
Installing and Upgrading InfoSphere VDP - Global Manager on a VMware Server

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Introduction

InfoSphere VDP - Global Manager (IVGM) is a virtual appliance. IVGM provides centralized management capabilities that can be deployed on standard VMware ESX servers and Hyper-V hypervisors as well as in most cloud platforms. From one centralized IVGM management system, you use the IVGM web-based UI to manage multiple VDP appliances and perform various day-to-day copy data operations. VDP appliances are the highly scalable copy data platforms that virtualize application data to improve the resiliency, agility, and cloud mobility of your business.

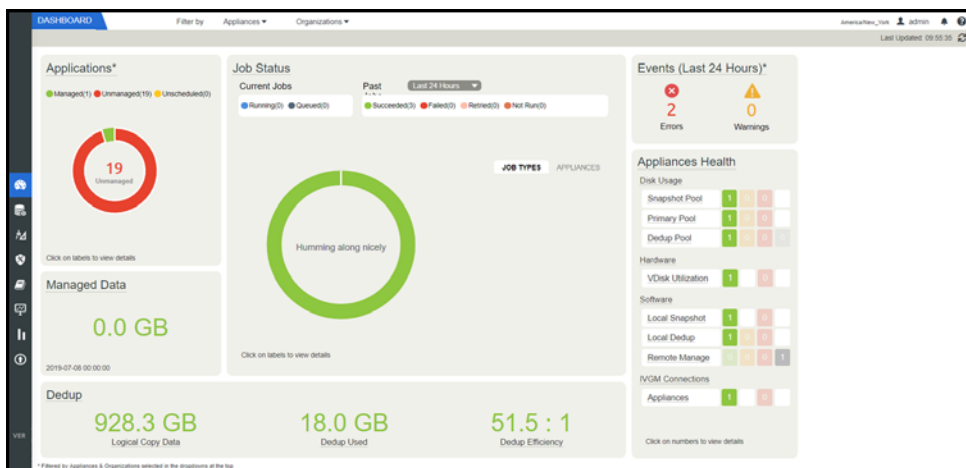
With IVGM you can manage many VDP appliances. IVGM communicates with each appliance using the IP address or fully qualified domain name (FQDN) of the appliance. When you add an appliance to IVGM, all SLA templates, organizations, users, and roles are imported into the IVGM database and become IVGM-level objects. You can then use these objects across all managed appliances.

Report Manager (RM) Integration with IVGM

As of IVGM 9.0.2, Report Manager (RM) can now be installed as part of IVGM and run in the same virtual machine (additional memory and CPU are required). This integration simplifies deployment and streamlines ongoing management. When deployed in this integrated configuration:

- User authentication to RM is done via IVGM, instead of one of the appliances. This means that any IVGM user can log in to RM.
- Organization membership information is pulled from IVGM.
- All appliances managed by IVGM are automatically added to RM. Additional appliances can be manually added to RM.
- All upgrades are done through the IVGM UI and include upgrades to both IVGM and Report Manager components.
- The IVGM version is always listed, even from the RM Help > About dialog.

For more information on new capabilities of RM 9.0 see the Report Manager 9.0 Release Notes.



1 InfoSphere VDP - Global Manager Requirements

This chapter details the system requirements for InfoSphere VDP - Global Manager (with or without Catalog) and also the requirements for IVGM and RM installation. These requirements include:

- [Software Requirements](#) on page 3
- [IVGM VM Requirements](#) on page 3
- [Supported IVGM Configurations](#) on page 4
- [vSphere NTP](#) on page 5
- [Port Requirements](#) on page 5
- [Web Browser Requirements](#) on page 5

Software Requirements

IVGM and RM support VDP appliances running 8.x and 9.0.x.

IVGM VM Requirements

During deployment, IVGM will optionally come up with additional services of catalog and Report Manager according to the resources allocated to the VM.

IVGM Only (Without Catalog or RM)

- Reserved 4 virtual CPUs*
- Reserved 8 GB of memory*
- 50 GB free datastore space
- One (1) virtual network interface card (vNIC)
- A static (and unique) IPv4 address

*Both the virtual CPU as well as virtual RAM allocation should be reserved.

IVGM With Catalog

- Reserved 8 virtual CPUs*
- Reserved 20 GB of memory*
- Three (3) separate virtual disks for storage:
 - o One 50 GB disk for the operating system and IVGM repository
 - o One 250 GB disk for the catalog index
 - o One 400 GB disk to store backups of the catalog data
- One (1) virtual network interface card (vNIC)
- A static (and unique) IPv4 address

*Both the virtual CPU as well as virtual RAM allocation should be reserved.

IVGM With RM

- Reserved 6 virtual CPUs*
- Reserved 16 GB of memory*
- 50 GB free datastore space
- 250 GB free datastore space for Report Manager data
- One (1) virtual network interface card (vNIC)
- A static (and unique) IPv4 address

*Both the virtual CPU as well as virtual RAM allocation should be reserved.

IVGM With Catalog and RM

- Reserved 10 virtual CPUs*
- Reserved 28 GB of memory*
- Four (4) separate virtual disks for storage:
 - o One 50 GB disk for the operating system and IVGM repository
 - o One 250 GB disk for the catalog index
 - o One 400 GB disk to store backups of the catalog data
 - o One 250 GB disk for Report Manager
- One (1) virtual network interface card (vNIC)
- A static (and unique) IPv4 address

*Both the virtual CPU as well as virtual RAM allocation should be reserved.

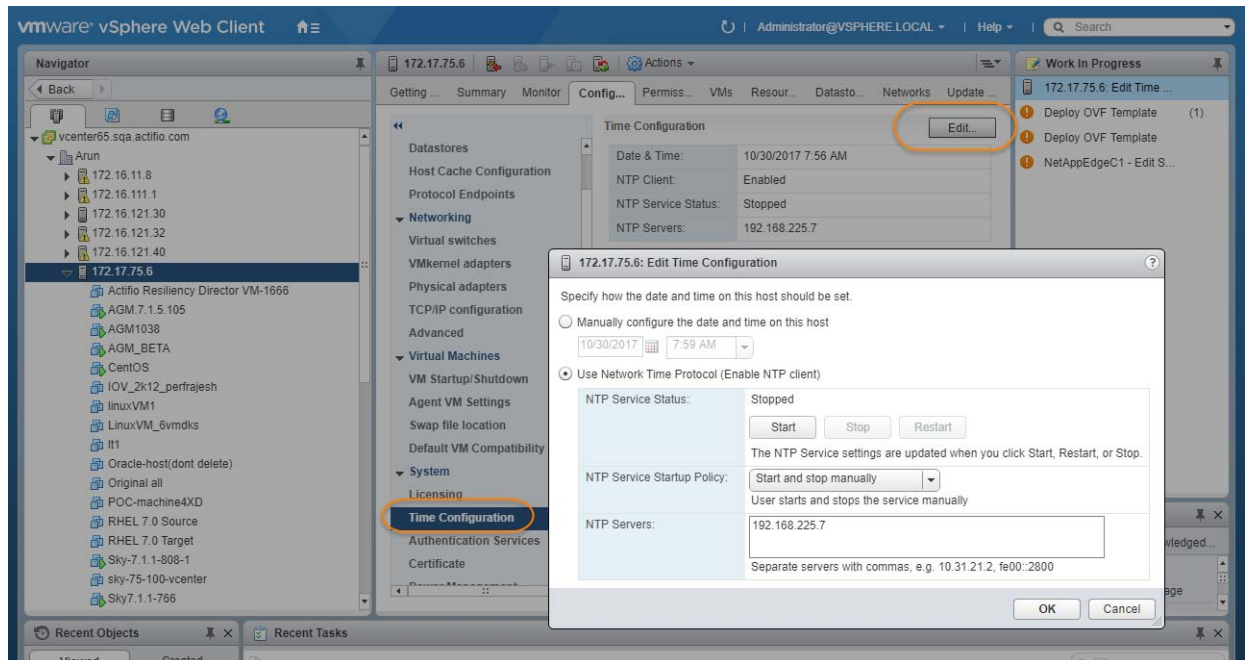
Supported IVGM Configurations

The following table lists the supported IVGM configurations.

Configuration	Cores (Virtual CPUs)	RAM (GB)	Base Partition Size (GB)	Additional Partitions (Minimum Size)
IVGM (without Catalog or RM)	4	8	50	-
IVGM with Catalog (no RM)	8	20	50	One 250 GB partition + One 400 GB partition
IVGM with RM (no Catalog)	6	16	50	One 250 GB partition
IVGM with Catalog and RM	10	28	50	Two 250 GB partitions + One 400 GB partition

vSphere NTP

Do not use VMware Tools periodic time synchronization for the IVGM VM. You must use NTP.



Port Requirements

The following table details the required IVGM port settings:*

Description	Port	Initial Connection Request*
Management of VDP appliances by IVGM	TCP-5103 and TCP-443 if there is a firewall in the network	Outbound
Web browser access to IVGM	TCP-443	Inbound
Remote CLI access to IVGM	TCP-26 and, optionally, port TCP-22	Inbound
LDAP server authentication/authorization	Plain text LDAP: TCP-389 LDAP over SSL: TCP-636	Outbound

*Once the connection is established, data flow is bidirectional.

Web Browser Requirements

The IVGM UI supports the following minimum web browsers:

- Google Chrome version 74.0 and higher
- Microsoft Internet Explorer version 11.0 and higher
- Mozilla Firefox version 68 and higher

The recommended minimum display screen resolution is 1280 x 1024 to run the IVGM UI in a web browser.

2 Best Practices for IVGM High Availability

VMware HA provides high availability for virtual machines by pooling them and the hosts they reside on into a cluster. Hosts in the cluster are monitored and in the event of a failure, the virtual machines on a failed host are restarted on alternate hosts.

