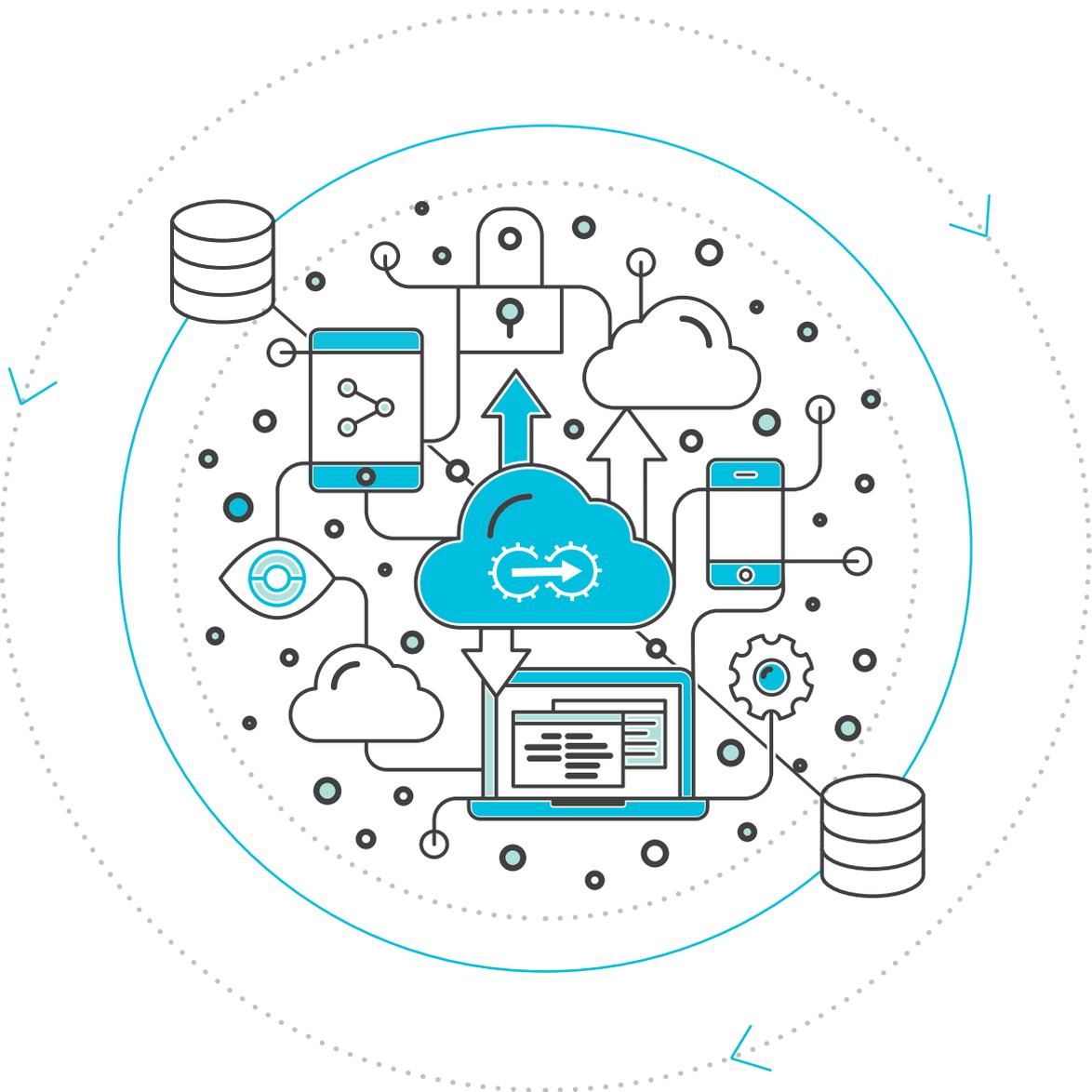


# Image Migration Technologies, Tools, and Processes in **Application Migration Design**



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# 01 Introduction to Image Migration

## 1.1 Overview

**Cloud storage** is a service model that maintains, manages, remotely backs up, and makes available **data** to users over a network (typically the Internet). Users pay for their **cloud data storage** on a monthly per-consumption rate. While the migration to the cloud may cost more in the beginning, the adopted model offers freedom from downtime and unlimited scalability.

The first stage of cloud-based storage includes the migration of images to the cloud. One possibility is to migrate your existing image repository to the cloud and then proceed by uploading new batches while updating your application.

The other option requires you to maintain your images at the current locations and employ dynamic fetch URLs to procure these images on-demand and package them to deliver the optimized applications to your valued visitors.

This whitepaper explores the concept of image migration in depth. It throws light on how organizations can adopt image migration seamlessly into their workflow, and also analyzes image migration challenges along with the best practices and service features.

Image migration constitutes "mirroring" the operating system, applications, and data available on the source host to a virtual disk file and uploading it to the image center as a user-defined image of the uploader. This image enables the Elastic Compute Service (ECS) host instance to start an identical instance to the source host, thus achieving the purpose of application migration to the cloud.

