -x509 -nodes -days 365 -newkey rsa:2048 -keyout privatekey.pem -out certificate.pem

- 2. Copy the contents of the certificate file. You will use the contents in Step .
- 3. Log in to the GigaVUE-FM CLI.
- 4. Execute the following steps from the shell prompt as a root user (sudo):
 - Replace SSLCertificateFile: /etc/pki/tls/certs/localhost.crt
 - Replace SSLCertificateKeyFile: /etc/pki/tls/private/localhost.key
 - Provide access to certificate: chmod 644
 - Provide access to key: chmod 600
 - Restart apache as root: systemctl restart httpd

The system will now start using the newly installed certificate.

GigaVUE-FM uses a public key (cms.p12 file) to encrypt the Security Assertion Markup Language (SAML) messages. You can either use the default public key available in GigaVUE-FM or generate a new public key using the following command:

```
sudo openssl pkcs12 -export -name CMS -out /etc/gigamon/cms.p12 -inkey
/etc/pki/tls/private/localhost.key -in /etc/pki/tls/certs/localhost.crt -
passout pass:cms123
```

You will be prompted for a pass phrase for the localhost.key.

After the public key (cms.p12 file) is generated, place the file in the /etc/gigamon directory. Change the access rights to chmod 644.

Install GigaVUE-FM on MS Hyper-V

This section describes how to install and configure GigaVUE-FM in a Microsoft Hyper-V environment. It consists of the following main sections:

- System Requirements describes the hardware requirements.
- Install GigaVUE-FM for Microsoft Hyper-V describes the steps to install and deploy GigaVUE-FM.

System Requirements

This section describes the hardware and virtual computing requirements for GigaVUE-FM. Before installing GigaVUE-FM, ensure that a supported version of Windows Server is installed on hardware that meets minimum requirements (see Windows Server Hardware Requirements for hardware requirements).

Ensure that the GigaVUE-FM time is set correctly to ensure accuracy of the trending data that is captured.

The Hyper-V implementations provided by the following Windows Server versions have been tested and found to operate acceptably with GigaVUE-FM:

• Windows Server 2012 R2 and later

Windows Server Hardware Requirements

The following table describes the minimum requirements for the hardware on which Microsoft Hyper-V runs GigaVUE-FM.

| Minimum Hardware Requirements | | |
|-------------------------------|--|--|
| Hypervisor | Microsoft Hyper-V | |
| CPU | One or more 64-bit x86 CPUs with virtualization assist (Intel-VT or AMD-V) enabled. | |
| | Note: To run GigaVUE-FM, hardware support for virtualization must be enabled. Make sure that the BIOS option for virtualization support is not disabled. For more information, see your BIOS documentation | |

| Minimum Hardware Requirements | | | |
|-------------------------------|--|--|--|
| RAM | At least 16GB | | |
| Disk Space | At least 84GB shared (FC, iSCSI, NFS, or FCoE) or locally attached storage (PATA, SATA, SCSI). | | |
| | Note: Increase the disk space depending on the configuration load requirements for the given GigaVUE-FM instance. | | |
| Network | At least one 1Gb NIC | | |

NOTE: Refer to the Microsoft documentation for information on enabling Hyper-V.

The following table lists the virtual computing resources that the Windows Server must provide for each GigaVUE-FM instance.

| Minimum Virtual Computing Requirements | | | |
|--|--|--|--|
| Memory | Minimum 8GB memory | | |
| Virtual CPU | 2 vCPU | | |
| Virtual Storage for Guest | 84GB Virtual IDE (the Hyper-V default) | | |
| | • System Disk - 40GB | | |
| | • Swap Disk - 4GB | | |
| | • Data Disk - 40GB | | |
| Virtual Network Interfaces | 1 vNIC using Hyper-V Virtualized NIC (the Hyper-V default) | | |

Supported Browsers

GigaVUE-FM v3.5 has been tested on the following browsers:

| Browser | Version |
|---|---------------|
| Mozilla Firefox [™] | • Version 47 |
| Apple [®] Safari [®] | • Version 9.1 |
| Google [®] Chrome [®] | • Version 52 |
| Microsoft Edge | • Version 38 |

Notes:

Install GigaVUE-FM for Microsoft Hyper-V

The GigaVUE-FM software package for Microsoft Hyper-V environments is distributed as an **ISO image** file. The following sections describes how to deploy a fresh installation of GigaVUE-FM on a Hyper-V host and perform its initial configuration:

- Install GigaVUE-FM from an ISO Image File
- Initial GigaVUE-FM Configuration

Install GigaVUE-FM from an ISO Image File

Use the Hyper-V Manager to install the GigaVUE-FM ISO image file.

NOTE: The ISO image file must be stored in a location that is accessible to the Hyper-V Manager.

To create the Virtual Machine for GigaVUE-FM in Microsoft Hyper-V:

- Click Start > Administrative Tools > Hyper-V Manager to open the Hyper-V Manager.
- From the Actions pane, click New > Virtual Machine. Refer to Figure 1Opening the Virtual Machine Wizard.

| and the second s | Ну | yper-V Manager | _ _ × |
|--|--|---------------------------------|--|
| File Action View Help | | | |
| Hyper-V Manager White Hyper-V Virtual Machine Hyper-V Settings Virtual Switch Manager | hines Virtual Machine Hard Disk Floppy Disk | 20 Usage Assigned Memory Uptime | Actions W2012-HYPERV New Hyper-V Settings Virtual Switch Manager |
| Edit Disk Inspect Disk Stop Service Remove Server Refresh | ; The selected virtual ma | chine has no checkpoints. | Virtual SAN Manager Keit Disk Stop Service Remove Server |
| Help | atest | | View |
| | Created: 8/10/2015 3:27:14 Version: 5.0 Generation: 1 Notes: None | PM Clustered: No | Feip FM VM 3.1 latest Connect Settings Start |
| Uisplays the New Virtual Machine Wizard. | ory Networking Replication III | | Checkpoint Move |

The New Virtual Machine Wizard opens.

Figure 1Opening the Virtual Machine Wizard

3. Read the notes on the Before You Begin screen (refer to Figure 2Before You Begin Screen), and then click Next to continue.

| 8 | New Virtual Machine Wizard |
|--|---|
| Before You I | 3egin |
| Before You Begin Specify Name and Location Specify Generation Assign Memory Configure Networking Connect Virtual Hard Disk Installation Options Summary | This wizard helps you create a virtual machine. You can use virtual machines in place of physical computers for a variety of uses. You can use this wizard to configure the virtual machine now, and you can change the configuration later using Hyper-V Manager. To create a virtual machine, do one of the following: • Click Finish to create a virtual machine that is configured with default values. • Click Next to create a virtual machine with a custom configuration. Do not show this page again |
| | < Previous Next > Finish Cancel |

Figure 2Before You Begin Screen

- 4. After the **Specify Name and Location** page of the **New Virtual Machine Wizard** opens as shown in **Figure 3Name and Location Page**, do the following:
 - a. Supply a descriptive name for the GigaVUE-FM virtual machine in the **Name** field.

By default, the virtual machine will be stored in the default configuration folder shown in the **Location** text box. You can change this default location by checking the **Store the virtual machine in a different location** check box and providing a custom path.

b. Click **Next** to continue.

| 36 | New Virtual Machine Wizard |
|---|---|
| Specify Nam | ie and Location |
| Before You Begin Specify Name and Location Specify Generation Assign Memory Configure Networking Connect Virtual Hard Disk Installation Options | Choose a name and location for this virtual machine. The name is displayed in Hyper-V Manager. We recommend that you use a name that helps you easily identify this virtual machine, such as the name of the guest operating system or workload. Name: FM You can create a folder or use an existing folder to store the virtual machine. If you don't select a folder, the virtual machine is stored in the default folder configured for this server. Store the virtual machine in a different location |
| Summary | Location: C:\ProgramData\Microsoft\Windows\Hyper-V\ If you plan to take checkpoints of this virtual machine, select a location that has enough free space. Checkpoints include virtual machine data and may require a large amount of space. |
| | < Previous Next > Finish Cancel |

Figure 3 Name and Location Page

5. On the **Specify Generation** page of the **New Virtual Machine Wizard**, select **Generation 1** as shown in Figure 4Specify Generation Page

NOTE: It is important to select Generation 1 and not Generation 2. Selecting Generation 2 may lead to failure of the GigaVUE-FM installation process because the CD Drive is presented as an SCSI device and not IDE.

| 8 | New Virtual Machine Wizard | x |
|--|---|-----|
| Specify Gene | ration | |
| Before You Begin Specify Name and Location Specify Generation Assign Memory Configure Networking Connect Virtual Hard Disk Installation Options Summary | Choose the generation of this virtual machine. Generation 1 This virtual machine generation provides the same virtual hardware to the virtual machine as in previous versions of Hyper-V. Generation 2 This virtual machine generation provides support for features such as Secure Boot, SCSI boot, a PXE boot using a standard network adapter. Guest operating systems must be running at least Windows Server 2012 or 64-bit versions of Windows 8. Once a virtual machine has been created, you cannot change its generation. | and |
| | < Previous Next > Finish Cancel | |