There are two primary failover use cases with an InfoSphere VDP - Global Manager VM that require VMware's HA capabilities:

- **Planned Failover:** This includes DRS, DPM, and vMotion migrations of the IVGM VM to other clusters due to operational requirements, maintenance windows, and so on. These operations should be expected to succeed and running jobs will continue and complete during the IVGM VM migration. IVGM will continue to operate normally during this operation. During failover you may encounter some performance issues.
- **Host Failure:** For any scenario where the host was not cleanly shut down, including host failure. VMware HA can perform a restart of the IVGM VM on another host in the HA cluster.

This chapter details

- [Distributed Resource Scheduler \(DRS\) and Distributed Power Management \(DPM\) on page 7](#)
- [Affinity Rules on page 7](#)
- [Resource Pools on page 8](#)
- [Configuring VMware for IVGM HA Failover on page 8](#)
- [Protecting the IVGM VM on page 9](#)

Distributed Resource Scheduler (DRS) and Distributed Power Management (DPM)

Using VMware HA with DRS combines automatic failover with load balancing. This combination can result in faster rebalancing of virtual machines after VMware HA has moved virtual machines to different hosts.

In some scenarios, VMware HA might not be able to fail over virtual machines because of resource constraints. This can occur if HA admission control is disabled and DPM is enabled. This can result in DPM consolidating virtual machines onto fewer hosts and placing the empty hosts in standby mode leaving insufficient powered-on capacity to perform a failover.

In such cases, VMware HA will use DRS to try to adjust the cluster (for example, by bringing hosts out of standby mode or migrating virtual machines to defragment the cluster resources) so that HA can perform the failovers.

If DPM is in manual mode, you might need to confirm host power-on recommendations. Similarly, if DRS is in manual mode, you might need to confirm migration recommendations.

Affinity Rules

An affinity rule is a setting that establishes a relationship between two or more VMware virtual machines (VMs) and hosts. Affinity rules and anti-affinity rules tell the vSphere hypervisor platform to keep virtual entities together or separated.

If you are using VM-Host affinity rules, VMware HA will not perform a failover if doing so violates one of those rules.

Resource Pools

One of the benefits of resource pools is that they allow you to separate memory and CPU allocations from hardware. For example, if you are using clusters enabled for DRS, the resources of all hosts are always assigned to the cluster. That means administrators can perform resource management independently of the actual hosts that contribute to the resources. If a VM uses resource pools, the resources in its pools follow the VM, regardless of where in the cluster the VM is moved.

For more information on VMware and HA, consult your VMware documentation.

Configuring VMware for IVGM HA Failover

IVGM supports VMware HA and DRS/DPM. To use these features to use VMware HA to failover IVGM you must consider the following:

Note: *As to be expected, there will be some performance degradation after the VM has failed over and restarted. Once an IVGM VM has failed over and is running on a new ESX host in the cluster, performance will return to normal levels.*

- **Storage Accessibility:** Movement of an IVGM VM from one ESX host or storage system to another using vMotion and/or DRS/DPM is supported. For this reason, IBM InfoSphere recommends that the IVGM VM disk devices reside on storage that is accessible to all hosts in the ESX cluster.
- **Host vMotion:** Host vMotion is supported provided you meet all of VMware's requirements for host vMotion. There is no need to shut down the IVGM VM for a host vMotion operation. Host vMotion has minimal impact on performance.
- **Storage vMotion:** Storage vMotion is supported provided you meet all of VMware's requirements for Storage vMotion. Keep in mind that CPU utilization can trigger CPU alarms when running multiple Storage vMotion jobs in parallel. IBM InfoSphere recommends not performing a Storage vMotion while the IVGM VM is powered on.

Note: *The IVGM user interface does not allow you to shut down IVGM. To shut down IVGM you must power down the IVGM VM from the vSphere interface.*

- **VMware Fault Tolerance Configurations:** IVGM does not support the VMware Fault Tolerance feature.
- **Use of Resource Pools with IVGM VMs:** Manage IVGM VM's resources with reserved resource pools. This ensures that the allocated (reserved) memory and CPUs for the IVGM VM follow the IVGM VM regardless of where VMware moves the VM. See [IVGM VM Requirements](#) on page 3 for memory and CPU requirements.
- **Networking Considerations:** Network implementation and capacity for the HA cluster must allow for seamless failover of the IVGM VMs and the entire IBM InfoSphere appliance-managed network infrastructure must be accessible to the IVGM VMs during failover (for example, DNS and NTP).
- **Resource Pools:** When adding an IVGM VM to a Resource Pool, do not over-commit the pool resources. Configure a dedicated resource pool for the IVGM VM. Ensure that the VMware HA cluster nodes have sufficient resources to handle all moved or recovered IVGM VMs.
- **VMware Slot Calculations:** Ensure VMware HA slot calculations for the IVGM's HA cluster is running.
- **Frequency of Planned Failovers:** Keep the frequency of planned failovers to a minimum. Only move IVGM VMs between cluster hosts when necessary for maintenance operations or long term migrations. Ensure DRS and DPM only move the IVGM VM when it is absolutely necessary and performed during periods the IVGM VM is least busy.

Protecting the IVGM VM

The IVGM VM can be protected like any other VM. As a best practice, always protect your IVGM VM before upgrading its software.

The IVGM Online Help provides step-by-step instructions that walk you through:

- Adding the server on which the VM resides.
- Discovering VMs. In this case the IVGM VM.
- Protecting VMs. You will need to select one of the IBM InfoSphere appliances that the IVGM VM manages to perform the actual protection.
- Restoring VMs.

When protecting the IVGM VM you have several options for where the protected image(s) will reside:

- Local to the data center in which the IVGM VM resides.
- Local to the data center in which the IVGM VM resides and another data center where the IVGM VM manages a VDP appliance.
- Local to the data center in which the IVGM VM resides and in a cloud object store (OnVault).
- In a cloud object store only (Direct to OnVault).

Where captured images reside depends on your business needs and the risks you are willing to assume. For example:

- IVGM VM images that reside in your local data center ensure that your IVGM VM is recoverable as quickly as possible if you encounter issues with your VMware environment.
- IVGM VM images kept at a remote site or in the cloud ensure that your IVGM VM is recoverable if your data center experiences a catastrophic event.

3 Installing InfoSphere VDP - Global Manager

This chapter details:

- [The IVGM OVA File on page 11](#)
- [Deploying and Installing the IVGM OVA on page 12](#)
- [Replacing a Previously Installed IVGM OVA on page 23](#)

If you want to upgrade an existing IVGM VM, see [Upgrading InfoSphere VDP - Global Manager on page 39](#).

To enable the IVGM Catalog feature, see [Adding Resources to Enable Catalog on page 25](#) for more information. To add RM resources, see [Adding Resources to Enable Report Manager on page 27](#).

The IVGM OVA File

The IVGM deployment and installation process can take approximately 30 minutes. Your IBM InfoSphere representative will help you deploy the OVA in your environment. The representative will provide you with access to the latest IVGM release OVA and MD5 files. Be sure to place these two files in a location that is easily accessible by the VMware vSphere that will host IVGM.

The two IVGM installation files are named using the following naming convention:

- `IVGM.x.x.x.xxxxx.ova`
- `IVGM.x.x.x.xxxxx.ova.md5`

The `IVGM.x.x.x.xxxxx.ova.md5` file is the digital fingerprint of the installation file and is used to verify the integrity of the `IVGM.x.x.x.xxxxx.ova` file.

Verifying the Integrity of the IVGM.OVA File

Before you deploy the IVGM.ova file, we recommend that as a best practice you first verify that its MD5 digital fingerprint matches the fingerprint file that IBM InfoSphere provides in the separate *.ova.md5 file along with the *.ova file. Verifying the integrity of the IVGM.OVA file will help to minimize downtime and ensure that the IVGM deployment and installation process goes smoothly and without a failure. You can use a checksum utility such as File Checksum Integrity Verifier (FCIV) or md5sum to perform the verification.

The example show below uses FCIV to perform the comparison. If the fingerprints are different, the IVGM installation file is corrupted. Contact your IBM InfoSphere representation if this occurs.

Deploying and Installing the IVGM OVA

This section describes how to deploy and install the IVGM OVA file in your VMware ESX server environment using the VMware vSphere Web Client. Deployment and installation of the IVGM OVA is also supported with the VMware vSphere 5.1 and later versions. The deployment and installation of the IVGM OVA using a standalone ESXi host is not supported.

Note: *The deployment and installation of the IVGM OVA using a standalone ESXi host is not supported.*

Your IBM InfoSphere field representative will help you in deploying the solution in your environment. They will provide you with the latest IVGM release OVA file and will place it in a location that is easily accessible by the vSphere Web Client that will host IVGM. You will deploy the IBM InfoSphere OVA like any other VMware OVA.