The following table depicts the comparison analysis between image migration and manual re-deployment technologies

Migration Technology Type	Implementation Means	Advantages	Disadvantages
Manual re-deployment for migration	Consistent deployment approaches with physical hosts	Versatile	Low efficiency, complicated operations, requiring more human intervention
Image migration – cold migration	Images are directly migrated to the server host using tools, with the data consistency not guaranteed	Simple, efficient, and high rate of success	Scope of application is limited

Image migration – Hot migration (not supported by Alibaba Cloud)	Deploy to the migrated service host using image migration tools or migrated in a remote connection. Possible to maintain real-time data synchronization during the migration process.	Simple, efficient, and with no business interruptions	Scope of application is limited
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## 1.2 Challenges

Despite the fact that image migration to the cloud comes with several promises, it is not as straight-forward as it sounds. Image migration, though, facilitates collaboration, increases the accessibility of information, enhances security, and simplifies the process of integration. However, its implementation can dissuade organizations from executing it. It is a complex process and organizations undergoing image migration encounter many challenges.

Cloud interoperability goes beyond application programming interfaces and virtual machine image format conversion protocols. It involves moving your applications and assets from private to public clouds or vice versa. Therefore, it is important to choose a cloud solution provider that not only provides appropriate tools but likewise boosts communication between on-site applications and the regional data center.

Image migration isolates the application and its underlying infrastructure to give access to the virtual machine. This process disengages the applications from the customer environment and adds a layer of protection from the glitches at the end of vendor infrastructure. In such a case, the customer need not make any modifications at their end.

## 02 Alibaba Cloud Image Migration Solutions

Alibaba Cloud brings a comprehensive image migration solution that allows you to combine dynamic image fetching benefits from current online locations along with updating new images directly to the cloud. This method makes it possible to perform lazy migration to the cloud as well as other powerful origin pulling options. You can import your physical image files to the ECS environment and create a custom image. You can then use this image to create ECS instances. Alternatively, you will need to open a ticket first to apply for ECS image import permission. After the permission is granted, the **"Import Image"** button will appear.

ECS is a highly flexible solution. It is extremely reliable when used independently as a simple web server or with other Alibaba Cloud products, such as Object Storage Service (OSS) and Content Delivery Network (CDN), to provide advanced solutions.

### 2.1 Migration Uses

Image migration with ECS is compatible with various applications such as:



#### Official Corporate Websites and Simple Web Applications

In the initial stage, corporate websites usually have lower traffic volumes and require low-configuration ECS instances to run applications, databases, storage files, and other resources. As your business expands, you can upgrade the ECS configuration and increase the number of ECS instances at any given time. This is achievable by creating an image of the ECS server and then launching another ECS server with that image with high configurations so that the new server can take on high load. You would also no longer need to worry about insufficient resources during peak traffic.



#### Databases

One can use a high-configuration input/output (I/O)-optimized ECS instance with an SSD cloud disk to support high I/O concurrency with higher data reliability. Alternatively, you can use multiple lower-configuration I/O-optimized ECS instances with Server Load Balancer to deliver highly available architecture. In addition, you can create images of the disk so that data is recoverable and always available for use by attaching the disk to the ECS server.

## 2.2 Migration Scenarios

The following list outlines the main demand scenario sources for Alibaba Cloud image migration:

- Migration from a physical host in the offline internal data center (IDC) to Alibaba Cloud ECS host instances
- Migration from a virtual host on the traditional virtualization platform to Alibaba Cloud ECS host instances
- Migration from virtual host instances in other public clouds to Alibaba Cloud ECS host instances
- Migration between Alibaba Cloud ECS host instances in various regions and Virtual Private Clouds (VPCs)

## 2.3 Migration Types

Based on the migration type, the following are possible sub-categories of the migration of images to Alibaba Cloud:



### P2V Migration

P2V stands for “physical to virtual.” It refers to the migration of the operating system on the physical server, its application software, and data to the ECS server managed by the Alibaba Cloud platform. This migration approach employs tools and software to “mirror” the system status and data on the physical server to a virtual disk file. When Alibaba Cloud starts the virtual disk file, it “injects” storage hardware and NIC driver programs to start and run it.



### V2V Migration

V2V, short for “virtual to virtual,” refers to the migration of virtual hosts on other cloud platforms, or virtualization platforms, to the ECS virtual hosts on Alibaba Cloud. Examples of these would include migration from other cloud platforms like VMware or Amazon Web Services (AWS) to Alibaba Cloud.

## 03 Image Migration Feasibility Evaluation

When considering data migration to a public cloud platform, it is necessary to evaluate which workload will be a good fit. With cloud migration becoming popular among enterprises, it is important to choose a solution that is dynamic, agile, developed in-house with continuous integration, and can effectively accommodate downtime and errors.

Certain limitations can hinder migration to Alibaba Cloud, be it P2V or V2V. It is imperative to evaluate the migrated server host and mirror migration tools when selecting an image for migration. The list below addresses certain points of consideration while undertaking image migration:

- The migrated server host operating system type, file system type, and server space used
- The image migration tool supports the exported virtual disk image file format
- Compatibility requirements and restrictions

### 3.1 Operating System of the Migrated Server Host



#### Windows (32 and 64-bit)

- Microsoft Windows Server 2012 R2 (standard edition)
- Microsoft Windows Server 2012 (standard edition, data center edition)
- Microsoft Windows Server 2008 R2 (standard edition, data center edition, enterprise edition)
- Microsoft Windows Server 2008 (standard edition, data center edition, enterprise edition)
- Microsoft Windows Server 2003 R2 (standard edition, data center edition, enterprise edition)
- Win7 professional edition and enterprise edition
- Does not support Windows XP, Windows 8, and Windows 10



## Linux (64-bit)

- Red Hat Enterprise Linux (RHEL) 5, 6, 7
- CentOS 5, 6, 7
- Ubuntu 10, 12, 13, 14
- Debian 6, 7
- OpenSUSE 13.1
- SUSE Linux 10, 11, 12
- CoreOS 681.2.0+

### 3.2 The File System Type of the Migrated Server Host

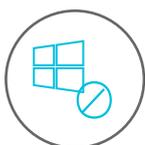
Currently, the Windows operating system supports the New Technology File System (NTFS) type, and the Linux operating system supports the ext3 and ext4 file system types.