Figure 4Specify Generation Page

6. Click **Next** to continue.

The **Assign Memory** page of the **New Virtual Machine Wizard**opens, which is shown in Figure 5Assign Memory Page.

| 8 | New Virtual Machine Wizard | X |
|--|---|---|
| Assign Memo | or y | |
| Before You Begin Specify Name and Location Specify Generation Assign Memory Configure Networking Connect Virtual Hard Disk Installation Options Summary | Specify the amount of memory to allocate to this virtual machine. You can specify an amount from 3 MB through 125438 MB. To improve performance, specify more than the minimum amount recommended for the operating system. Startup memory: 16384 MB Use Dynamic Memory for this virtual machine. When you decide how much memory to assign to a virtual machine, consider how you intend to use the virtual machine and the operating system that it will run. | 2 |
| | < Previous Next > Finish Cancel | |

Figure 5Assign Memory Page

7. Change the **Memory** assigned to this virtual machine to **16384** MB, and then click **Next** to continue.

The **Configure Networking** page of the **New Virtual Machine Wizard**opens, which is shown in Figure 6Configure Networking Page.

| 8 | New Virtual Machine Wizard |
|--|--|
| Configure No | etworking |
| Before You Begin Specify Name and Location Specify Generation Assign Memory Configure Networking Connect Virtual Hard Disk Installation Options Summary | Each new virtual machine includes a network adapter. You can configure the network adapter to use a virtual switch, or it can remain disconnected. Connection: Intel(R) I350 Gigabit Network Connection - Virtual Switch v |
| | < Previous Next > Finish Cancel |

Figure 6 Configure Networking Page

8. From the Connection drop-down list, select the virtual network to which GigaVUE-FM will connect to, and then click **Next** to continue.

The **Connect Virtual Hard Disk**page of the **New Virtual Machine Wizard** opens, which is shown in Figure 7Connect Virtual Hard Disk Page.

| b | New Virtual Machine Wizard | x |
|--|--|---|
| Connect Virt | ual Hard Disk | |
| Before You Begin Specify Name and Location Specify Generation Assign Memory Configure Networking Connect Virtual Hard Disk Installation Options Summary | A virtual machine requires storage so that you can install an operating system. You can specify the storage now or configure it later by modifying the virtual machine's properties. | |
| | < Previous Next > Finish Cancel | |

Figure 7 Connect Virtual Hard Disk Page

9. Select the Create a virtual hard disk option and set the Size to 41 GB.

You can accept the default **Name** and **Location** or customize them according to your needs. When you have finished, click **Next** to continue.

The Installation Options page of the New Virtual Machine Wizardopens, which is shown in Figure 8Install Options Page.

- 10. Use this dialog box to select the ISO image file for GigaVUE-FM. As shown in the figure Figure 8Install Options Page, set the following options:
 - a. Select the option Install an operating system from a bootable CD/DVD-ROM.
 - b. Set the Media option to Image file (.iso).
 - c. Use the **Browse** button to navigate to the GigaVUE-FM ISO image file.
 - d. Click **Next** to continue.

| 30 | New Virtual Machine Wizard |
|---|--|
| | Options |
| Before You Begin Specify Name and Location Specify Generation Assign Memory Configure Networking Connect Virtual Hard Disk Installation Options | You can install an operating system now if you have access to the setup media, or you can install it later. Install an operating system later Install an operating system from a bootable CD/DVD-ROM Media Physical CD/DVD drive: Image file (.iso): Ct:\Users\Administrator\Downloade\fma.lso Browse |
| Summary | Install an operating system from a bootable floppy disk Media Virtual floppy disk (.vfd): Install an operating system from a network-based installation server |
| | < Previous Next > Finish Cancel |

Figure 8 Install Options Page

After you click **Next**, the summary page of the **New Virtual Machine Wizard**opens, showing the settings that you configured for the GigaVUE-FM virtual machine. An example is shown in **Figure 9Summary Page**.

| 8 | New Virtual Machine Wizard |
|---|--|
| Completing | the New Virtual Machine Wizard |
| Before You Begin Specify Name and Location Specify Generation | You have successfully completed the New Virtual Machine Wizard. You are about to create the following virtual machine. Description: |
| Assign Memory Configure Networking Connect Virtual Hard Disk Installation Options Summary | Name: FM Generation: Generation 1 Memory: 4996 MB Network: Intel(R) I350 Gigabit Network Connection - Virtual Switch Hard Disk: C: \Users\Public\Documents\Hyper-V\Virtual Hard Disks\FM.vhdx (VHDX, dynamica Operating System: Will be installed from C: \Users\Administrator\Downloads\fma.iso |
| | III > To create the virtual machine and close the wizard, click Finish. |
| | < Previous Next > Finish Cancel |

Figure 9 Summary Page

11. Click **Finish** to create the GigaVUE-FM virtual machine as configured. Alternatively, you can use the **Previous** button to go back and change settings.

The New Virtual Machine Wizard only creates the GigaVUE-FM virtual machine, returning you to the Hyper-V Manager when creation is complete. The new GigaVUE-FM virtual machine is listed in the **Action** pane by the name you supplied during installation.

The procedures given below will take you through the steps of adding an additional virtual hard disk and actually installing GigaVUE-FM.

Add Additional Virtual Hard Disk and Install GigaVUE-FM

To add an additional virtual hard disk and install GigaVUE-FM:

- 1. In Hyper-V Manager, from the Actions pane, select the newly added GigaVUE-FM virtual machine, and then click **Settings**.
- 2. In the Settings page, select IDE Controller 0.
- 3. In the IDE Controller pane that appears to the right, select **Hard Drive**, and then click **Add**. Refer to the following figure:


Figure 10 Navigating to Add Additional Hard Disk

A new Hard Drive entry is added under IDE Controller 0.

- 4. Select the Hard Drive entry.
- 5. In the Hard Drive pane that appears to the right, select **Virtual hard disk**, and then click **New** as shown in the following figure:

| 🔁 Settin | s for GigaVUE-FM-5.8 on WIN-G8HUE7498IM | _ 🗆 X |
|---|--|---|
| GigaVUE-FM-5.8 | • • • • • | |
| GigaVUE-FM-5.8 ★ Hardware Madd Hardware BIOS Boot from CD Memory 16384 MB Processor 1 Virtual processor IDE Controller 0 Hard Drive GigaVUE-FM-5.8.vhdx GigaVUE-FM-5.8.vhdx Controller 1 DVD Drive gigamon-gigavue-fm-5.8.0 SCSI Controller Network Adapter Intel(R) I350 Gigabit Network COM 1 None COM 2 None Diskette Drive None Management Name GigaVUE-FM-5.8 Management Name CigaVUE-FM-5.8 Management Name CigaVUE-FM-5.8 Management Name CigaVUE-FM-5.8 Management Name CigaVUE-FM-5.8 Management | Hard Drive You can change how this virtual hard disk is attached to the virtual machine from starting. Controller: Location: IDE Controller 0 I (in use) Media You can compact, convert, expand, merge, reconnect or shrink a by editing the associated file. Specify the full path to the file. Virtual hard disk: Virtual hard disk: If the physical hard disk you want to use is not listed, mard disk is offline. Use Disk Management on the physical comphysical hard disks. To remove the virtual hard disk, click Remove. This disconnects the delete the associated file. | Aachine. If an hight prevent the virtual hard disk Browse Browse ake sure that the puter to manage disk but does not Remove |
| Checkpoint File Location C:\ProgramData\Microsoft\Win Smart Paging File Location C:\ProgramData\Microsoft\Win | | |
| 1 - | OK Cancel | Apply |

 Figure 11
 Navigating to the New Virtual Hard Disk Wizard

The New Virtual Hard Disk Wizard opens.

| L | New Virtual Hard Disk Wizard |
|--|--|
| Before You B | legin |
| Before You Begin Choose Disk Format Choose Disk Type Specify Name and Location Configure Disk Summary | This wizard helps you create a new virtual hard disk. Virtual hard disks provide storage for virtual machines and are stored on physical media as .vhd or .vhdx files. |
| | < Previous Next > Finish Cancel |

Figure 12 New Virtual Hard Disk Wizard

- 6. Click **Next** to go to the Choose Disk Format page of the wizard.
- 7. Select the required format that you want to use for the virtual hard disk, and then click **Next**.

The Choose Disk Type page of the wizard appears.

8. Select the required disk type for the virtual hard disk, and then click **Next**.

The Specify Name and Location page of the wizard appears.

- 9. Specify a unique name for the virtual hard disk, and then browse and select the location where you want to save the disk.
- 10. Click Next. The Configure Disk page of the wizard appears.
- 11. You can choose one of the following options to configure the virtual hard disk:
 - Create a blank virtual hard disk of size 41 GB.
 - Choose a physical hard disk from which you can copy the contents into the new virtual hard disk.

- Browse and select a virtual hard disk from which you can copy the contents into the new virtual hard disk.
- 12. Click **Next** to exit the New Virtual Hard Disk Wizard.
- 13. Click **OK**. The GigaVUE-FM installation begins as shown in the following figure:



Figure 13 GigaVUE-FM Installation Begins

It may take several minutes for the installation to complete. The system will reboot after the installation is completed.