Based on your supported version of the VMware vSphere Web Client, refer to:

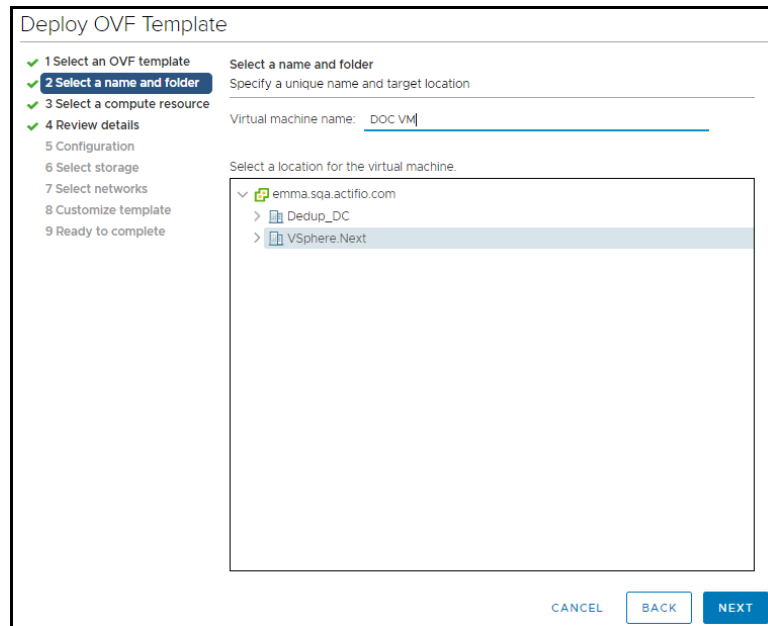
- [Deploying and Installing the IVGM OVA Using VMware vSphere 6.7 Web Client on page 13](#)
- [Deploying and Installing the IVGM OVA Using VMware vSphere 6.5 Web Client on page 18](#)
- [Deploying and Installing the IVGM OVA Using VMware vSphere 5.5 Web Client on page 22](#)

Deploying and Installing the IVGM OVA Using VMware vSphere 6.7 Web Client

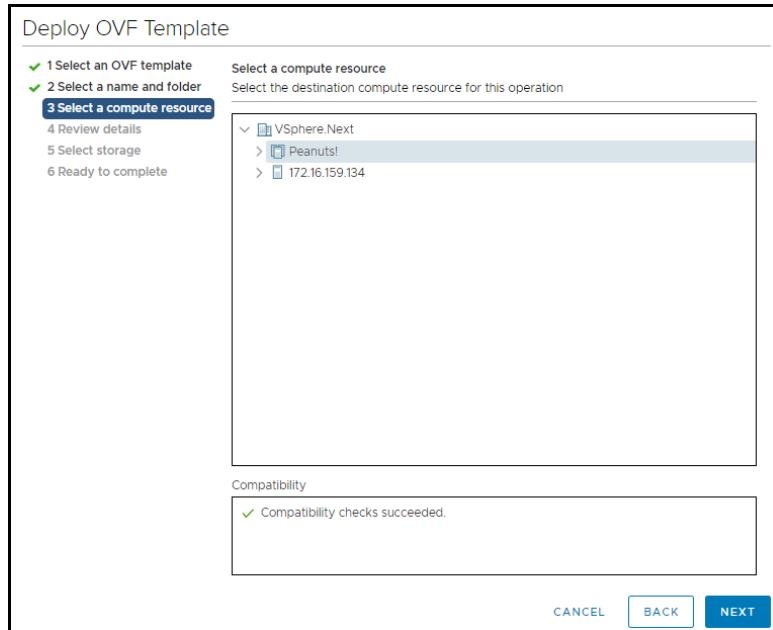
This procedure describes how to deploy and install the IVGM OVA file using the VMware vSphere 6.7 Web Client using HTML5. You can also deploy IVGM using Flash deployment.

To deploy and install IVGM OVA using VMware vSphere 6.7 Web Client:

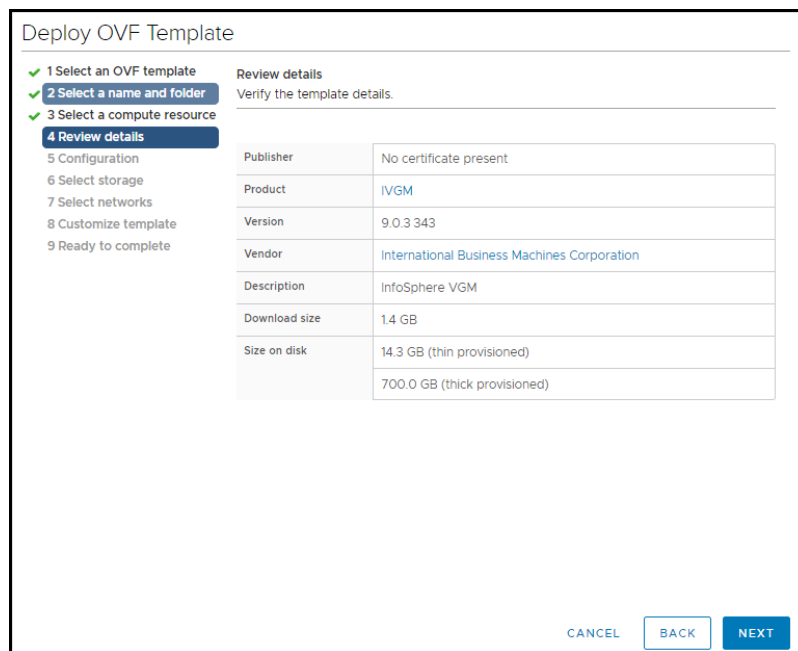
1. Open the vSphere 6.7 Web Client. Select Actions > Deploy OVF Template. The Deploy Template wizard opens showing the Select Template option.
2. In the Select Template window, browse to or enter the path to the IVGM OVA file, then click Next to continue.
3. Select a name for the installation instance as well as its location, then click Next to continue.



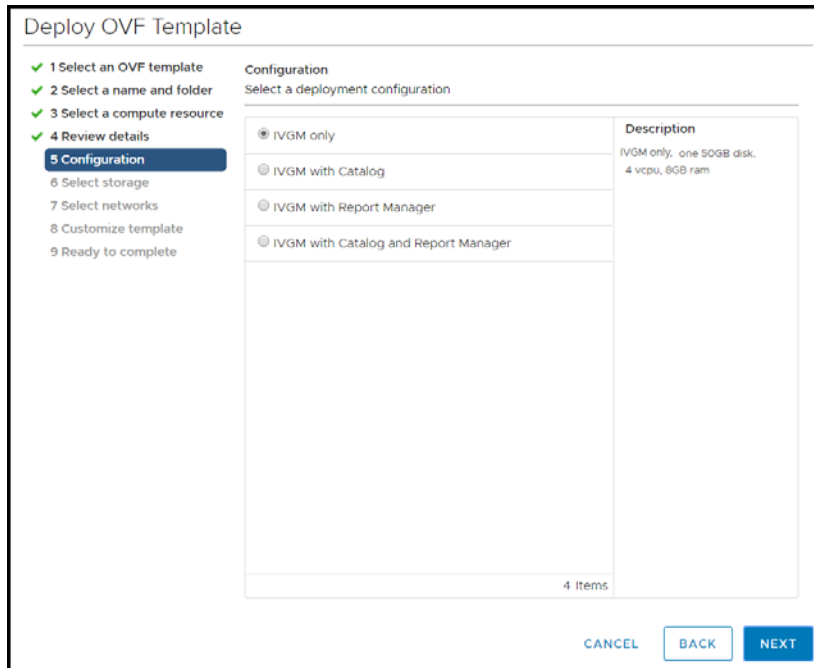
4. Select the resource pool where the deployment should be run, then click Next to continue.



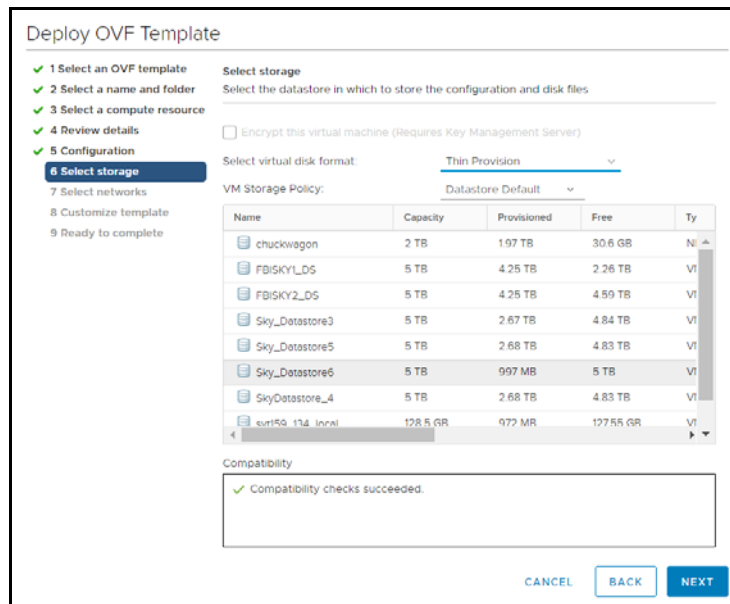
5. In the Review Details window, review the details of the IVGM OVF template, then click Next.



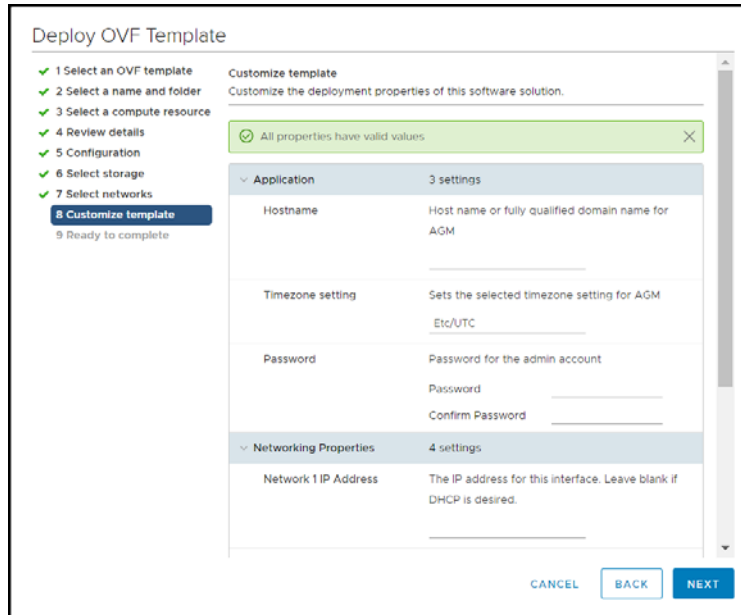
6. Select the deployment option. To install IVGM only, keep the default selection, otherwise select from IVGM with Catalog, IVGM with Report Manager, or IVGM Catalog and Report Manager, then click Next.