### 3.3 Disk and Space Usage of the Migrated Server

The migrated server supports only system disk migration when the migration takes place from a traditional IDC, a traditional virtualization platform, or other cloud platforms. Further, the system disk size cannot exceed 500 GB.

If Alibaba Cloud hosts the migrated server, and one needs to migrate it to a different region or VPC, you can simultaneously migrate the system disk and data disk. However, the system disk size cannot exceed 500 GB.

### 3.4 Compatibility Requirements and Restrictions



## Windows Restrictions

- Imported Windows images must provide Windows activation service.
- A closed firewall. Without a closed firewall, remote login is not possible and Port 3389 must be open.
- Closed User Account Control (UAC).



## Linux Restrictions

- Unsupported enabling of SELinux.
- A closed firewall. The default is an open Port 22.
- Close or delete the Network Manager.
- The imported Red Hat Enterprise Linux (RHEL) image must have a BYOL license.
- You must buy your own product serial numbers and services from the manufacturer.
- Close or delete the Network Manager.



## Other Restrictions

- Unsupported multiple network interfaces
- Unsupported IPv6 addresses

## 3.5 The Exported Virtual Disk Image File Formats

Alibaba Cloud only supports RAW and Virtual Hard Disk (VHD) formats for uploaded image files. If the image file is in another format, you need to convert the format using an image file format conversion tool.

## 04 Alibaba Image Migration Tools

Currently, the image migration process primarily utilizes image production tools and image file format conversion tools. The image production tool serves to transform the operating system, applications, and data on the migrated server host into an image file. Since different virtualized platforms support different image files or virtual disk file formats, you should use the image format conversion tool to convert the image file format for adaption to various virtualization platforms.

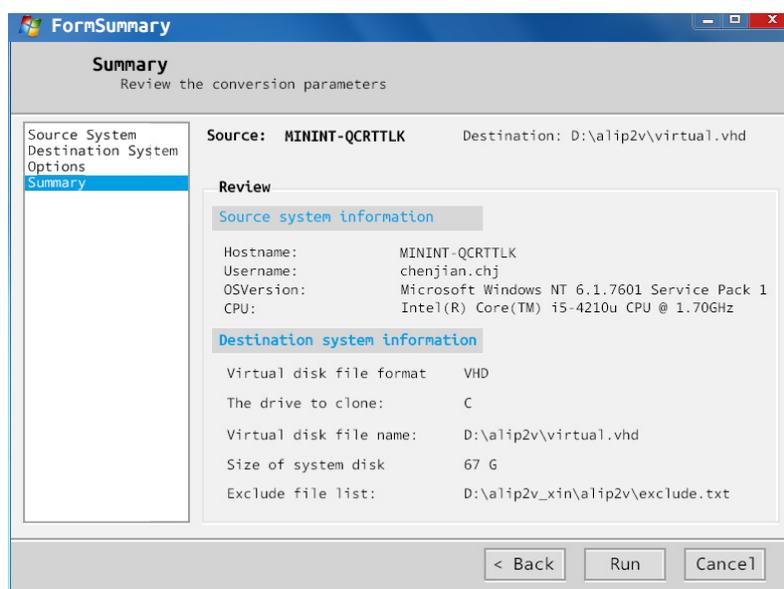
The commonly used tools for image migration to Alibaba Cloud include Alip2v, Disk2VHD, DD, and other image file creation tools. In addition, there are several image format conversion tools such as XenConvert, StarWindConverter, and qemu-img. Often, users use these tools in conjunction with each other.

Let us examine them in detail.

### 4.1 Alip2v

The Alip2v tool is an erstwhile image migration tool developed by Alibaba Cloud. The tool mainly acts on the production of image files. It converts the Windows system of the local physical machine or virtual machine into a VHD image file and enables the migration of the server host to Alibaba Cloud. However, presently, Alibaba Cloud is in the process of developing a new image migration tool capable of solving the biggest problem for current image migration - the absence of support for data disk migration.

Download Alip2v for Windows: <http://publicread081.oss-cn-hangzhou.aliyuncs.com/alip2v.zip>