Connect and Power On the GigaVUE-FM Virtual Machine

The next step is to connect to the GigaVUE-FM virtual machine from within Hyper-V Manager and start it. This begins the actual installation of the GigaVUE-FM Virtual Appliance from the connected ISO image file. Once GigaVUE-FM finishes installing from the ISO image file, you will then disconnect the ISO image file and restart the virtual machine.

- 1. In Hyper-V Manager, locate the **Virtual Machines** entry in the results pane, rightclick the GigaVUE-FM virtual machine, and click the **Connect** option.
- 2. The Virtual Machine Connection tool opens for the GigaVUE-FM virtual machine.

| 11 11 | | | | Hyper-V Ma | anager | | | | | x |
|--------------------|------|---------------|------------------------|------------------|-----------------------|--------|---------|-----------------|---|---|
| File Action View H | elp | | | | | | | | | |
| 🗢 🄿 🖄 🖬 🖬 🖬 | Ĩ | | | | | | | | | |
| Hyper-V Manager | | Virtual Machi | 200 | | | | Actions | | | |
| VV2012-HYPERV | | | Chata | CDUUIssan | Assisted Manager | Unting | W2012-H | IYPERV | - | |
| | | FM | Off | CPU Usage | Assigned Memory | Uptime | New | | • | · |
| | 1 | | FM on W2012-HY | PERV - Virtual | Machine Connectio | on 🗕 | | Virtual Machine | | - |
| | File | Action Media | View Help | | | | | Settings | | |
| | - | 0 0 0 | ▶ 10 5 点 | | | | | Witch Manager | | |
| | | | | | | | | An Manager | | - |
| | | | | | | | | Disk | | _ |
| | | | | | | | | vice | | = |
| | | | | | | | | Server | | |
| | | | | | | | | | | |
| | | | | | | | | | • | • |
| | | | The virtual m | achine 'F | M' is turned o | off | | | | |
| | | - | | | | | | | - | |
| | | 1 | o start the virtual ma | chine, select 'S | lart' from the Action | menu | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | pint | | |
| | | | | | | | | | | ~ |
| | | | | | | | | | | |

- 3. Select Action > Start to start the GigaVUE-FM virtual machine from the Virtual Machine Connection tool.
- 4. The GigaVUE-FM virtual machine powers on. You can monitor the progress of the system start in the Virtual Machine Connection tool.

The system power-on can take several minutes as GigaVUE-FM is installed from the ISO image file. Disconnect the media before Powering On as shown below:



Disconnect the ISO Image File

It is important to disconnect the ISO image file before you power on GigaVUE-FM again so you don't have to go through the image install process again. Disconnect the ISO image file as follows:

- 1. In Hyper-V Manager, locate the **Virtual Machines** entry in the results pane and select the GigaVUE-FM virtual machine.
- 2. In the **Actions** pane, click the **Settings** entry under the GigaVUE-FM virtual machine name.

A Settings dialog box for the GigaVUE-FM virtual machine appears.

- 3. Select the **DVD Drive** entry in the panel on the left of the Settings dialog box and change its setting from **Image file** to **None**, as shown in the figure below.
- 4. Click the **OK** button to apply the changes.

This concludes the installation procedure for GigaVUE-FM on Hyper-V. The next step is to power on the virtual machine and perform its initial configuration, as described in Initial GigaVUE-FM Configuration.

IMPORTANT: Clear the browser cache before logging in to GigaVUE-FM.

Initial GigaVUE-FM Configuration

After you have deployed a new GigaVUE-FM instance, you need to perform an initial configuration before you can start using GigaVUE-FM. This procedure only needs to be performed once for each GigaVUE-FM instance deployed.

NOTE: Use Care When Shutting Down or Rebooting a GigaVUE-FM. **Never** directly Power-Off the virtual machine. For Microsoft Hyper-V environment, you cannot use any of the reset, or turn-off hooks. Using either of these may lead to corruption that will prevent proper GigaVUE-FM operation.

The best ways to **shutdown** a GigaVUE-FM on Hyper-V is to use either Shutdown or Ctrl+Alt+Del from the **Action** button on the virtual console.

To perform the initial configuration:

1. Click Start > Administrative Tools > Hyper-V Manager.

NOTE: Make sure you have already disconnected the ISO image file used to install GigaVUE-FM. Refer to **Disconnect the ISO Image File** for details.

- 2. Locate the **Virtual Machines** entry in the results pane, right-click the GigaVUE-FM virtual machine, and click the **Connect** option. The Virtual Machine Connection tool opens for the GigaVUE-FM virtual machine.
- Select Action > Start to start the GigaVUE-FM virtual machine from the Virtual Machine Connection tool. The GigaVUE-FM virtual machine powers on and displays a login prompt.
- 4. Log in as **admin** with password **admin123A!**. You will be prompted to change your password. After you change and confirm your password, perform the following steps:
 - Initial System Configuration Hostname unconf igured-g igavue-fm Domain Name Enable DHCP4 Enable DHCP6 ues ues IPv4 Address IPv6 Address CIDR CIDR Gateway Gateway DNS Servers Search Domains NTP Servers 0.centos.pool.ntp.org 1.centos.poo Enable NTP no NTP Version 4 < **O**K > <Cancel>
 - a. Run the **fmctl jump-start** command. The Initial System Configuration screen appears as shown in the following figure:

- b. Provide a unique hostname for GigaVUE-FM. Note that the hostname may contain letters, numbers, periods (.), and hyphens (-), but may not begin with a hyphen. No other special characters are permitted.
- c. Enter the required domain name.
- d. Decide whether to use DHCP for the management interface. Choose one of the following options:
 - If you enter **yes**, the **IPv4 Address** or **IPv6 Address**, **CIDR**, **Gateway**, **DNS Servers**, and **Search Domains** are dynamically set up for the management interface.
 - If you enter **no**, you must provide the following:
 - i. IPv4 Address or IPv6 Address, and the respective CIDR and Gateway.
 - ii. In the **DNS Servers** field, provide the address of any additional name servers required. Enter the set of IP addresses with spaces in between.
 - iii. In the **Search Domains** field, provide the required DNS domains with spaces in between.

- e. You can choose to either enable or disable NTP. In the **Enable NTP** field, enter one of the following:
 - **Yes**—Use NTP to synchronize the time between GigaVUE-FM virtual machine and the NTP server. In the **NTP Servers** and **NTP Version** fields, enter the NTP server address and the version number of the NTP server.
 - **No**—you can skip the next step and directly save your configurations.
- f. Select **OK** to save your configurations.
- g. Reboot your GigaVUE-FM virtual machine.

You can now access GigaVUE-FM by opening a browser and entering its IP address (the IP address you specified).

Install GigaVUE-FM on KVM

This section describes how to install and configure GigaVUE-FM in a KVM environment. It consists of the following main sections:

- System Requirements describes the hardware requirements.
- Install GigaVUE-FM for KVM describes the steps to install and deploy GigaVUE-FM.
- Initial GigaVUE-FM Configuration describes the steps to start GigaVUE-FM instance and configure it.

Limitations

You can install GigaVUE-FM in a KVM environment, but you cannot access GigaVUE-FM through CLI in a KVM environment using SSH. In KVM, you can only access the GigaVUE-FM CLI using the VNC console.

System Requirements

This section describes the hardware and virtual computing requirements for GigaVUE-FM. Ensure that the GigaVUE-FM time is set correctly to ensure accuracy of the trending data that is captured.

Linux Server Hardware Requirements

The following table describes the minimum requirements for the hardware on which KVM runs GigaVUE-FM.

| Minimum Hardware Requirements | | | |
|-------------------------------|--|--|--|
| Hypervisor | KVM | | |
| | Supported (tested on previous versions of GigaVUE-FM) | | |
| | • v2.0.0 | | |
| CPU | One or more 64-bit x86 CPUs with virtualization assist (Intel-VT or AMD-V) enabled. | | |
| | Note : To run GigaVUE-FM, hardware support for virtualization must be enabled. Make sure that the BIOS option for virtualization support is not disabled. For more information, see your BIOS documentation. | | |

| Minimum Hardware Requirements | | | |
|-------------------------------|--|--|--|
| RAM | At least 16GB. | | |
| Disk Space | At least 84GB shared (FC, iSCSI, NFS, or FCoE) or locally attached storage (PATA, SATA, SCSI). | | |
| | Note: Increase the disk space depending on the configuration load requirements for the given GigaVUE-FM instance. | | |
| Network | At least one 1Gb NIC. | | |

The following table lists the virtual computing resources that the Linux Server must provide for each GigaVUE-FM instance.

| Minimum Virtual Computing Requirements | | | |
|--|----------------------|--|--|
| Memory | Minimum 8GB memory | | |
| Virtual CPU | 2 vCPU | | |
| Virtual Storage for Guest | 84GB | | |
| | • System Disk - 40GB | | |
| | • Swap Disk - 4GB | | |
| | • Data Disk - 40GB | | |
| Virtual Network Interfaces | One vNIC | | |

Supported Browsers

GigaVUE-FM has been tested on the following browsers:

| Browser | Version |
|---|---------------|
| Mozilla Firefox [™] | Version 47 |
| Apple [®] Safari [®] | • Version 9.1 |
| Google [®] Chrome [®] | • Version 52 |
| Microsoft Edge | Version 38 |

Notes:

- Only the browsers that support TLS v1.2 can access GigaVUE-FM.
- Internet Explorer 11 (IE11) is deprecated for security reasons and is no longer supported. IE users are strongly encouraged to switch to Microsoft Edge.