7. In the Select Storage page, select a datastore with sufficient free space to meet the minimum storage requirements for the IVGM VM. From the Select virtual disk format option, choose Thin Provision, then click Next.
8. In the Setup Networks page, make any required network changes for the IVGM VM, then click Next.



9. In the Customize Template page, customize the deployment using the information below:



Application

- o Hostname - Enter the name or fully qualified domain name of the host. The name of a host should start with a letter, and can contain letters, digits (0-9), and an underscore ('_').
- o Timezone Setting - Enter the timezone of where the IVGM is located.
- o Password - The password for the admin account. It can be any alphanumeric string to a maximum of 128 characters.

Networking Properties

Note: IVGM deployment supports DHCP in addition to static IP support.

- o Network 1 IP Address - The IP address for this virtual machine. Copy the IP address for use when accessing the IVGM (see [Accessing InfoSphere VDP - Global Manager](#) on page 29).
 - o Network 1 Netmask - The subnet mask or prefix for this virtual machine.
 - o Default Gateway - The default gateway for this virtual machine.
 - o DNS - The domain name server for this virtual machine.
10. Click Next. In the Ready to Complete window, review the deployment settings for the IVGM OVF template.

Deploy OVF Template

- ✓ 1 Select an OVF template
- ✓ 2 Select a name and folder
- ✓ 3 Select a compute resource
- ✓ 4 Review details
- ✓ 5 Configuration
- ✓ 6 Select storage
- ✓ 7 Select networks
- ✓ 8 Customize template
- 9 Ready to complete

Ready to complete
Click Finish to start creation.

Provisioning type	Deploy from template
Name	DOC VM
Template name	IVGM 9.0.3
Download size	1.4 GB
Size on disk	14.3 GB
Folder	VSphere.Next
Resource	172.16.159.134
Storage mapping	1
All disks	Datastore: 172_16_115_121_tmp_nfsDatastore_556544; Format: Thin provision
Network mapping	1
Network 1	VM Network
IP allocation settings	
IP protocol	IPv4
IP allocation	Static Manual

CANCEL BACK FINISH

11. If you need to make any changes, click Back and modify the settings. Then click Finish.
12. The Deploying OVF Template message box opens listing the IVGM deployment status. The IVGM will reboot one additional time after deployment is completed to complete the configuration. You may need to manually power on IVGM. Copy the IP address for use when accessing the IVGM (see [Accessing InfoSphere VDP - Global Manager](#) on page 29).

Once deployment is complete, you can manually change the configuration to run IVGM with or without the Catalog feature. See [Configuring Resources](#) on page 25 for more information.

Deploying and Installing the IVGM OVA Using VMware vSphere 6.5 Web Client

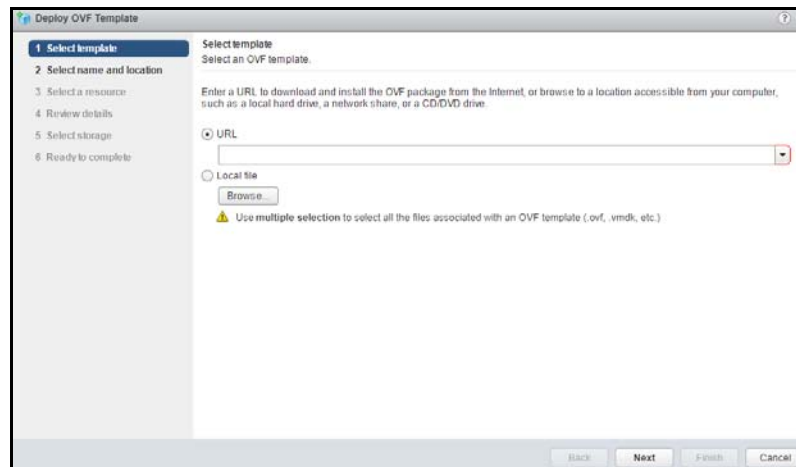
This procedure describes how to deploy and install the IVGM OVA file using the VMware vSphere 6.5 Web Client. You will see the IVGM installation options for Flash deployment and only if you are using VMware vSphere 6.5 Web Client (HTML5) update1d or later.

For earlier version of Web Client (HTML5), IVGM will get deployed and installed without Catalog. You will have to manually add the system resources required for a Catalog configuration. For more information, see

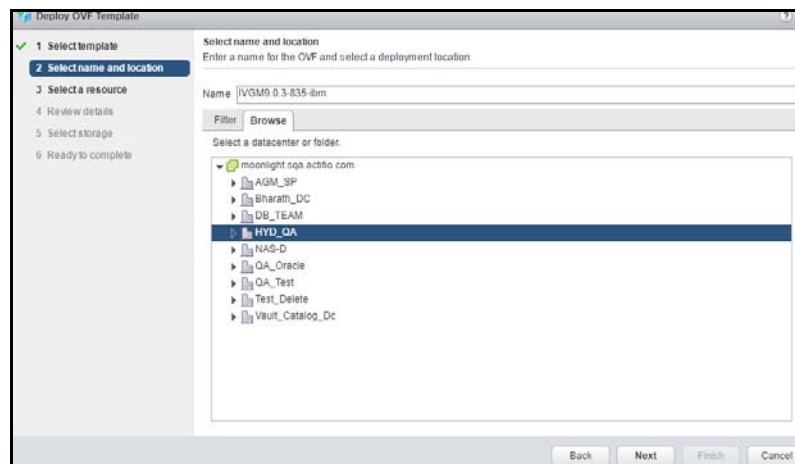
Note: For VMware vSphere 6.5 Flash deployment, you will not have the option to deploy and power up the VM. You will have to manually power it up. For more information, see <https://kb.vmware.com/s/article/2148007>.

To deploy and install IVGM OVA using VMware vSphere 6.5 Web Client:

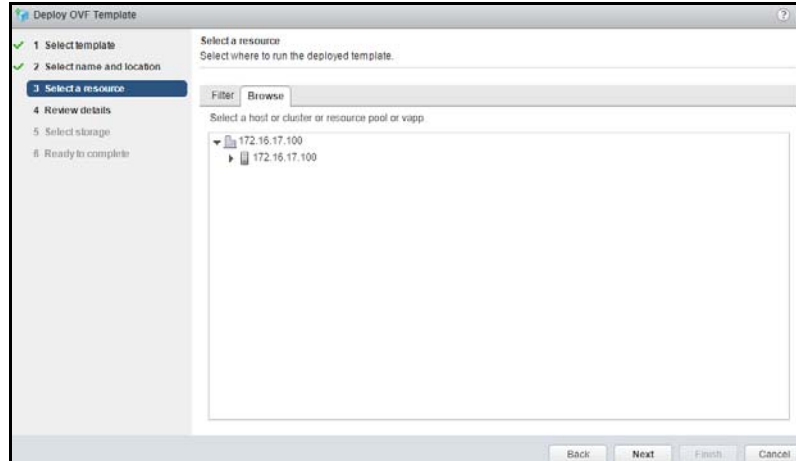
1. Open the vSphere 6.5 Web Client. Select Actions > Deploy OVF Template. The Deploy Template wizard opens showing the Select Template option.
2. In the Select Template window, browse to or enter the path to the IVGM OVA file.



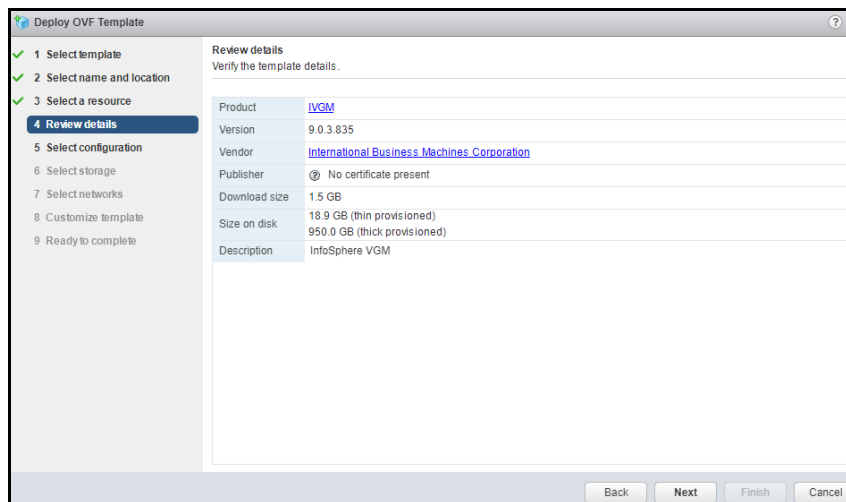
3. Click Next to open the select name and location dialog.
4. Select a name for the installation instance as well as its location.