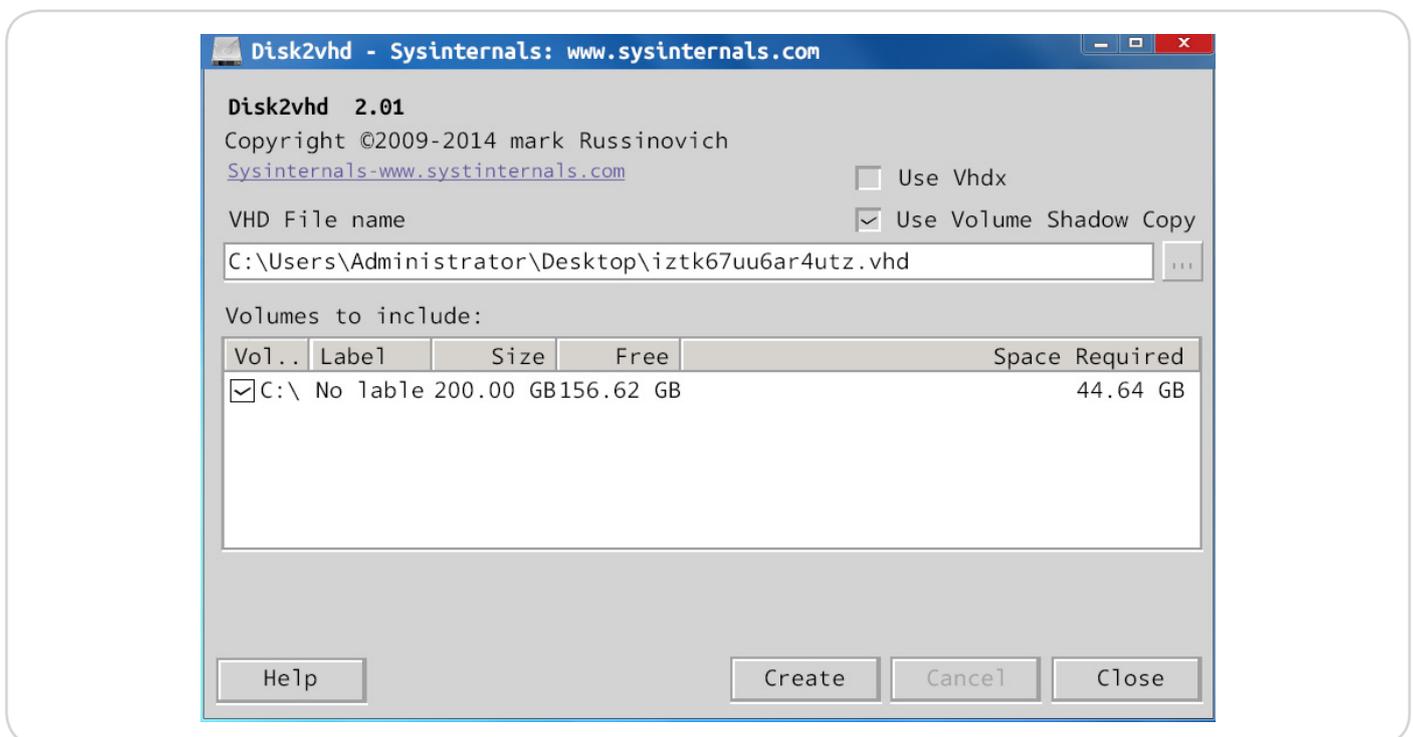


Download Alip2v for Linux: <http://publicread081.oss-cn-hangzhou.aliyuncs.com/p2v>

## 4.2 Disk2VHD

Disk2VHD is a helpful utility tool that converts a logical disk into a vhd-format virtual disk. With this tool, we can easily convert the Drive C in the current Windows system into a VHD file and upload it to Alibaba Cloud. Disk2VHD can run on Windows XP SP2, Windows Server 2003 SP1, or the Windows systems thereafter, and supports 64-bit systems.

Download Disk2VHD: <http://publicread081.oss-cn-hangzhou.aliyuncs.com/Disk2vhd.zip>



## 4.3 Linux DD Command Tool

DD is a data copy command in Linux. Through DD, we can mirror the system disk housing the Linux and partitions into a RAW format file. This feature of Linux DD enables us to use DD to make an image file.

## 4.4 XenConvert Image Format Converter

XenConvert is a tool for implementing P2V conversions. Additionally, this tool provides image format conversion capabilities, including converting Virtual Machine Disk (VMDK) format to VHD format.

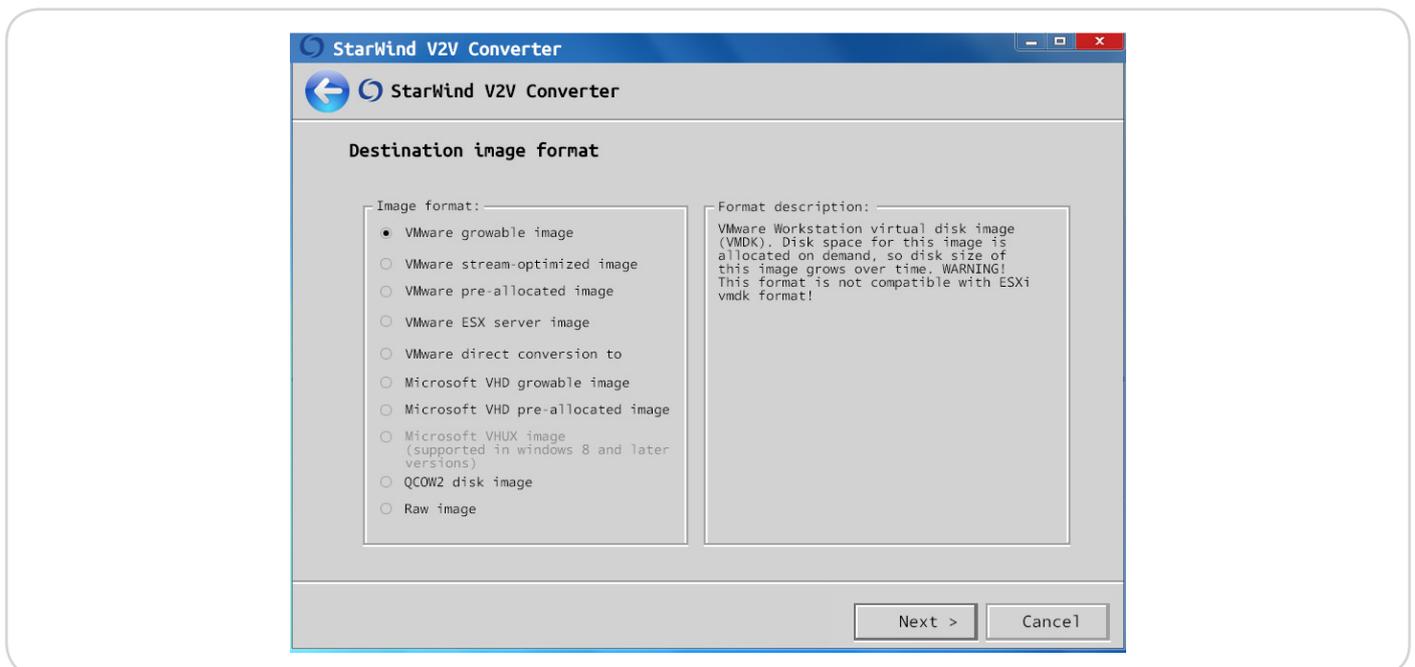
Download XenConvert: [http://publicread081.oss-cn-hangzhou.aliyuncs.com/XenConvert\\_Install\\_x64.exe](http://publicread081.oss-cn-hangzhou.aliyuncs.com/XenConvert_Install_x64.exe)