Install GigaVUE-FM for KVM

The GigaVUE-FM software package for KVM environments is distributed as an **ISO image** file. The following sections describes how to deploy a fresh installation of GigaVUE-FM on a KVM host and perform its initial configuration:

- Install GigaVUE-FM from an ISO Image File
- Initial GigaVUE-FM Configuration

These steps are only valid for new installations of GigaVUE-FM.

Install GigaVUE-FM from an ISO Image File

Use the Virtual Machine Manager to install the GigaVUE-FM ISO image file.

NOTE: The ISO image file must be stored in a location that is accessible to the Manager.

To create the Virtual Machine for GigaVUE-FM in KVM:

Note: These instructions use "Virtual Machine Manager" to create and manage the virtual machines (VMs).

1. Open the Virtual Machine Manager, and then click the **Create a new virtual machine** icon as shown in the following figure:



The New Virtual Machine Wizard opens.

2. Select Local install media (ISO image or CDROM), and then click Forward to continue.



3. Browse and select the location from where to upload the GigaVUE-FM ISO image, and then select the **Automatically detect operating system based on install media** check box.

| New VM 🥪 |
|--|
| Create a new virtual machine Step 2 of 5 |
| Locate your install media Use CDROM or DVD |
| No device present 👻 |
| O Use ISO image: |
| /home/kvm/gigamon-gigavue-fm-5.9.00-170003 Browse |
| Automatically detect operating system based on install media |
| OS type: Unknown Version: Unknown |
| Cancel Back Forward |

Click **Forward** to continue.

4. Set the Memory and CPU Settings.

GigaVUE-FM Installation and Migration Guide

| (| New | VM | | | 8 |
|---------------------------|-------------|---------|-----------|---------------|----|
| Create a r Step 3 of 5 | new virt | ual m | achin | 2 | |
| Choose Memory an | d CPU se | ttings | | | |
| Memory (RAM): | 8192 | - | + | | |
| | Up to 1285 | 67 MiB | available | e on the host | |
| CPUs: | 2 | - | + | | |
| | Up to 64 av | ailable | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| C | ancel | В | ack 🗟 | Forwa | rd |

Click **Forward** to continue.

5. Select the **Enable storage for this virtual machine** check box, and set the **Size** to **40**Gb.

| | | Ne | w VM | 8 |
|---------|----------------------------|-------------------------|----------------------------------|---------------|
| Þ | Create Step 4 of | a new vi 5 | rtual machir | ne |
| Er O | nable stora Create a di | ge for this sk image | virtual machi for the virtual | ne machine |
| | 40.0 | - + | GiB | |
| 0 | 1794.6 GiB Select or co | available reate cust | in the default com storage | location |
| | | | | |
| | | | | |
| | | | | |
| | | Cancel | Back | Forward |

Click **Forward** to continue.

- 6. On the next screen, complete the following:
 - a. Enter a unique name for the virtual machine.
 - b. Select the **Customize configuration before install** check box.
 - c. From the **Network Selection** drop-down list, select the required network communication option.
 - d. From the **Source mode** drop-down list, select **Bridge**.
 - e. Click Finish.

GigaVUE-FM Installation and Migration Guide

| | New VM 😣 😣 |
|--------------------|---|
| Cre Step | ate a new virtual machine |
| Ready to be | egin the installation |
| Name: | generic |
| OS: | Generic |
| Memory: | 8192 MiB |
| CPUs: | 2 |
| Storage: | 40.0 GiB /var/lib/libvirt/images/generic.qcow2 |
| | Customize configuration before install |
| ▼ Network | selection |
| Host de | evice enp59s0f0: macvtap 🕨 |
| Sourcen | node: Bridge |
| In m wor com | nost configurations, macvtap does not rk for host to guest network nmunication. |
| | Cancel Back Finish |

The summary screen appears as shown in the following figure:

- 7. Verify the options that you have selected, and then click **Add Hardware** to add the second disk.
- 8. In the Add New Virtual Hardware screen, set the disk size to **40**Gb.

GigaVUE-FM Installation and Migration Guide

| Add New Virtual Hardware 🛛 😣 | | |
|--|--|--|
| Storage Controller Network Input Graphics Sound Serial Parallel Console Channel | dd New Virtual Hardware Storage • Create a disk image for the virtual machine 40.0 - 6 Bavailable in the default location 6 Select or create custom storage Manage - | |
| Channel USB Host Device PCI Host Device Video Watchdog Filesystem Smartcard USB Redirection TPM RNG Panic Notifier | Device type: Disk device Bus type: DE Advanced options Cache mode: Hypervisor default | |
| | Cancel Finish | |

9. Click **Finish**. The summary screen appears again where you can verify the details of IDE Disk 2 that you added. Click **Begin Installation**.

| | | generic on QEMU | KVM | | | 8 |
|--|---|---|------------|--------|--------|-------|
| Begin Installation | Cancel Installation Virtual Disk Source path: /v Device type: ID Storage size: Ur Readonly: Shareable: | ar/lib/libvirt/images, E Disk 1 Iknown | /generic.c | ącow2 | | |
| IDE Contony y IDE Disk 2 NIC :77:08:e9 Display Spice Sound ich6 Console Channel spice Video QXL Controller USB 0 USB Redirector 1 USB Redirector 2 | Advanced opt Disk bus: Serial number: Storage format: Performance Cache mode: H IO mode: H | IDE qcow2 options ypervisor default ypervisor default | • | | | |
| Add Hardware | | | | Remove | Cancel | Apply |

Once the installation is complete, the virtual machine launches.

Initial GigaVUE-FM Configuration

After you have deployed a new GigaVUE-FM instance, you need to perform an initial configuration before you can start using GigaVUE-FM. This procedure only needs to be performed once for each GigaVUE-FM instance deployed.

To perform the initial configuration:

- 1. Open Virtual Machine Manager.
- 2. Locate the **Virtual Machines** entry in the results pane, right-click the GigaVUE-FM virtual machine, and click the **Open** option.

The Virtual Machine Connection tool opens for the GigaVUE-FM virtual machine.

- 3. Open the GigaVUE-FM virtual machine from the Virtual Machine tool.
- 4. The GigaVUE-FM virtual machine powers on and displays a login prompt.
- 5. Log in as **admin** with password **admin123A!!**. You will be prompted to change your password. After you change and confirm your password, perform the following steps:
 - a. Run the **fmctI jump-start** command. The Initial System Configuration screen appears as shown in the following figure:



b. Provide a unique hostname for GigaVUE-FM. Note that the hostname may contain letters, numbers, periods (.), and hyphens (-), but may not begin with a hyphen. No other special characters are permitted.

- c. Enter the required domain name.
- d. Decide whether to use DHCP for the management interface. Choose one of the following options:
 - If you enter yes, the IPv4 Address or IPv6 Address, CIDR, Gateway, DNS Servers, and Search Domains are dynamically set up for the management interface.
 - If you enter **no**, you must provide the following:
 - i. IPv4 Address or IPv6 Address, and the respective CIDR and Gateway.
 - ii. In the **DNS Servers** field, provide the address of any additional name servers required. Enter the set of IP addresses with spaces in between.
 - iii. In the **Search Domains** field, provide the required DNS domains with spaces in between.
- e. You can choose to either enable or disable NTP. In the **Enable NTP** field, enter one of the following:
 - Yes—Use NTP to synchronize the time between GigaVUE-FM virtual machine and the NTP server. In the NTP Servers and NTP Version fields, enter the NTP server address and the version number of the NTP server.
 - **No**—you can skip the next step and directly save your configurations.
- f. Select **OK** to save your configurations.
- g. Reboot your GigaVUE-FM virtual machine.

You can now access GigaVUE-FM by opening a browser and entering its IP address (the IP address you specified).

Upgrade GigaVUE-FM

This section describes how to upgrade GigaVUE-FM to the latest revision in either a VMware ESXi host or in Microsoft HyperV environment.

Before you upgrade, read Important GigaVUE-FM Upgrade Guidance for special guidelines and caveats related to upgrading from specific versions of GigaVUE-FM.

At a high level, the upgrade process involves the following steps:

- 1. Before starting an upgrade to GigaVUE-FM, get the latest image, upgrade information, and Release Notes from the Software & Release Notes download page (login required) on the Gigamon Community.
- 2. Be sure to review the *GigaVUE Release Notes* for the latest release before performing the upgrade.
 - Ensure your environment supports any specified system requirements.
 - Check the minimum memory requirements in the new release as they may change between releases.
- 3. Once the GigaVUE-FM image is obtained, download it to a server within your environment. This must be a server that your current GigaVUE-FM instance can access to upload it.
- 4. (Important) Save your current configuration using the facilities provided by the hypervisor before upgrading.
- 5. Verify that the GigaVUE-FM instance time is set correctly to ensure accuracy of the trending data that is captured.
- 6. Perform the upgrade using either the Command-Line Interface (CLI) or the GigaVUE-FM User Interface (UI).
- 7. After upgrading your GigaVUE-FM instance, upgrade your GigaVUE-VM deployments. Refer to "Bulk Upgrading GigaVUE-VM Nodes" in the GigaVUE Cloud Suite for VMware Configuration Guide.