5. Click Next to open the Select resource dialog.
6. Select the resource pool where the deployment should be run.

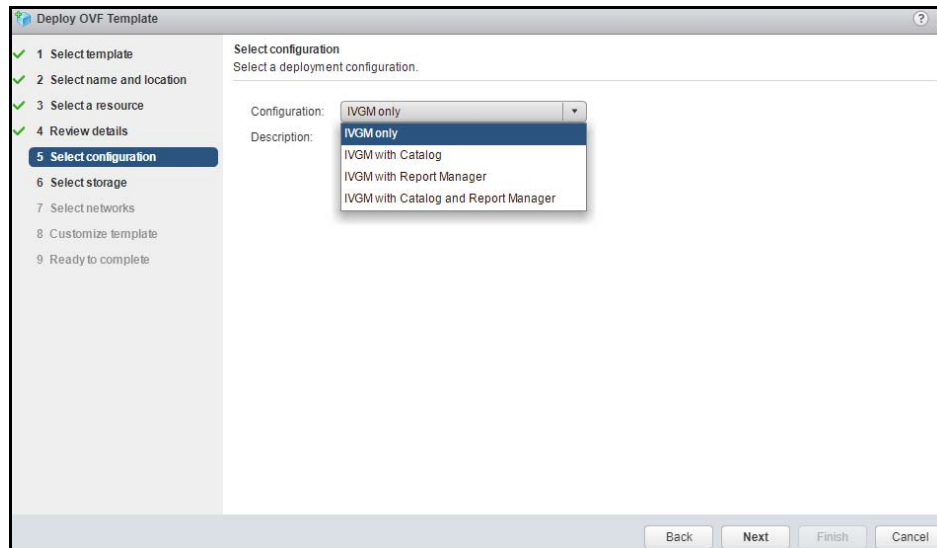


7. Click Next to open the Review Details dialog.
8. Review the details of the IVGM OVF template.

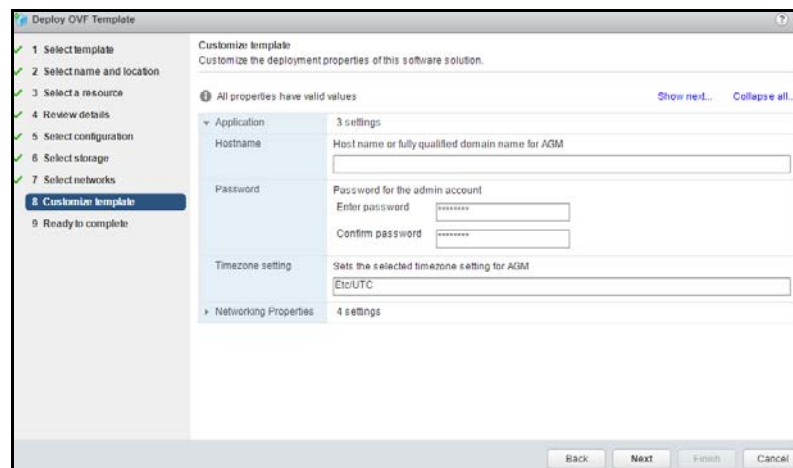


9. Click Next
10. Select the deployment option. To install IVGM only, keep the default selection, otherwise select from IVGM with Catalog, IVGM with Report Manager, or IVGM Catalog and Report Manager.

Note: You will see the deployment options only when using VMware vSphere 6.5 Web Client (HTML5) update1d or later.



11. Click Next.
12. In the Select Storage page, select a datastore with sufficient free space to meet the minimum storage requirements for the IVGM VM.
13. From the Select virtual disk format option, choose Thin Provision, then click Next.
14. In the Setup Networks page, make any required network changes for the IVGM VM, then click Next.
15. In the Customize Template page, customize the deployment as follows and click Next:



Application

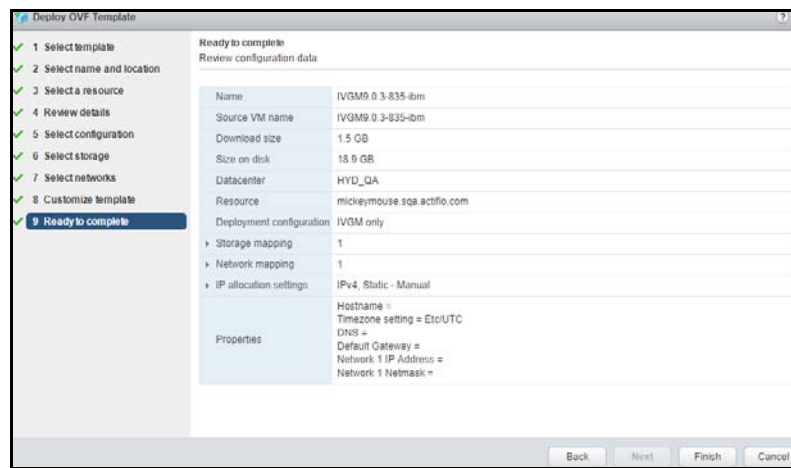
- o Hostname - Enter the name or fully qualified domain name of the host. The name of a host should start with a letter, and can contain letters, digits (0-9), and an underscore ('_').
- o Timezone Setting - Enter the timezone of where the IVGM is located.

- o Password - The password for the admin account. It can be any alphanumeric string to a maximum of 128 characters.

Networking Properties

Note: IVGM deployment supports DHCP in addition to static IP support.

- o Network 1 IP Address - The IP address for this virtual machine. Copy the IP address for use when accessing the IVGM (see [Accessing InfoSphere VDP - Global Manager](#) on page 29).
 - o Network 1 Netmask - The subnet mask or prefix for this virtual machine.
 - o Default Gateway - The default gateway for this virtual machine.
 - o DNS - The domain name server for this virtual machine.
16. Click Next. In the Ready to Complete window, review the deployment settings for the IVGM OVF template.



17. If you need to make any changes, click Back and modify the settings. Then click Finish.
18. The Deploying OVF Template message box opens listing the IVGM deployment status. The IVGM will reboot one additional time after deployment is completed to complete the configuration. If you had selected Power on after deployment, IVGM is fully powered on and ready for use. Otherwise manually power on IVGM. Copy the IP address for use when accessing the IVGM (see [Accessing InfoSphere VDP - Global Manager](#) on page 29).

Once deployment is complete, you can manually change the configuration to run IVGM with or without the Catalog feature. See [Configuring Resources](#) on page 25 for more information.

Deploying and Installing the IVGM OVA Using VMware vSphere 5.5 Web Client

This procedure describes how to deploy and install the IVGM OVA file using the VMware vSphere 5.5 Web Client.

To deploy and install IVGM OVA using VMware vSphere 5.5 Web Client:

1. Open the vSphere 5.5 Web Client and select Deploy OVF Template. The Deploy OVF Template wizard opens.
2. In the Select Source window, browse to or enter the path to the IVGM OVA file, then click Next to continue.
3. In the Review Details page, review the details of the IVGM OVF template, then click Next.
4. In the Select Name and Folder page:
 - o For Name, enter the name of the IVGM you are to install. The name can contain up to 80 characters.
 - o In the Select a Folder or Datacenter pane, select the data center and cluster/ESX host for the deployment of the IVGM VM, then click Next.
5. In the Select Configuration page, select the IVGM configuration you want to install. You can change the system resources after installation is complete if necessary. See [Configuring Resources](#) on page 25 for more information. Click Next.
6. In the Select resource page, select the cluster, host or resource pool in which you want to run the deployed template, then click Next.
7. In the Storage page, select a datastore with sufficient free space to meet the minimum storage requirements for the IVGM VM.
8. For the Select virtual disk format option, select Thin Provision, then click Next.
9. In the Setup Networks page, make the required network changes for the IVGM VM, then click Next.
10. In the Customize Template page, customize the deployment properties as follows:
 - Application
 - o Hostname - Enter the name or fully qualified domain name of the host. The name of a host should start with a letter, and can contain letters, digits (0-9), and an underscore ('_').
 - o Timezone Setting - Enter the timezone where the IVGM is located
 - o Password - Enter the password for the admin account. The password can be any alphanumeric string to a maximum of 128 characters.

Networking Properties

Note: IVGM deployment supports DHCP in addition to static IP support.

- o Network 1 IP Address - Enter the IP address for this virtual machine. Copy the IP address for use when accessing the IVGM (see [Accessing InfoSphere VDP - Global Manager](#) on page 29).
- o Network 1 Netmask - Enter the subnet mask or prefix for this virtual machine.
- o Default Gateway - Enter the default gateway for this virtual machine.
- o DNS - Enter the domain name server for this virtual machine.

Click Next.

11. In the Ready to Complete window, review the deployment settings for the IVGM OVF template. If you need to make any changes, click Back and modify the settings. Optionally, click the Power on after deployment check box if you want to start the IVGM immediately after deployment completes. Once you are satisfied with the configuration, click Finish to begin the install.
12. The Deploying OVF Template message box opens listing the IVGM deployment status. The IVGM will reboot one additional time after deployment is completed to complete the configuration. If you had selected Power on after deployment, IVGM is fully powered on and ready for use. Otherwise manually power on IVGM. Copy the IP address for use when accessing the IVGM (see [Accessing InfoSphere VDP - Global Manager](#) on page 29).

Once deployment is complete, you can manually change the configuration to run IVGM with or without the Catalog feature. See [Configuring Resources](#) on page 25 for more information.
13. Click OK to close the Virtual Machine Properties page.
14. Power on IVGM with Catalog. Continue to launching IVGM in a web browser. See [Accessing InfoSphere VDP - Global Manager](#) on page 29 for more information.

Replacing a Previously Installed IVGM OVA

In case you need to replace a previously installed IVGM VM, follow the sequence outlined below prior to deploying and installing the new IVGM OVA. This procedure will help ensure a smooth installation and operational transition to the new IVGM VM:

1. Remove all managed VDP appliances from the existing IVGM through the Domain Manager service (see “Removing an Appliance from IVGM” in the IVGM Online Help System). Removing each VDP appliance from the IVGM server completely removes the management of the VDP appliance by IVGM. All resources associated with the managed VDP appliance will be removed from IVGM.
2. Power down and remove the existing IVGM VM from the VMware ESX server.
3. Deploy the new IVGM OVA file (see [Deploying and Installing the IVGM OVA](#) on page 12).

Note: *If you encounter issues during the deployment and installation of the new IVGM OVA, please contact your Support representative.*

4. After you successfully complete deploying the IVGM OVA file and launch IVGM, your next step will be to add all managed VDP appliances to IVGM through the Domain Manager service (see “Adding a VDP Appliance to IVGM” in the IVGM Online Help System).