## 4.5 StarWind Converter

StarWind Converter is a format conversion tool that enables conversions from VMDK to VHD, or from VHD to VMDK, or to the IMG format native in StarWind.

Download StarWind Converter: <http://publicread081.oss-cn-hangzhou.aliyuncs.com/starwindconverter.exe>



## 4.6 Qemu-img

Qemu-img is QEMU's disk management tool and is a relatively important tool during the use of QEMU/KVM. The convert option of the qemu-img command tool supports conversions of a variety of image file formats, mainly including Qcow, Qcow2, VHD, RAW, and VMDK.

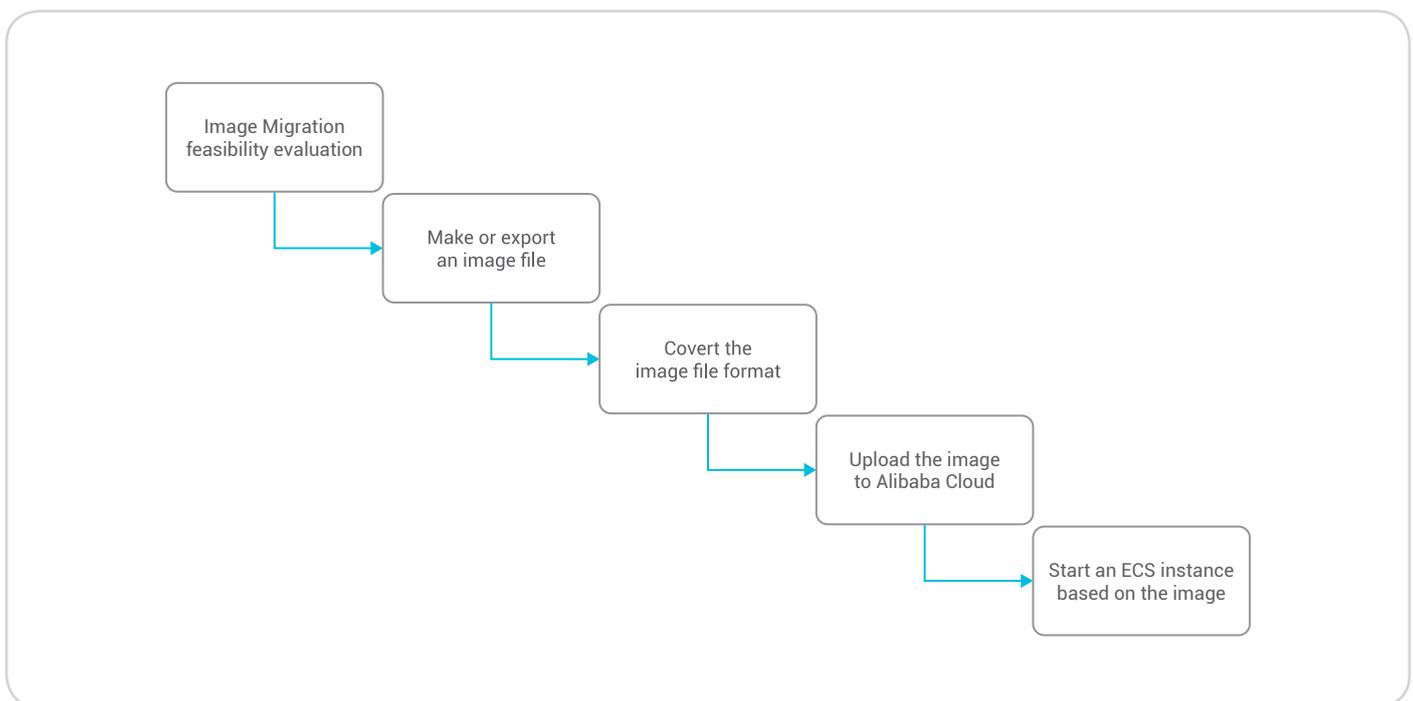
For example, the VMDK to VHD command is as follows:

```
qemu-img convert -f vmdk -O vpc vmware_img.vmdk aliyun_img.vhd
```



## 05 Implementation Process and Practices of Migrating Images to Alibaba Cloud

The following diagram illustrates the different stages of the implementation process of image migration.