Upgrade Methods:

- Upgrade GigaVUE-FM from CLI
- Upgrade GigaVUE-FM from the UI
- How to Use the Snapshot Feature

Important GigaVUE-FM Upgrade Guidance

To upgrade GigaVUE-FM, the recommended procedure is to back up your current configuration and perform the pre-upgrade checks (memory requirements, the maximum number of images) before installing the image. You can upgrade via the GigaVUE-FM UI or CLI. It is recommended that you plan your upgrade before performing any upgrade steps.

Important: Intent-Based Orchestration (IBO) Policies are removed when upgrading from any pre-5.11 version of GigaVUE-FM to version 5.11.00 or above. IBO Policies will need to be recreated after upgrading to 5.11.00 or above.

Best Practice: Before performing an upgrade, in addition to taking a backup of GigaVUE-FM, also take a Sysdump, which provides valuable configuration information that is not captured in the backup. You can use the Sysdump after the upgrade to troubleshoot any upgrade-related issues with your configurations.

GigaVUE-FM Upgrade Rules and Notes

- **Best Practice**: Always upgrade your GigaVUE-FM instance before upgrading the GigaVUE-OS nodes. You can upgrade the attached nodes from the device or from GigaVUE-FM. The latter is recommended. Refer to *"Upgrading Software on a GigaVUE-FM Node or a Cluster from GigaVUE-FM"* in the *GigaVUE Fabric Management Guide*.
- Supported upgrade paths for GigaVUE-FM 5.8 and above:
 - 5.8.01 > 5.10.02 > 5.11.00
 - 5 5.9.01 > 5.11.00
 - 5.10.01> 5.11.00
 - 5.10.02 > 5.11.00.8.01 > 5.10.02 > 5.11.00
- If upgrading from GigaVUE-FM versions lower than 5.10.xx: You cannot directly upgrade your GigaVUE-FM instance to release 5.10.00 from a release prior to 5.8.xx. If your current version of GigaVUE-FM is 5.7.xx or lower and you want to upgrade to software version 5.10.xx, you must first migrate to GigaVUE-FM 5.10.xx and then upgrade to 5.11.xx.

NOTE: For instructions on how to migrate refer to **Migrate GigaVUE-FM** in GigaVUE 5.10 Documentation.

- If upgrading from GigaVUE-FM versions lower than 5.5.00: While upgrading from any version lower than 5.5.00, an association of more than one VPort to the same GigaSMART group needs to be removed for any existing GTP GigaSMART operation.
- If upgrading from GigaVUE-FM versions lower than 5.4.00: Be aware of the minimum memory requirement changes between releases. Earlier releases specified 4GB of memory for the OVA template; whereas versions after 5.4.00 require 8GB and versions after 5.7.00 require 16GB. If the existing virtual or physical hardware running GigaVUE-FM is configured with less memory than required, then increase the amount of memory available to the GigaVUE-FM machine. Refer to GigaVUE-FM Memory and CPU Requirements in the *GigaVUE Release Notes* for additional details.

Post-Upgrade Notes

- Intent Based Orchestration (IBO): IBO Policies are removed when upgrading from any pre-5.11 version of GigaVUE-FM to version 5.11.00 or above. You must recreate the IBO Policies after upgrading to 5.11.00 or above. Refer to the *"Orchestrated Configurations"* section in the GigaVUE-FM User's Guide details on how to create policy.
- **Storage Management**: The time period specified for the storage management settings will be configured to the default values when upgrading to GigaVUE-FM v5.11.xx. After completing the upgrade, you must reconfigure the time period to the required values.
- Remember to upgrade your GigaVUE-VM deployments: When upgrading GigaVUE-FM, you must also upgrade your GigaVUE-VM deployments. For the steps to upgrade GigaVUE-VM, refer to the "Bulk Upgrading GigaVUE-VM Nodes" section in the GigaVUE Cloud Suite for VMware Configuration Guide.
- Tags Applied to Resources: After you upgrade to software version 5.11.0.0, duplicate tag values will not get associated to nodes and ports while adding and removing nodes from the clusters. However, the existing duplicate tags on the resources do not get cleaned up as part of the upgrade. You must run the following script (bundled with 5.11) to remove the duplicate tags of nodes/clusters and ports.

Script name: duplicate_tags_removal.

NOTE: It is recommended to run the script by sudo privileged user. The default admin user is a sudo user.

To run the script:

- 1. SSH to GigaVUE-FM.
- 2. Execute sudo duplicate_tags_removal.
- 3. The logs can be seen in the console.

GigaVUE-FM Migration Guidance

GigaVUE-FM v5.8.01 introduced several significant changes that included improvements in usability and performance. These changes involved upgrading and replacing databases and changing the underlying operating system. For this reason, when upgrading from any pre-5.8.xx version of FM to version 5.8.xx or above, you must first migrate your existing configurations and data such as audit logs, events, syslogs, and statistics from your current pre-5.8.xx GigaVUE-FM version to GigaVUE-FM v5.10.xx.

Special migration steps and supported upgrade paths are provided under Migrate GigaVUE-FM in the 5.10 Documentation. After GigaVUE-FM v5.10.xx, migration is no longer needed when upgrading to future versions. For supported upgrade paths requiring a special migration step, see Supported GigaVUE-FM Migration and Upgrade Paths.

Upgrade GigaVUE-FM from CLI

There are five steps on how to upgrade an existing GigaVUE-FM deployment to the current release.

- 1. Verify that less than two images are present on the GigaVUE-FM server.
- 2. Download the new image into GigaVUE-FM using either HTTP, HTTPS, FTP, TFTP, SCP, or SFTP.
- 3. Install the new image.
- 4. Change boot partition.
- 5. Reboot GigaVUE-FM.

Notes:

- It is important to log in with the **admin** account/username when upgrading the image on the existing GigaVUE-FM.
- GigaVUE-FM 3.2 and higher versions compute node health status differently than previous versions. After the upgrade completes, rediscover the nodes to recompute node health status.

- Prior to GigaVUE-FM 3.2, backup files for physical nodes were in a binary format. Starting with GigaVUE-FM 3.2, backup and restore files use a text based format and binary backup or restore on physical nodes is not supported. When upgrading from a version lower than version 3.2, backup your configuration prior to upgrading to the current version of GigaVUE-FM if you desire, but the files will be in a binary format. Existing binary backups are not visible to GigaVUE-FM. For binary backups, you must back up the node using the CLI commands rather than GigaVUE-FM. For more information about the CLI commands, refer to the *GigaVUE-OS-CLI Reference Guide*.
- When using the Firefox or IE browser, clear the cache before upgrading to prevent issues with the browser.

Step 1: Verify that only two images are present on GigaVUE-FM server

NOTE: It is important that you log in with the **admin** account/username when upgrading the image on the existing GigaVUE-FM.

- 1. To begin an upgrade, open a SSH session or console session within the vSphere Client and log into GigaVUE-FM.
- 2. Change to configure mode, by entering the following on the command line:
 - a. Type **en <Enter>** to switch to Enable mode.

The system prompt changes from *[hostname]* to *[hostname]* #.

b. Type **config t <Enter>** to switch to Configure mode.

The system prompt changes from *[hostname]* **#** to *[hostname]* (config) **#** Figure 1Console Login to vSphere Clientshows an example of the login console.

3. Check the number of images currently available for installation with the following command from the GigaVUE-FM CLI:

(config) # show images

Important: If there are more than two images listed in the **Images available to be installed** section of the **show images** output, Gigamon recommends that you use the **image delete** command to remove existing images until the system has only a single image. Both GigaVUE-FM and GigaVUE-VM will display a warning if you attempt to fetch a third image.

4. To delete an existing image from the server use the following command:

(config) # image delete fma3300.img

5. Go to Step 2: Fetch the latest release of GigaVUE-FM.



Figure 1 Console Login to vSphere Client

Step 2: Fetch the latest release of GigaVUE-FM

Gigamon provides an FTP site where the new release image file resides. To fetch the latest release, do the following:

- Locate the image file for the new release. Image files are named using a fmaxxx.img format. The xxxx indicates the version and build number (for example, fma3500.img for the v3.5 release).
- 2. Copy the image to your file server.
- 3. Use the **image fetch** command to retrieve the software image from your file server. The CLI shows you the progress of the image fetch with a series of hash marks, returning you to the system prompt when complete.

Note: The **image fetch** command supports the use of HTTP, HTTPS, FTP, TFTP, SCP, or SFTP for the transfer of images.

a. The following command uses SCP to retrieve the **fma3500** image from the image server with the IP address of 10.115.0.100 using login and password.

```
(config) # image fetch scp://user:password@10.115.0.100/fma3500.img
```

b. The following command uses FTP to retrieve the same image using login and password as well.

(config) # image fetch ftp://user:password@10.115.0.100/fma3500.img

c. The following command uses TFTP to retrieve the same image without using a password but using a DNS server instead of an IP address for the download server.

(config) # image fetch tftp://myserver.gigamon.com/tftpboot/fma3500.img
Ensure that you specify the base directory when using TFTP

NOTE: Fetching the image using TFTP is time consuming, due to the size of the image and the inherent slowness of TFTP. For better performance, use SCP or HTTP to fetch the image.