As a deployment best practice, we recommend that you first import a baseline VDP appliance before adding the other VDP appliances to be managed by the new IVGM (see [Adding Appliances to an IVGM Deployment](#) on page 33). This IVGM and VDP appliance deployment best practice will import all SLA templates (and policies) and security objects (organizations, roles, users) from the VDP appliances to become IVGM-level objects. This object importing sequence includes SLA templates created in your original IVGM and had been pushed to the managed VDP appliances. These are SLA templates that were used to manage applications on the appliance.

4 Configuring Resources

This chapter details:

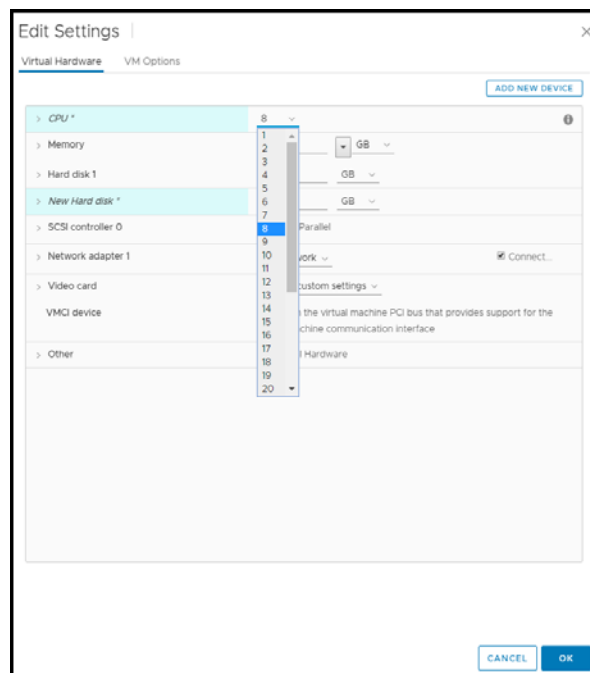
- [Adding Resources to Enable Catalog on page 25](#)
- [Removing Resources to Disable Catalog on page 26](#)
- [Adding Resources to Enable Report Manager on page 27](#)

Adding Resources to Enable Catalog

This procedure is helpful if you want the IVGM Catalog feature but during IVGM deployment the Catalog resources were not enabled. (The images in this section are from vSphere Client 6.7. The options you see may be slightly different depending on the version on vSphere Client you are using.)

After IVGM deployment is complete, but before it is powered up:

1. Select the IVGM VM and click Edit Virtual Machine Settings. The Virtual Machine Properties page opens.
2. Increase Memory size from 8GB to 20GB.
3. Increase virtual CPUs from 4 to 8.



4. From the Add New Device drop-down, select Hard Disk and click Add.
5. Configure the new hard disk for 250 GB of storage for the index store and click OK. The new disk is added.



The new disk gets added as Hard Disk 2.

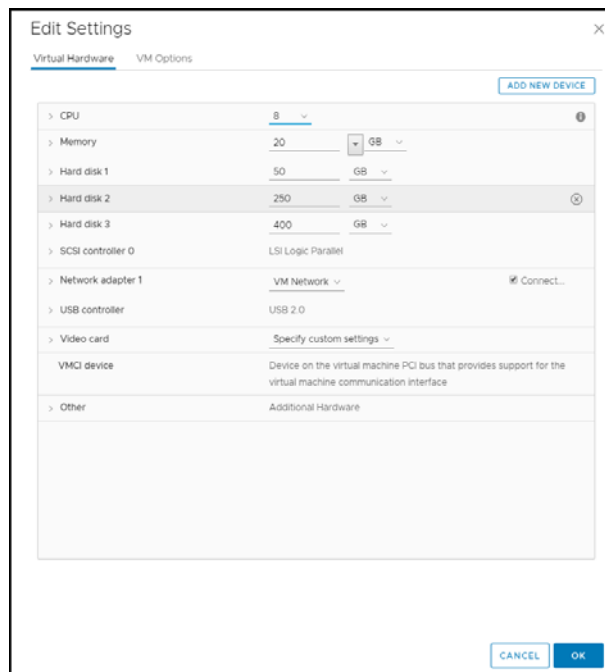
6. Similarly, add Hard Disk 3 with 400 GB of storage space for backup catalog data.
7. Click OK to close the Virtual Machine Properties page.
8. Power on IVGM with Catalog. Continue to launching IVGM in a web browser. See [Accessing InfoSphere VDP - Global Manager](#) on page 29 for more information.

Removing Resources to Disable Catalog

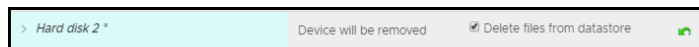
This procedure is helpful if you do not want the IVGM Catalog feature but during IVGM deployment the Catalog resources were enabled.

After IVGM deployment is complete and before it is powered up:

1. Select the IVGM VM and click Edit Virtual Machine Settings. The Virtual Machine Properties page opens.
2. Reduce Memory size from 20GB to 8GB.
3. Reduce virtual CPUs from 8 to 4.



4. Select Hard disk 2 and click Remove as shown in the image.
5. From removal options, select Delete files from disk.



6. Similarly, remove Hard disk 3.
7. Click OK to close the Virtual Machine Properties page.

8. Power on IVGM. Continue to launching IVGM in a web browser. See [Accessing InfoSphere VDP - Global Manager](#) on page 29 for more information.

Adding Resources to Enable Report Manager

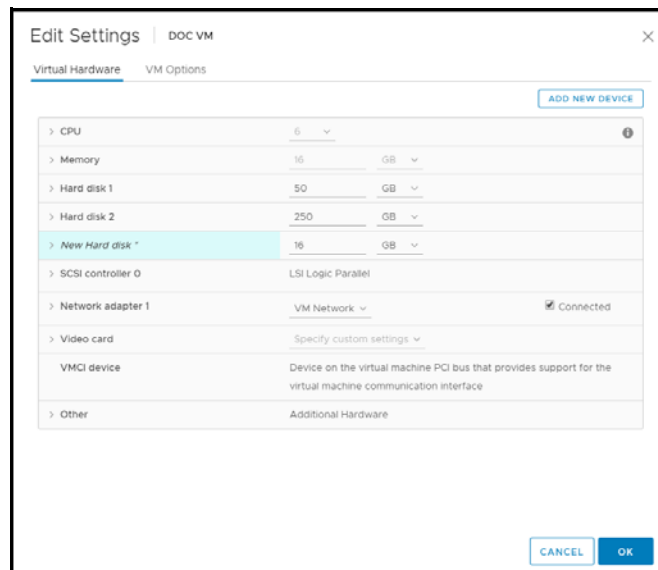
This section explains how to manually add resources to the IVGM VM to enable RM. Adding the resources may take a long time (over an hour). While the resources are getting added, IVGM will not be available for use.

Note: Do not remove the disk you will be adding for RM (step 6) under any circumstances. This will corrupt your IVGM database.

1. Verify that the IVGM VM is powered off.
2. Select the IVGM VM and click Edit Settings. The Edit Settings page opens.
3. Increase virtual CPUs:
 - o For IVGM Without Catalog, increase virtual CPUs from 4 to 6.
 - o For IVGM with Catalog, increase virtual CPUs from 8 to 10.
4. Increase Memory size:
 - o For IVGM Without Catalog, increase the Memory size from 8 GB to 16 GB.
 - o For IVGM With Catalog, increase the memory size from 20 GB to 28 GB.
5. From the Add New Device drop-down, select Hard Disk and click Add.
6. Configure the new hard disk for 250 GB and click OK. The new disk is added.

Note: Do not remove the disk; it will corrupt IVGM.

The following image shows an IVGM VM (without Catalog) and with RM resources added.



7. Click **OK** to close the Virtual Machine Properties page.
8. Power on IVGM with RM.

9. Continue launching IVGM and RM in a web browser. See [Accessing InfoSphere VDP - Global Manager](#) on page 29. After you launch IVGM, continue to launch RM in a web browser. For more information, see [Accessing Report Manager](#) on page 31.

5 Accessing InfoSphere VDP - Global Manager

After the IVGM is configured and powered up, you can launch IVGM in a web browser:

Note: You can find the IP address of the IVGM on the IVGM VM's Summary tab.

1. Open a browser and in the address space, enter the IP address of the IVGM VM:
https://<IVGM IP address>/



2. In the IVGM Login window, enter the login credentials you specified during deployment. If you did not specify anything, enter the default login credentials: USERNAME admin and PASSWORD password
3. Click Login.

Note: If you are using a Microsoft Internet Explorer browser to log in to IVGM and the Username and Password fields are disabled in the Login window, access the Compatibility View Settings dialog box (select **Tools > Compatibility View settings**) and ensure that the **Display intranet site in Compatibility View** check box is checked.

The IVGM application opens and prompts you to change your password as part of security enhancement.

4. Enter a new password of at least six (6) characters (it can be the same as your old password).
5. Click Save to save the new password. You are taken back to the login screen.
6. Enter your user name and new password.
7. Click Login. The IVGM application opens and shows the EULA.

8. Read the license agreement in its entirety, and click Agree.
You are prompted to add an appliance.

9. Click OK to open the Add Appliance page. Add the first appliance and subsequently add more appliances following guidelines [Adding Appliances to an IVGM Deployment](#) on page 33.
10. Click the ? in the upper right corner of the IVGM browser to launch the IVGM Online Help system. You can read up about the Dashboard, Domain Manager, SLA Architect, Application Manager, Catalog, System Monitor, and Upgrade services in the Help.
11. To logout of IVGM or to change users, click the active user listed at the top of IVGM and select Logout.

6 Accessing Report Manager

After you have launched IVGM in a web browser, launch RM.

Note: *RM uses the same IP address as IVGM.*

To access RM:

1. Open a browser and in the address space enter the IP address of the RM.
https://<IVGM IP address>/rm or **https://<IVGM IP address>/report**
2. Enter your IVGM user name and password.