Let us explore these steps in detail.

### 5.1 Image Migration Feasibility Evaluation

Before selecting an image for migration, we need to investigate the details of the migrated server host. It is important to evaluate its feasibility according to the requirements and constraints described in the image migration feasibility evaluation section. Along with that, we need to check whether the migration process requires the image migration approach. This process will help investigate the compatibility between the image and migrated server host.

If the number and scale of the migrated server hosts are huge, and most of them have system disks and poor network conditions, it is not advisable to use the image migration mode. The image file is often relatively large. The adoption of image migration under this condition will prolong the migration cycle and increase human power costs to the contrary.

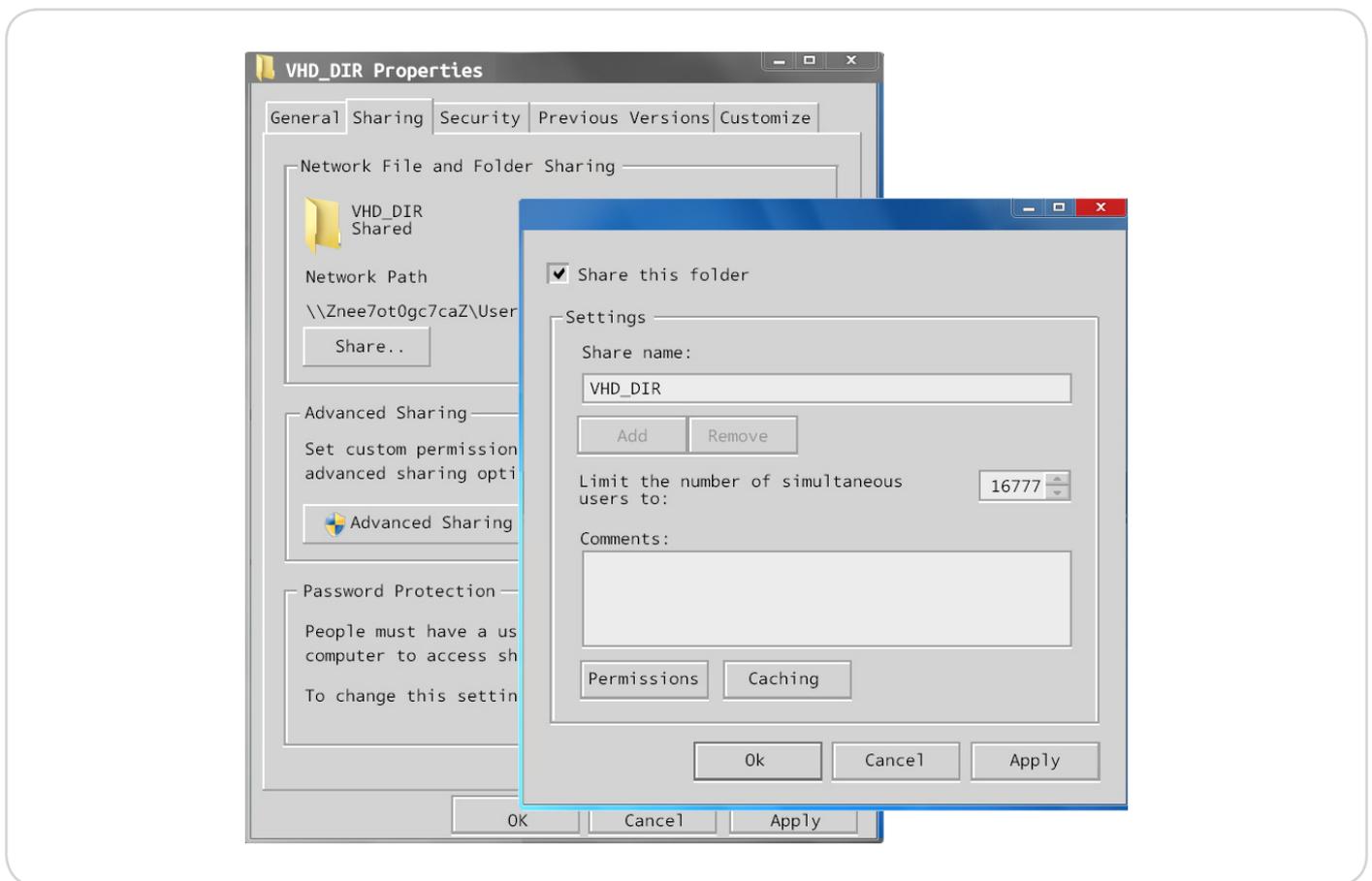
If the application configuration in the migrated server host is relatively complicated and without maintenance, but the network conditions are fine, we recommend image migration mode. Although image migration does not support data disks, you can first migrate the system disk image to Alibaba Cloud, and then synchronize the data in those data disks through file synchronization to the Alibaba Cloud data disks.

However, it is necessary to make certain preparations before undertaking image migration.