4. Go to Step 3: Install the latest release of the GigaVUE-FM.

Step 3: Install the latest release of the GigaVUE-FM

Use the **image install** command to install the downloaded image file. When running the following command, the process will first verify that the filename used for the image is suitable for installation prior to installing the image. For example, to install the image downloaded in the previous step:

(config) # image install fma3400.img

Step 4: Change the boot partition

Set the image you just installed to boot next with the following command. This ensures that at the next boot the latest image will be picked up.

(config) # image boot next

Step 5: Reboot

The following command shuts down the current instance of GigaVUE-FM and reloads. If Step 4 is performed, upon reboot, the new image is used.

```
(config) # reload
```

Step 6: Upgrade GigaVUE-VM

After upgrading GigaVUE-FM, you must also upgrade any deployed GigaVUE-FM-VMs. Otherwise, maps may not work and the GigaVUE-FM-VMs will be unreachable. For information about upgrading GigaVUE-FM-VM, refer to the *"Bulk Upgrading GigaVUE-VM Nodes"* section in the *GigaVUE Cloud Suite for VMware Configuration Guide*.

Upgrade GigaVUE-FM from the UI

This section describes the steps to upgrade GigaVUE-FM from the UI. You can upgrade by using an image that is located on an external image server, or you can use GigaVUE-FM as the image server. Keep in mind the following rules and notes before you upgrade GigaVUE-FM from the UI:

- When using the GigaVUE-FM UI to upgrade GigaVUE-FM, you can only upgrade to the currently available version or to the next version. You cannot downgrade.
- When using the Firefox browser, clear the cache before upgrading to prevent issues with the browser.

Upgrade from External Image Server

This section provides the steps for upgrading the GigaVUE-FM from an image stored on an external server. The image can be transferred from the server to the GigaVUE-FM using either SCP or TFTP file protocols.

To upgrade with an image stored on an external image server, do the following:

1. Upload the image to the external image server to make it available to GigaVUE-FM.

To obtain software images, register on the customer portal and download the software. To reach the customer portal, go to https://gigamoncp.force.com/gigamoncp/.

2. Add the image server to GigaVUE-FM. This stores the credentials, image file name, and IP address of the server on GigaVUE-FM.

To add the image server:

- a. On the left navigation pane, click 🅸 .
- b. Select **System** on the left navigation panel and go to **Images > External Servers**. The External Servers page appears.
- c. Click Add. The Add External Server page displays as shown in Upgrade GigaVUE-FM from the UI
- d. On the Images Server page, specify the following:
- An alias to help identify the image server.
- The host IP address of the server.
- The protocol to use for the download: SCP or TFTP.
- The user name and password if you selected SCP. They are not needed for TFTP.
- e. Click Save.

The External Server page displays the newly added external server. From the **Admin** drop-down list in the top right corner of the window, select **Upgrade** to open the FM Image Upgrade page as shown in the following figure.

| | Software | Upgrade | |
|-----------------------------------|--|---------------------------------|--|
| | Image | e File | |
| | Select the file server where you have uploaded the image file. | | |
| Image Server: | NewExternalServer | ~ | |
| Image File Path: | / <image path=""/> / <image name=""/> | | |
| | | | |
| Image Server: Image File Path: | Select the file server where you NewExternalServer / <image path=""/> / <image name=""/> | u have uploaded the image file. | |

To monitor the progress and status of the upgrade, click **GigaVUE** Administration Guide".

- 3. On the FM Image Upgrade page, click on the Image Server field and select the server added in Step 2.
- 4. In the Image File Path, enter the image path and filename on the external file server.
- 5. Upgrade any deployed GigaVUE-FM-VMs.

After upgrading GigaVUE-FM, you must also upgrade any deployed GigaVUE-FM-VMs. Otherwise, maps may not work and the GigaVUE-FM-VMs will be unreachable. For information about upgrading GigaVUE-FM-VM, refer to the *"Bulk Upgrading GigaVUE-VM Nodes"* section in the *GigaVUE Cloud Suite for VMware Configuration Guide*.

Upgrade with GigaVUE-FM as the Image Server

This section provides the steps for upgrading GigaVUE-FM when GigaVUE-FM is used as the file server instead of an external server.

Upgrading from GigaVUE-FM 5.6.01 to 5.7.xx.00 or 5.7.01 via an internal image will not work because internal server storage does not function during the upgrade procedure. Alternatively, you can upgrade using an external image server or the GigaVUE-FM CLI or you can use the GigaVUE-FM internal storage to store the GigaVUE-FM image, and point to it as if it were an external server as follows :

- 1. Add the GigaVUE-FM 5.7 image under the GigaVUE-FM internal image server (/config/gigamon/imagesRepo).
- 2. Configure the GigaVUE-FM external server with the GigaVUE-FM IP address.
- 3. Initiate the upgrade process, select External Image Server, and then specify the path to the GigaVUE-FM Image file that you added in step 1 (/config/gigamon/imagesRepo/fma5700.img).

To upgrade a GigaVUE-FM using internal image files, do the following:

1. Download the images from the Gigamon website and place them where they can be available for uploading to GigaVUE-FM.

To obtain software images, register on the customer portal and download the software. To reach the customer portal, go to https://gigamoncp.force.com/gigamoncp/.

- 2. Upload the images file to GigaVUE-FM.
 - a. On the left navigation pane, click 🕸 and select to System > Images > Internal Image Files.
 - b. On the Internal Image File page, click **Upload**.
 - c. Click **Browse** to locate the image file.
 - d. Click **OK** to upload the file. The page displays the progress of the upload.

After the upload completes, you can see the GigaVUE-FM image to use for the upgrade on the Internal Images Files page.

- 3. Click the Admin drop-down list on the top right of the window and select Upgrade.
- 4. On the FM Image Upgrade page, click in the **Image Server** field and select **Internal Image Server**.

Software Upgrade

Image File

Select the file server where you have uploaded the image file.

| Image Server: | Internal Image Server | ~ |
|---------------|-----------------------|---|
| Version: | ~ | |
| Image File: | | |

5. From the Version drop-down list, select the version to which you are upgrading.

NOTE: You can only upgrade to another instance of the current version or the immediate next version. Downgrading to a lower version is not supported through the UI.

6. Click Upgrade.

Note: When you change the IP address of the GigaVUE-FM instance using the jump-start configuration, the internal database and the in-memory caches of the GigaVUE-FM instance are not updated. The Database continues to have the IP address of the old GigaVUE-FM, and the image upgrade using the internal server option does not work. To fix this, you must restart the GigaVUE-FM instance after upgrade.

On the left navigation pane, click 🔯 , to monitor the progress and status of the upgrade and select **Events** on the left navigation pane. Also, email notifications are sent if email notifications have been configured.

After upgrading GigaVUE-FM, you must also upgrade any deployed GigaVUE-FM-VMs. Otherwise, maps may not work and the GigaVUE-FM-VMs will be unreachable. For information about upgrading GigaVUE-FM, refer to the *"Bulk Upgrading GigaVUE-VM Nodes"* section in the *GigaVUE Cloud Suite for VMware Configuration Guide*.

NOTE: If you are using FireFox, clear the cache before upgrading to prevent issues with the browser.

How to Use the Snapshot Feature

Follow the steps below to upgrade to the current release version of GigaVUE-FM using the snapshot feature.

A note about upgrading from very old versions of GigaVUE-FM:

- This procedure is only valid for upgrading from GigaVUE-FM v3.0 and above. For upgrades from pre-3.0 releases, review the GigaVUE-FM v3.0 User's Guide and upgrade to release GigaVUE-FM v3.1.
- You cannot directly upgrade from a pre-3.3 releases to the current release. You can only upgrade from GigaVUE-FM v3.3 or v3.4 release.
- Prior to upgrading, ensure that the available memory size is at least 8GB prior to upgrading to the new GigaVUE-FM release. If the available memory size is less than 8GB, it will cause out of memory issues. Also, at least 2 vCPU are required.
- 2. When upgrading from v3.1, it's a good idea to use the vSphere client's **Snapshot** feature to record the current state of the GigaVUE-FM virtual machine. Steps to use **Snapshot** feature are as follows:
 - a. Log into the vSphere client and navigate to the Datacenter or Cluster level where the GigaVUE-FM installation is located.
 - b. Right-click the GigaVUE-FM entry in the vSphere client and select the **Take Snapshot** option.