Note: *IVGM users with Administrator role can perform administrative tasks in RM.*

3. Click Login.

7 Adding Appliances to an IVGM Deployment

Before you add appliances to IVGM, perform a business requirements analysis of the SLA templates (and policies), roles, organizations, and users created on each of the IBM InfoSphere appliances to be imported into IVGM. Consistency is critical to ensuring a centralized and consolidated set of imported policy and security objects from your IBM InfoSphere appliances into IVGM. This is especially important for SLA templates and policies, as well as for user roles, that have been defined in your individual appliances.

Ideally, the SLA templates and policies used by the appliances in your operating environment follow a consistent governance for SLA template and policy naming conventions along with the definition of policy attributes across each appliance. However, SLA templates in multiple IBM InfoSphere appliances may use the same name, but are configured differently. For example:

Two or more appliances can each have an SLA template named Tier 1. Upon closer inspection, there can be differences in the policies in each template. These inconsistencies will result in conflicts when you attempt to add those templates to the appliances into IVGM. You must resolve those differences before importing the IBM InfoSphere appliances.

Object conflicts during the import process typically occur under the following conditions:

- o SLA templates of the same name have a different number of policies and/or defined attributes between the appliance and IVGM.
- o Roles of the same name have differences in services and/or Access Control Level (ACL) rights between the appliance and IVGM.

Note: During IBM InfoSphere appliance importing, the mapping of LDAP groups will not be brought into IVGM. For example, if there is an LDAP group named “DNSUpdateProxy” on Appliance 1, after importing Appliance 1 to IVGM “DNSUpdateProxy” will not appear in IVGM.

After you import your IBM InfoSphere appliance(s) into IVGM, configure the LDAP server on IVGM and then recreate the missing mapped LDAP groups in IVGM. Be sure to assign the proper organizations and roles to them. For more information, go to the **IVGM Online Help System**, and read the “Configuring LDAP Settings” and “Mapping LDAP Groups to Roles and Organizations” topics.

Review the following planning topics to help you pro-actively address potential conflicts and ensure a smooth import of your IBM InfoSphere appliances and its associated policy and security objects:

- [Selecting the First IBM InfoSphere Appliance to Import](#) on page 34
- [Managing SLA Templates Prior to Importing](#) on page 35
- [Managing Roles](#) on page 35
- [Resource Conflict Resolution Tool](#) on page 37
- [Managing Organizations](#) on page 36

Selecting the First IBM InfoSphere Appliance to Import

Choose an appliance that is used in a production environment as the first appliance to add into IVGM. This will help establish a baseline for the templates, organizations, roles, and users imported into the IVGM database for addressing potential conflicts with subsequent appliances you add into IVGM.

The first IBM InfoSphere appliance that you plan to import into IVGM should contain policy and security objects (Templates, Organizations, Roles, and Users) with names and configurations that are most representative of the typical operating environment of your organization. The first appliance that you add into IVGM serves as the baseline appliance used by IVGM as the standard for comparison with all subsequent imported appliances for object consolidation.

For example, if you import an appliance that is used in a Test/Dev environment, the templates, organizations, roles, and users that are imported in IVGM may contain actual object names but may contain atypical configuration settings. When you attempt to import additional appliances that contain Templates, Organizations, Roles, or Users with the same names, this can result in object conflicts between IVGM and that appliance at the point of import.

Sharing Mode Options

When two IBM InfoSphere appliances are joined with Sharing Mode enabled and you are adding them to IVGM, you can:

Add Just the Primary Appliance

In this case, IVGM pushes templates only to the Primary appliance. The Primary appliance will then push templates to the Secondary appliance. IVGM will be able to manage applications on the Primary appliance, but not on the Secondary appliance. You must log on to the Secondary appliance to manage its applications. Sharing Mode maintains the Organizations and users defined between the Primary and Secondary appliances.

Add Both the Primary and Secondary Appliances

In this case, you **MUST** add the Primary appliance first.

After both appliances are added, updated templates can be pushed to both appliances. When the Primary receives an updated template it will push the updated template to the Secondary.

IVGM will be able to manage applications on both the Primary and Secondary appliances. Sharing Mode maintains the Organizations and users defined between the Primary and Secondary appliances.

Disable Sharing Mode Then Add Both Appliances

In this case, un-join the appliances, then join them again in non-sharing mode. Add the primary appliance first and then the secondary appliance of the pair.

After both appliances are added, templates can be pushed to both appliances. IVGM will be able to manage applications on both appliances. You may have to log in to what was the Secondary appliance and configure/reconfigure Organizations and users. Organizations and users on what was the Primary will remain intact.

Managing SLA Templates Prior to Importing

Check the SLA template naming conventions used on two or more appliances that you plan to import into IVGM. If multiple appliances contain SLA templates of the same name, but those templates contain either a different number of policies or different policy attributes, this will result in a conflict when you go to import those appliances.

Excluding the first appliance that you plan to import as the baseline appliance, you can attempt an initial clean-up of the other appliances in the following areas:

- Rename conflicting SLA templates.
- Modify a conflicting SLA template to either add the missing policies or remove the extra policies.
- Modify the attributes in the differing policy (or policies) in the conflicting SLA template to make them the same.

The Dry Run tool in IVGM identifies conflicts between the incoming appliance and what currently exists in IVGM during the import process (see [Resource Conflict Resolution Tool](#) on page 37).

Managing Roles

Check the roles (names and attributes) used on the appliances that you plan to import into IVGM. If you have multiple roles of the same name but those roles have differences in services and/or Access Control Level (ACL) rights, this will result in a conflict when you go to import those appliances.

Excluding the first IBM InfoSphere appliance that you plan to import as the baseline appliance, on the other appliances you can attempt a clean-up of the services and/or rights associated with the conflicting role(s) to make them the same.

You may encounter an instance when IVGM detects a conflict because of a missing role-right assignment on the appliance to be added yet the role-right assignments appear to be identical. In this case, if differences are detected in role-right assignments between the appliance and IVGM, delete the problematic role from IVGM and then retry adding the appliance to IVGM.

The Dry Run tool in IVGM identifies security conflicts between the in-coming appliance and what currently exists in IVGM during the import process (see [Resource Conflict Resolution Tool](#) on page 37).

Managing Organizations

When you add an IBM InfoSphere appliance to IVGM, the organizations from each appliance are imported to IVGM. Keep in mind that:

- An appliance's organizations are imported to IVGM when the appliance is added to IVGM.
- Existing organizations, new organizations, or changes to organizations in IVGM are not exported to appliances.
- When two or more appliances use the same name for an organization, then upon import to IVGM, a single organization is created that has all of the resources specified in the imported organizations.

For example, before appliances are added to IVGM:

Appliance1 has three organizations. Only the Public organization contains resources:

Organization: Private1
Organization: Private2
Organization: Public
 User Ken
 Host 172.10.111.11

Appliance2 has three organizations. Only the Public organization contains resources:

Organization: Administrators
Organization: Public
 User Bob
 Host 172.10.131.98
Organization: Test

IVGM has two organizations:

Organization: Finance
Organization: Marketing

After the two appliances are added to IVGM, both appliances keep their respective organizations. IVGM will import copies of each appliance's organizations as follows:

Organization: Administrators (From Appliance2)
Organization: Finance (Original to IVGM)
Organization: Marketing (Original to IVGM)
Organization: Private1 (From Appliance1)
Organization: Private2 (From Appliance1)
Organization: Public (From Appliance1 and Appliance2)
 User Ken (From Appliance1)
 User Bob (From Appliance2)
 Host 172.10.111.11 (From Appliance1)
 Host 172.10.131.98 (From Appliance2)

Organization: Test (From Appliance2)

The organization Public from both appliances is imported in to a single organization named Public. IVGM's Public organization contains the resources from the Public organizations from both appliances

Resource Conflict Resolution Tool

When you add a new VDP appliance, IVGM automatically runs the Dry Run Tool and performs a conflict analysis. This tool identifies conflicts between appliances currently managed by IVGM and an IBM InfoSphere appliance being imported.

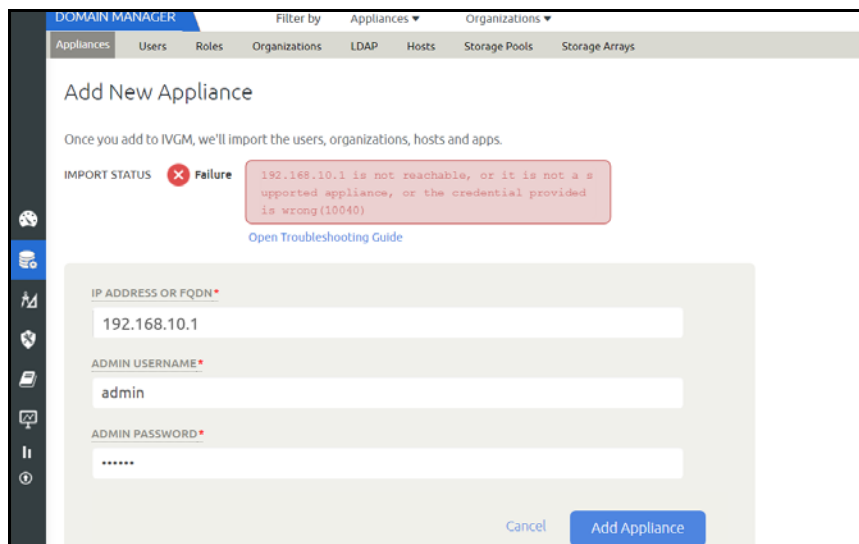
The Dry Run tool resolves resource conflicts as follows:

- SLA Templates—Templates go through a conflict-resolution process by IVGM.
- Organizations—Imported appliance-level organizations with the same name are merged with the IVGM-level organizations, and their IVGM-level objects (users and SLA templates) are associated with their respective IVGM objects.
- Users—Users that already exist in IVGM are ignored and are not imported from the appliance.
- Roles—Roles go through a conflict-resolution process by IVGM.