- **Prepare public directories for storing image files**

**Windows:**

Through creating image files for system disks in a Windows operating system using the Alip2v or DISK2VHD tool, we can input a public directory address as the image file storage address. This includes the shared directory of a Windows system, with large space capacity.



Then we can input the network path as the image file storage address of Alip2v or DISK2VHD, such as `\\iZtk67uu6ar4utZ\VHD_DIR`. You can write the image file to the shared directory for unified management.

**Linux:**

The following is the method of preparing directories for creating image files for system disks in a Linux operating system, using the Alip2v or DISK2VHD tool. We can set the output path to shared directories mounted with NFS to output the image files to the shared directories in a unified way (we often deploy the shared directory to the image file format conversion tool platform).

Below is an example of establishing an NFS environment:

**1. Example environment**

Shared directory server:CentOS6.5 192.168.0.10

Migrated server: CentOS6.5 192.168.0.11

**2. Install and configure the shared directory server**

1) First use the rpm-qa command to confirm installation of the see whether the required installation package (nfs-utils, rpcbind):

```
1 [root@local /]# rpm -qa | grep "rpcbind"
```

```
2 rpcbind-0.2.0-11.el6.x86_64
```

```
3 [root@local /]# rpm -qa | grep "nfs"
```

```
4 nfs-utils-1.2.3-39.el6.x86_64
```

```
5 nfs4-acl-tools-0.3.3-6.el6.x86_64
```

```
6 nfs-utils-lib-1.1.5-6.el6.x86_64
```

2) If the query result is as above, it indicates that the server itself has installed NFS. Otherwise, you can run the yum command to install NFS:

```
1 [root@local /]# yum -y install nfs-utils rpcbind
```

3) Create the shared directory:

```
1 [root@local /]# mkdir /sharestore
```

4) NFS shared file path configuration:

Edit /etc/exports to add the following line. Save the edits and then exit.

```
1 [root@local /]# vi /etc/exports
```

```
2 /sharestore *(rw,sync,no_root_squash)
```

5) Start the NFS service (first start rpcbind, and then start nfs. If the server itself has installed NFS, you can run the restart command to restart the two services):

```
1 [root@local /]# service rpcbind start
2 Starting rpcbind:                [ OK ]
3 [root@local /]# service nfs start
4 Starting NFS services:          [ OK ]
5 Starting NFS quotas:           [ OK ]
6 Starting NFS mountd:           [ OK ]
7 Stopping RPC idmapd:           [ OK ]
8 Starting RPC idmapd:           [ OK ]
9 Starting NFS daemon:           [ OK ]
1 [root@local /]#
```

6) Set NFS to automatically start on startup:

```
1 [root@local /]# chkconfig rpcbind on
2 [root@local /]# chkconfig nfs on
3 Configure mounting policies for the migrated server:
  1) Create a mount point:
1 [root@localhost ~]# mkdir /mnt/store
  2) Mount:
1 [root@localhost ~]# mount -t nfs 192.168.0.10:/sharestore /mnt/store
```

- **Prepare the tools and platforms for image file format conversion**

The establishment of an image file format conversion platform mainly involves the installation of the image format conversion tool. The disk space of the platform should have a large capacity to save the image file for uniform storage and their management. The specific capacity space depends on the size of the migration image. Installation of the OSS tool should occur on the format conversion platform. After the format conversion of the image file is complete, you can upload the file to the Alibaba Cloud OSS under the specific account of the user.

You can install the XenConvert or StarWindConverter tool for the Windows operating system as a basic tool for the image file format conversion platform.

It is recommended to install the qemu-img tool in the Linux operating system as a basic tool for the image file format conversion platform.

- **Check and preparations of the operating system before image export**

Follow the instructions below to close the firewall and UAC and enable remote desktop on a **Windows** system:

1. **To close the firewall:** Start - Control Panel - Windows Firewall – Open and Close Firewall, select the option to close the firewall
2. **To close UAC (User Account Control):** Start - Run - Input MSCONFIG to open System Configuration - Tools tab - Change UAC Settings - set it to the minimum level – reboot the system to make the settings take effect
3. **To enable remote desktop:** Start - Computer - Properties - Remote Settings – enable the remote desktop

Close the firewall, SELinux, and Network Manager for your **Linux** system by following the steps below:

1. **To close the firewall:** Run the command `chkconfig iptables off`, and the settings will take effect after restarting the system.
2. **To close SELinux:** Modify the `SELINUX = ""` in the `/etc/selinux/config` file to "disabled", and the settings will take effect after the system is restarted.
3. Close or delete the Network Manager.
4. Remove the "mount" configuration in the `/etc/fstab` file.

## 5.2 Make or Export an Image File

For Windows physical server hosts in the traditional IDCs or Windows server hosts on other cloud platforms, we use the Alip2v or DISK2VHD tools to make the image file for Windows Drive C. Both tools are very simple, with similar usage styles and steps.

For Linux physical server hosts in the traditional IDCs, or Linux server hosts on other cloud platforms, we use the Alip2v or DD tools to export the Linux system disk. Both tools export RAW-format image files. RAW files are usually huge (as big as the system disk size) and a user can directly upload them to the Alibaba Cloud for use. However, it is not recommended. You can use qemu-img to convert these files to the VHD format for uploading, to save network transmission duration.

## 5.3 Convert Image Formats

Specific cloud platforms can export image files, and the file format is primarily VHD. Such capability can save us from performing the steps for image production and format conversion.