Figure 2 "Take Snapshot" Command to Preserve Current Settings Prior to Upgrade

c. Follow the system prompts to record a snapshot of GigaVUE-FM's current state.

| ✓ vCenter Servers | 📴 vCSA Actions 👻 | | | | | | | |
|-------------------------------|---------------------------------------|-------------|---------------------|-------------------|--------------------|--------------------|------------------|-----|
| 🛃 vCSA | . Getting Started Summary Monitor Mar | nage Relate | d Objects | | | | | |
| Top Level Objects 2 | | | | | | 1 | | |
| Datacenters 2 | Top Level Objects Datacenters Cluster | ers Hosts V | /irtual Machines VM | Templates vApps | Datastores [| Datastore Clusters | Standard Networ | ≈ ► |
| Clusters 0 | 1 19 19 I D 🖬 🧐 🖶 10 I 🤤 | Actions 👻 | | | | 🍢 🍱 🔍 Fi | Iter | • |
| Hosts 4 | Name 1. | State | Status | Provisioned Space | Used Space | Host CPU | Host Mem | Gue |
| Virtual Machines 5 | GigaVUE-FM21 | Powered Or | Antiona Circa\/UE | 5M24 | 6.28 GB | 0 MHz | 0 MB | |
| VM Templates 0 | GigaVUE-FM22 | Powered Or | Actions - Gigavoe- | 3 | 15.3 GB | 0 MHz | 0 MB | |
| VApps 0 | 🔂 vHD-51 | Powered Or | Power On | | 3.8 GB | 0 MHz | 0 MB | |
| Datastores 6 | 🔂 vHD4-50 | Powered Or | Shut Down Gues | tOS | 3.81 GB | 0 MHz | 0 MB | |
| Datastore Clusters | Wware vCenter Server Appliance | Powered Or | 🔓 Restart Guest OS | s 3 | 15.09 GB | 0 MHz | 0 MB | |
| Standard Networks 2 | | | 🐴 Migrate | | | | | |
| Distributed Switches | | | 👸 Take Snapshot | | | | | |
| 🚨 Distributed Port Groups 🗾 0 | | | Revert to Latest \$ | Snapshot | | | | |
| 🔒 Extensions 📃 2 | | | 🧑 Manage Snapsh | ots | | | | |
| | | | Clone to Virtual N | lachine | | | | |
| | | | Clone to Templa | te | | | | |
| | | | 🖶 Edit Settings | | | | | |
| | | | Move To | | | | | |
| | | | Rename | | Power | • D P | ower On | |
| | | | 🚳 Assign Tag | | Guest OS | • 📑 P | ower Off | |
| | | | 袭 Remove Tag | : | Snapshots | 🕨 🚺 S | uspend | |
| | | | Alarms | ۱ 🚑 ا | /ligrate | S R | leset | |
| | | | All vCenter Actior | 1S 🕨 🚼 | Clone to Virtual I | Machine 📕 S | hut Down Guest C | DS |
| | | | | ₿ ₽ (| Clone to Templa | ate 🧐 R | lestart Guest OS | |
| | | | | <u>≴</u> ₽ (| Convert to Temp | plate | | - |

Figure 3 Power Off Command

Reference

This section provides additional information useful for GigaVUE-FM installation and upgrade.

Topics:

- Setting the Admin Password for the GigaVUE-FM Shell
- Related GigaVUE-FM CLI Commands

Setting the Admin Password for the GigaVUE-FM Shell

When installing GigaVUE-FM from the command line, you will be prompted to set the admin password. This topic describes the requirements for this password.

NOTE: The password that you set from the GigaVUE-FM shell is applicable only to the GigaVUE-FM shell. To access the GigaVUE-FM UI, the default username is admin and password is admin123A!!. You can change the password when you first login to the GigaVUE-FM UI.

The admin password must be a minimum of 11 characters and a maximum of 30 characters. The characters must include at least:

- One numerical character
- One upper case character
- One lower case character
- One special character

If the password does not meet the complexity requirements:

- The system does not display any error message.
- The parameters configured above are not passed on to the GigaVUE-FM except the host name parameter.
- The static IP addresses that were configured originally will be unavailable after GigaVUE-FM is deployed.

Related GigaVUE-FM CLI Commands

This section describes the commands for GigaVUE-FM Command-Line Interface (CLI) related to installation and upgrade processes.

fmctl

Use the fmctl command to manage GigaVUE-FM-related configurations.

The fmctl command has the following syntax:

fmctl

```
configuration [backup|restore][<absolute pathname of backup file>]
image
```

```
fetch <download URI> [<filename>]
list [details] [<filename>]
install <filename> [next|location {1|2}]
boot [next|location {1|2}]
delete [force] <filename>
{move|rename} <old filename> <new filename>
show
```

jump-start

```
logging [<fqdn>[:<port>]] [facility <facility>] [priority <priority>] [udp|tcp]
no logging <fqdn>[:<port>]
```

reset factory halt

set UI admin password <new password>

```
{get|show} interface [{mgmt|management}]
```

set interface {mgmt|management} <interface name>
[options{--help|--interface <interface name>}]
set mapping <fqdn> <IP address>
{get|show} {ip|ntp|hostname|domain|fqdn}
set [ip|ip6] dhcp
set [ip|ip6] [static] <address/cidr> <gateway> <dns1>[,<dns2>[,...]
set {ip|ip6} route {add|remove} address/cidr gateway
set ntp {disable|[enable] <server1>[,<server2>[,...]}
set hostname <hostname>
set domain <domain>
set fqdn <hostname> <domain>
set/get/show searchdomains [<domain1>[,<domain2>[,...]]]
set/get/show nameservers [<dns1>[,<dns2>[,...]]]
show backup [<absolute pathname of backup file>]

The following table describes the arguments for the fmctl command:

| Argument | Description |
|--|---|
| configuration [backup restore] | Backs up and restores the configurations such as management interface, hostname, domain, IP, search domains, and NTP. |
| | For example, use the following command to back up the system configurations: |
| | fmctl configuration backup <absolute path name of backup file></absolute |
| | Use the following command to restore the system configurations from the backup: |
| | fmctl configuration restore <absolute path name of backup file></absolute |
| image fetch <download uri=""> [<filename>]</filename></download> | Retrieves a saved configuration file from a remote host. Use HTTP(S), FTP, TFTP, or SCP to retrieve the file. The format for the download URL is as follows: |
| | [protocol]://username [:password]@hostname/path/filename |
| | For example, the following command retrieves the configuration file named myconfig from the FTP server at 192.168.1.10 using the robh account with the xray password: |
| | fmctl image fetch ftp://robh:xray@192.168.1.10/myconfig |
| | You can also use the <filename></filename> argument to give the retrieved file a new name on the GigaVUE-FM H Series node. For example, the following command retrieves myconfig and names it newconfig on the node: |
| | fmctl image fetch scp://bbochy:catch1@192.168.1.75/myconfig |

| Argument | Description | | | |
|---|---|--|--|--|
| | newconfig | | | |
| | Note: You cannot retrieve a file with the same name as the currently active configuration file. | | | |
| image list | Provides the list of image file names available in GigaVUE-FM. For example: | | | |
| | fmctl image list | | | |
| image install <filename> [next location {1 2}]</filename> | Installs the image file. For example, use the following command to install the image file on the next partition: | | | |
| | fmctl image install gigamon-gigavue-fm- 5.8.00-160194-trial.img next | | | |
| | Use the following command to install the image file on the specified partition: | | | |
| | fmctl image install gigamon-gigavue-fm- 5.8.00-160194-trial.img location 1 | | | |
| | Note: Ensure that your current partition is not the same as the partition you specified for installation. Else, an error is displayed. | | | |
| | | | | |
| image boot [next location {1 2}] | Boots the image file on the specified partition. Ensure that the partition has the installed image file. | | | |
| | For example, use the following command to boot the image file on the next partition: | | | |
| | fmctl image boot next | | | |
| | Use the folloaing command to boot the image file on the specified partition: | | | |
| | fmctl image boot location 1 | | | |
| | Note: GigaVUE-FM reboots immediately. | | | |
| image delete [force] <filename></filename> | Deletes the named image file. | | | |
| | For example: | | | |
| | fmctl image delete myimage | | | |
| image {move rename} <old filename> <new filename=""></new></old | Moves or renames the specified image file. For example, the following command renames myimage as newimage: | | | |
| | fmctl image rename myimage newimage | | | |
| image show | Displays the last boot partition. | | | |
| | For example: | | | |
| | fmctl image show | | | |
| jump-start | Runs the configuration wizard for the initial setup of | | | |