During the dry-run phase of the appliance import process a log is displayed that details all import actions and decisions. For example, in the following screen capture of a log:

- Policies are missing from the Standard and Enterprise templates found in the incoming appliance and IVGM.
- Specific rights are missing from the Basic role found in the incoming appliance and IVGM.

If you encounter a conflict during Dry Run, resolve each conflict on the appliance that is experiencing the issue.



For example, based on the identified conflict flagged during Dry Run for the appliance you wish to import into IVGM, you can:

- Rename conflicting SLA templates on the appliance.
- Modify a conflicting SLA template on the appliance to add the missing policies or remove the extra policies.
- Modify the attributes in the differing policy (or policies) in the conflicting SLA template on the appliance to make the attributes the same.
- Modify the services and/or rights associated with the conflicting role identified on the appliance to make the services and/or rights the same.

For details on the appliance import process, including import guidelines, recommendations, the step-by-step import process, and conflict troubleshooting, see the IVGM Online Help System, the “Importing Overview,” “Adding an Appliance to IVGM,” and “Troubleshooting Conflicts” topics.

8 Upgrading InfoSphere VDP - Global Manager

This chapter details the upgrade instructions for the InfoSphere VDP - Global Manager. It includes tIBM InfoSpherehe following topics:

- [Before You Begin](#) on page 39
- [Upgrading IVGM](#) on page 39

Note: During an upgrade there will be a period of time when IVGM synchronizes new data with the appliances. This may lead to incorrect values being shown on the IVGM Dashboard. We recommend that you wait for a period of one to two hours for the inconsistencies to resolve. If they persist even after that time, contact Support for help.

Before You Begin

Before you begin you must:

Take a Snapshot of the current IVGM VM

In the unlikely event that you encounter an issue while upgrading, a snap shot will allow you to revert back to the previous state of your IVGM VM.

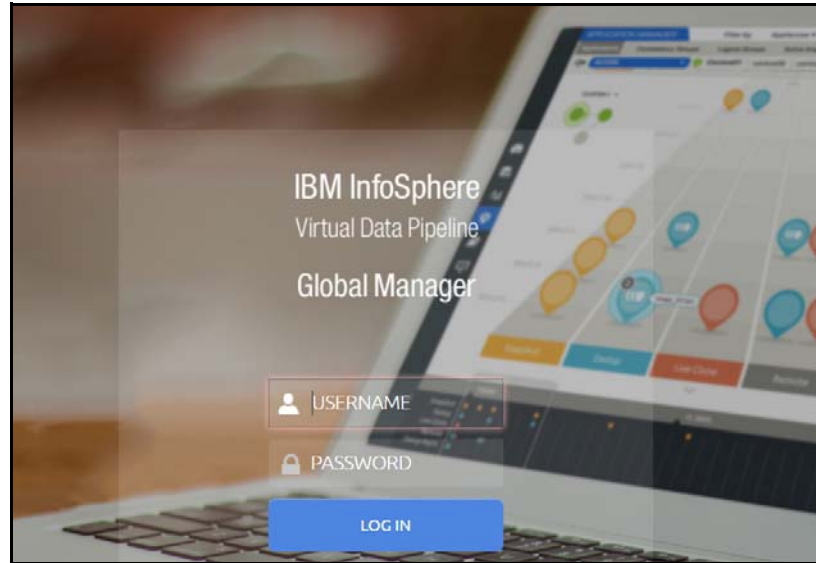
Obtain the IVGM.gpg upgrade file

Your IBM InfoSphere representative will provide you with the latest IVGM upgrade file. Place a copy of that file in a location that is easily accessible from the IVGM browser-based UI.

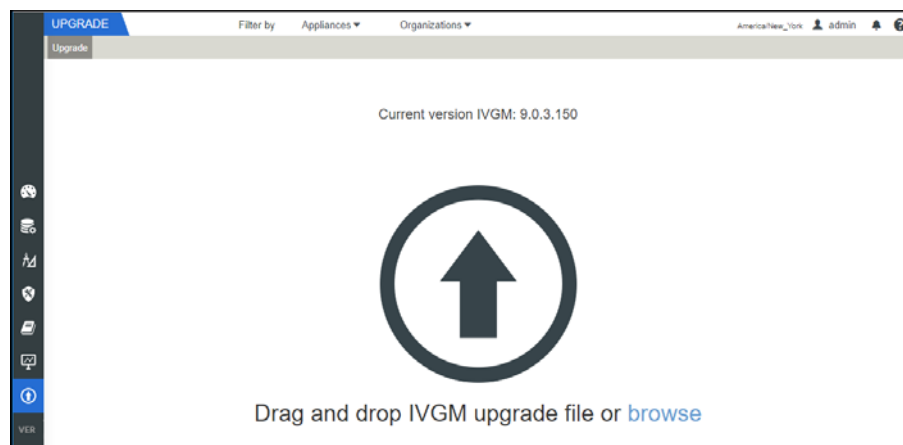
Upgrading IVGM

After reviewing the information outlined in [Before You Begin](#) on page 39, perform the IVGM software upgrade as follows:

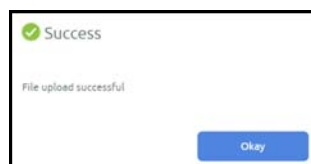
1. Open a browser, and in the address space enter the IP address of the IVGM VM:
https://<VM IP address>/
2. In the IVGM Login page, enter the username and password, then click Log In.



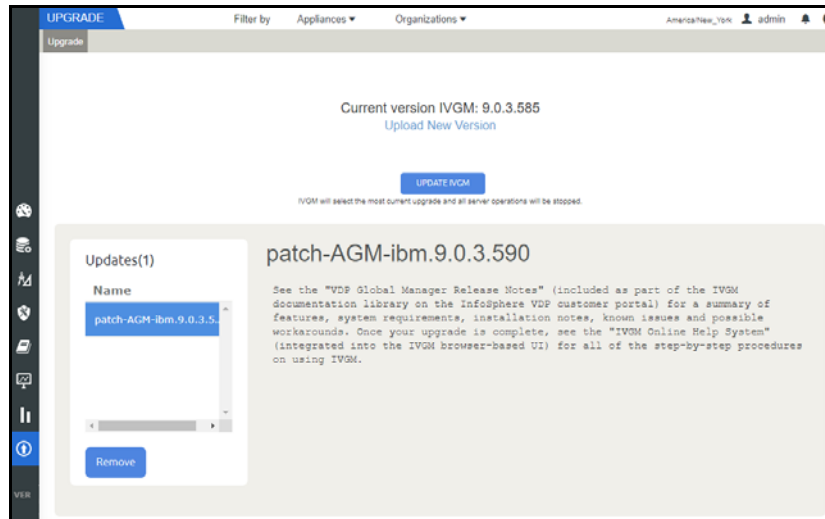
3. In the left-hand navigation, click the Upgrade icon. The Upgrade page opens.



4. From the Upgrade page, you can either:
 - o Browse to the location of the IVGM.gpg upgrade file and upload it into this window.
 - o Drag and drop the IVGM.gpg upgrade file into this window.
5. IVGM begins the upload process. A Progress bar shows the status of the upload. The file upload sequence undergoes three phases: file upload, file unpack, and file extraction.



6. When the file upload is complete and the upgrade image has been extracted, a Success dialog opens.
7. Click Okay and the Upgrade page opens.



8. From the Upgrade page, click Update IVGM to initiate the software upgrade sequence. IVGM will always select and install the latest upgrade software even if there are multiple upgrade versions listed in the Upgrade window.

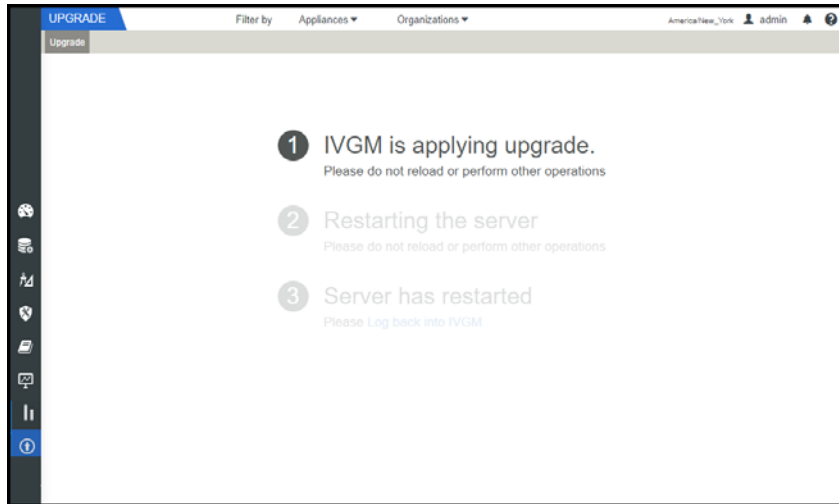
Note: If required, you can remove an older software upgrade version from IVGM. IVGM will automatically select the first item in the Updates listing on the left side of the window. Select the version you want to delete and then click **Remove**. You cannot select multiple upgrades for deletion.

The Update confirmation dialog opens.



9. Click Update IVGM again to confirm that you want to upgrade the IVGM software.
10. The software upgrade process begins and the IVGM Upgrade page displays its progress.

Note: If you encounter issues during the upgrade, contact your Support representative for assistance.



11. After the software upgrade is completed, log back into the IVGM UI and confirm that the upgrade was successful. Click Okay to resume operation of all IVGM activities.

Note: *If you encounter issues when attempting to log in, contact your Support representative.*

