


# Disk and Container Formats

[⏪ \(statuses.html\)](#) | [⏩ \(common-image-properties.html\)](#) |  (https://bugs.launchpad.net/glance/+filebug?field.title=Disk%20and%20Container%20Formats%20in%20glance&field.comment=%0A%0A%0AThis bug tracker is for errors with the documentation, use the following as a template and remove or add fields as you see fit. Convert [ ] into [x] to check boxes:%0A%0A- [ ] This doc is inaccurate in this way: \_\_\_\_%0A- [ ] This is a doc addition request.%0A- [ ] I have a fix to the document that I can paste below including example: input and output. %0A%0AIf you have a troubleshooting or support issue, use the following resources:%0A%0A - Ask OpenStack: http://ask.openstack.org%0A - The mailing list: http://lists.openstack.org%0A - IRC: 'openstack' channel on Freenode%0A%0A-----%0ARelease:%2016.0.1.dev1%20on%20Thu%20Mar%201%2007:26:57%202018,%20commit%20968f4ae%0ASHA:%20968f4ae9ce244d9372cb3e8f45acea9d557f317d%0ASource:https://docs.openstack.org/glance/queens/user/formats.html&field.tags=)

UPDATED: 'THU MAR 1 07:26:57 2018, COMMIT 968F4AE'

When adding an image to Glance, you must specify what the virtual machine image's *disk format* and *container format* are. Disk and container formats are configurable on a per-deployment basis. This document intends to establish a global convention for what specific values of *disk\_format* and *container\_format* mean.

## Disk Format

The disk format of a virtual machine image is the format of the underlying disk image. Virtual appliance vendors have different formats for laying out the information contained in a virtual machine disk image.

You can set your image's disk format to one of the following:

- **raw**  
This is an unstructured disk image format
- **vhd**  
This is the VHD disk format, a common disk format used by virtual machine monitors from VMware, Xen, Microsoft, VirtualBox, and others
- **vhdx**  
This is the VHDX disk format, an enhanced version of the vhd format which supports larger disk sizes among other features.
- **vmdk**  
Another common disk format supported by many common virtual machine monitors
- **vdi**  
A disk format supported by VirtualBox virtual machine monitor and the QEMU emulator
- **iso**  
An archive format for the data contents of an optical disc (e.g. CDROM).
- **ploop**  
A disk format supported and used by Virtuozzo to run OS Containers
- **qcow2**  
A disk format supported by the QEMU emulator that can expand dynamically and supports Copy on Write
- **aki**  
This indicates what is stored in Glance is an Amazon kernel image
- **ari**  
This indicates what is stored in Glance is an Amazon ramdisk image
- **ami**  
This indicates what is stored in Glance is an Amazon machine image

## Container Format

The container format refers to whether the virtual machine image is in a file format that also contains metadata about the actual virtual machine.

Note that the container format string is not currently used by Glance or other OpenStack components, so it is safe to simply specify **bare** as the container format if you are unsure.

You can set your image's container format to one of the following:

- **bare**  
This indicates there is no container or metadata envelope for the image
- **ovf**  
This is the OVF container format
- **aki**  
This indicates what is stored in Glance is an Amazon kernel image
- **ari**