| Argument | Description | | | |
|---|--|--|--|--|
| | GigaVUE-FM. Refer to Perform Initial Configuration. | | | |
| | Note: When you change the IP address of the GigaVUE-FM instance using the jump-start configuration, the internal database and the inmemory caches of the GigaVUE-FM instance are not updated. The Database continues to have the IP address of the old GigaVUE-FM, and the image upgrade using the internal server option does not work. To fix this, you must restart the GigaVUE-FM instance after upgrade. | | | |
| logging [<fqdn>[:<port>]]</port></fqdn> | Configures the logging server. | | | |
| [facility <facility>] [priority</facility> | For example: | | | |
| <pre></pre> | fmctl logging 1.2.3.4:9514 facility * priority debug tcp | | | |
| no logging <fqdn>[:<port>]</port></fqdn> | Removes the logging server configuration. | | | |
| | For example: | | | |
| | fmctl no logging 1.2.3.4:9514 | | | |
| reset factory halt | Resets the GigaVUE-FM instance to the default configuration and shuts down the system. | | | |
| | For example: | | | |
| | fmctl reset factory halt | | | |
| set UI admin password <new password></new | Configures a new admin password for the GigaVUE- FM instance. | | | |
| | The admin password must be a minimum of 11 characters and a maximum of 30 characters. The characters must include at least: | | | |
| | One numerical character | | | |
| | One upper case character | | | |
| | One lower case character | | | |
| | One special character | | | |
| | If the password does not meet the complexity requirements: | | | |
| | • The system does not display any error message. | | | |
| | The parameters configured above are not passed on to the GigaVUE-FM except the host name parameter. | | | |
| | The static IP addresses that were configured originally will be unavailable after GigaVUE-FM is deployed. | | | |
| | For example: | | | |
| | fmctl set UI admin password <new password></new | | | |
| {get show} interface [{mgmt management}] | Displays the management interface configured for the GigaVUE-FMinstance. | | | |
| | For example: | | | |
| Argument | Description | |
|--|---|--|
| | fmctl get show interface management | |
| set interface {mgmt management} <interface name></interface | Configures the management interface for the GigaVUE-FM instance, which has more than one ethernet interface. For example: fmctl set interface management eth1 | |
| | Note: You cannot use the interface syntax with the set interface management argument. | |
| interface <interface name=""></interface> | Allows various configurations that can be set for the management interface. This is an optional argument. | |
| | For example, use the following command to ensure that eth1 management interface uses DHCP: | |
| | fmctlinterface eth1 set ip dhcp | |
| [options{help interface | Maps the FQDN with the IP address of GigaVUE-FM. | |
| <fraches a="" set="" set<="" td=""><td>For example:</td></fraches> | For example: | |
| siguir sir audiess? | fmctlinterface eth1 set mapping fm 10.10.10.1 | |
| | Use the following command to remove the mapping: | |
| | fmctlinterface eth1 set mapping fm | |
| [options{help interface <interface name="">}] {get show}</interface> | Use to either fetch or display the IP address, NTP configurations, host name, domain name, or FQDN . | |
| {ip ntp hostname domain fqdn} | For example: | |
| | fmctlinterface eth1 get | |
| | fmctlhelp show | |
| | {ip ntp hostname domain fqdn} | |
| [options{help interface | Configures the management interface to use DHCP. | |
| <interface name="">}] set [ip ip6]</interface> | For example: | |
| ancp | fmctlinterface eth1 set ip dhcp | |
| [options{help interface <interface name="">}] set [ip ip6] [static] <address cidr=""> <gateway> <dns1>[,<dns2>[,]</dns2></dns1></gateway></address></interface> | Configures the static IP address and gateway on the management interface. You can also choose to configure DNS. | |
| | For example: | |
| | fmctlinterface eth1 set ip static 10.115.46.72/21 10.115.40.1 10.10.1.20 | |
| [options{help interface <interface name="">}] set {ip ip6} route {add remove} address/cidr gateway</interface> | Adds or removes the IP address and gateway for the management interface. | |
| [options{help interface <interface name="">}] set ntp</interface> | Use to enable or disable NTP for synchronization of the system's clock. | |
| {disable [enable] <server1></server1> | For example, the following command disables NTP: | |

| Argument | Description | |
|--|--|--|
| [, <server2>[,]}</server2> | fmctlinterface eth1 set ntp disable You choose to enable NTP and add NTP servers. For example, the following command enables NTP and adds a NTP server: | |
| | 192.168.1.10 | |
| [options{help interface <interface name="">}] set hostname <hostname></hostname></interface> | Configures the hostname. For example: fmctlinterface eth1 set hostname myfm | |
| | Note: Ensure that you log out and re-login to the GigaVUE-FM to view the changes. | |
| [options{help interface <interface name="">}] set domain <domain></domain></interface> | Configures the domain for GigaVUE-FM. For example: fmctlinterface eth1 set domain gigamon.com | |
| [options{help interface <interface name="">}] set fqdn <hostname> <domain></domain></hostname></interface> | Configures the Fully Qualified Domain Name (FQDN) for the current GigaVUE-FM. fmctlinterface eth1 set fqdn myfm gigamon.com | |
| [options{help interface <interface name="">}] set/get/show searchdomains [<domain1>[,<domain2>[,]]]</domain2></domain1></interface> | Displays a list of domains for the current GigaVUE-FM For example: fmctlinterface eth1 set searchdomains fmctlhelp get show searchdomains | |
| [options{help interface <interface name="">}] set/get/show nameservers [<dns1>[,<dns2>[,]]]</dns2></dns1></interface> | Displays a list of name servers for the current GigaVUE-FM For example: fmctlinterface eth1 set nameservers fmctlhelp get show nameservers | |
| [options{help interface <interface name="">}] show backup</interface> | Displays the configurations that were backed up. For example: fmctlhelp show backup <absolute path<br="">name of backup file></absolute> | |

NOTE: To include special characters in the fmctl command line, enclose the string containing the special characters within single quotes. For example, to include the bang (!) special character in a password string, you must enclose the password string within single quotes, as shown in the following example:

fmctl set UI admin password 'admin!!'

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 Gigamon Community

Documentation

This table lists all the guides provided for GigaVUE-FM 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-FM 5.11 Hardware and Software Guides

DID YOU KNOW? 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 **Edit > Advanced Search** from the menu. This opens an interface that allows you to select a directory and search across all PDFs in a folder.

Hardware

how to unpack, assemble, rack-mount, connect, and initially configure ports the respective GigaVUE-FM devices; reference information and specifications for the respective GigaVUE-FM devices

*G-TAP A Series 2 Installation Guide

GigaVUE-HC1 Hardware Installation Guide

GigaVUE-HC2 Hardware Installation Guide

GigaVUE-HC3 Hardware Installation Guide

GigaVUE M Series Hardware Installation Guide

GigaVUE TA Series Hardware Installation Guide

| GigaVUE-FM 5.11 Hardware and Software Guides |
|---|
| *GigaVUE-OS Installation Guide for DELL S4112F-ON |
| Software Installation and Upgrade Guides |
| GigaVUE-FM Installation, Migration, and Upgrade Guide |
| GigaVUE-OS Upgrade Guide |
| Administration |
| GigaVUE Administration Guide covers both GigaVUE-OS and GigaVUE-FM |
| Fabric Management |
| GigaVUE Fabric Management Guide how to install, deploy, and operate GigaVUE-FM; how to configure GigaSMART operations; covers both GigaVUE- FM and GigaVUE-OS features |
| Cloud Configuration and Monitoring |
| how to configure the GigaVUE Cloud Suite components and set up traffic monitoring sessions for the cloud platform |
| GigaVUE Cloud Suite for AnyCloud Configuration Guide how to deploy the GigaVUE Cloud Suite solution in any cloud platform |
| GigaVUE Cloud Suite for AWS Configuration Guide |
| GigaVUE Cloud Suite for AWS Quick Start Guide quick view of AWS deployment |
| GigaVUE Cloud Suite for AWS SecretRegions Configuration Guide |
| GigaVUE Cloud Suite for Azure Configuration Guide |
| GigaVUE Cloud Suite for Kubernetes Configuration Guide |
| GigaVUE Cloud Suite for Nutanix Configuration Guide |
| GigaVUE Cloud Suite for OpenStack Configuration Guide |
| GigaVUE Cloud Suite for VMware Configuration Guide |
| Gigamon Containerized Broker |
| Reference |
| GigaVUE-OS-CLI Reference Guide library of GigaVUE-OS CLI (Command Line Interface) commands used to configure and operate GigaVUE H Series and TA Series devices |

GigaVUE-OS Cabling Quick Reference Guide

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

| GigaVUE-FM 5.11 Hardware and Software Guides | | | |
|--|--|--|--|
| 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) | | | |
| 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 & Docs page on to My Gigamon . Refer to How to Download from My Gigamon . | | | |
| In-Product Help | | | |
| GigaVUE-FM Online Help how to install, deploy, and operate GigaVUE-FM. | | | |
| GigaVUE-OS H-VUE Online Help provides links the online documentation. | | | |

How to Download from My Gigamon

Registered Customers can download software and corresponding Release Notes documents from the **Software & Docs** 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 & Documentation** link.
- 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

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 | | | | |
|-----------------------------|---------------------------------|--|--|--|
| About You | Your Name | | | |
| | Your Role | | | |
| | Your Company | | | |
| | | | | |
| For Online Topics | Online doc link | (URL for where the issue is) | | |
| | Topic Heading | (if it's a long topic, please provide the heading of the section where the issue is) | | |
| | | | | |
| For PDF Topics | Document Title | (shown on the cover page or in page header) | | |
| | Product Version | (shown on the cover page) | | |
| | Document Version | (shown on the cover page) | | |
| | Chapter Heading | (shown in footer) | | |
| | PDF page # | (shown in footer) | | |
| | | | | |
| How can we improve? | Describe the issue | Describe the error or issue in the documentation. (If it helps, attach an image to show the issue.) | | |
| | How can we improve the content? | | | |

| Be as specific as possible. | |
|-----------------------------|--|
| Any other comments? | |
| | |

Contact Technical Support

See https://www.gigamon.com/support-and-services/contact-support for Technical Support hours and contact information. You can also email Technical Support at 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

Partners: www.gigamon.com/partners.html

Premium Support

Email Gigamon at 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 Gigamon Community

The Gigamon 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 Gigamon 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.
- Submit and vote on feature enhancements and share product feedback. (Customers only)
- Open support tickets (Customers only)
- Download the latest product updates and documentation (Customers only)

The Gigamon 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

Questions? Contact our Community team at community@gigamon.com.