Migration from the VMware type of virtual hosts on a traditional virtual platform does not require image production. Currently, the underlying virtual disk file of VMware virtual hosts is in VMDK format. We need to copy the VMDK file in the ESX Server to the image format conversion platform for direct conversion.

It allows you to deploy the Xenconvert or StarWindConverter tool in the Windows system for format conversion.

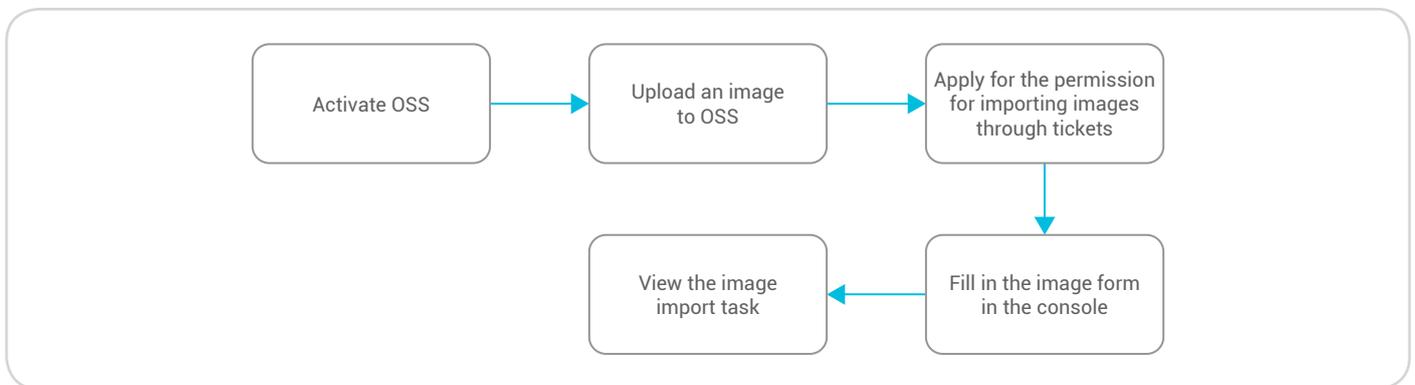
The image format conversion phase mainly involves the conversion of VMDK to VHD or RAW to VHD.

### Notes:

When creating the virtual disk vmdk file of VMware, you can choose to use the split approach. The approach will lead to N virtual disk files for one virtual machine. XenConvert allows only one entry for conversion into the VHD format, so you need to use vmware-vdiskmanager.exe to merge multiple virtual disk vmdk files into one vmdk file.

## 06 Upload and Set an Image File as a User-defined Image

We need to upload the image exported or produced off the cloud to the image center of the Alibaba Cloud. The upload process requires OSS service. If the Alibaba Cloud account user has not activated the OSS service yet, you will first have to activate it. You can use the OSS third-party tool client, OSS application program interface (API), or OSS software development kit (SDK) to upload and import the ready file to the bucket in the same region of the user-defined image of the ECS user.



Once uploading the image to OSS is complete, you can authorize the ECS to import the image through a ticket within the Alibaba Cloud console. After that, initiate authorization of the OSS access permission to the ECS official service account.

**Image Import Procedures:**

1. First, you must do the following [Activate OSS](#)
2. Upload the image file to the bucket in the same region where the image is to be imported.
3. Please make sure you have already authorized the official ECS service account to access your OSS [Confirm Address](#)
4. Before importing image, please check [matters need attention](#)

**ECS** You must request permission to access your cloud resources.

The system has created roles for the following user. These roles can be found below. ECS. After authorization, ECS will have access to your cloud resources.

<p><b>AliyunECSImageImportDefaultRole</b></p> <p>Description: The ECS service will use this role to import image file.</p> <p>Permission Description: Provides ECS Service image importing authorization, including read permissions for OSS.</p>	✓
<p><b>AliyunECSImageExportDefaultRole</b></p> <p>Description: The ECS service will use this role to export image file.</p> <p>Permission Description: Provides ECS Service image exporting authorization, including read/write permissions for OSS.</p>	✓

Once the authorization is complete, go to the Alibaba Cloud [ECS console](#) to import the image. Before executing the import process, you need to fill in the information form of the imported image. During this process, ensure that the image information is correct.

**Image Import Procedures:**

1. First, you must do the following [Activate OSS](#)
2. Upload the image file to the bucket in the same region where the image is to be imported.
3. Please make sure you have already authorized the official ECS service account to access your [OSSConfirm Address](#)
4. Before importing image, please check [matters need attention](#)

\* Region of Image:

\* OSS Object Address:  [How to get the address of OSS files](#)

\* Image Name:

\* Operating System:

\* System Disk Size (GB):   
40 GB—500 GB for Windows; 40 GB—500 GB for Linux.

\* System Architecture:

\* System Platform:

\* Image Format:

Image Description:

Add Data Image

Find the imported image through the task manager. This process often takes several hours to complete. The import's duration usually depends on the size of the image file and the current import workload. You can view the image progress in the image list of the import region.

## 6.1 Start an ECS Instance Based on the Image

Once you have successfully imported the image to Alibaba Cloud, you can go to the Alibaba Cloud ECS console to create an instance based on the uploaded image. You should choose a user-defined image when selecting an image source. You can view the imported image in the user-defined image list.



After the startup, check your ECS instance for details respectively for Windows and Linux.

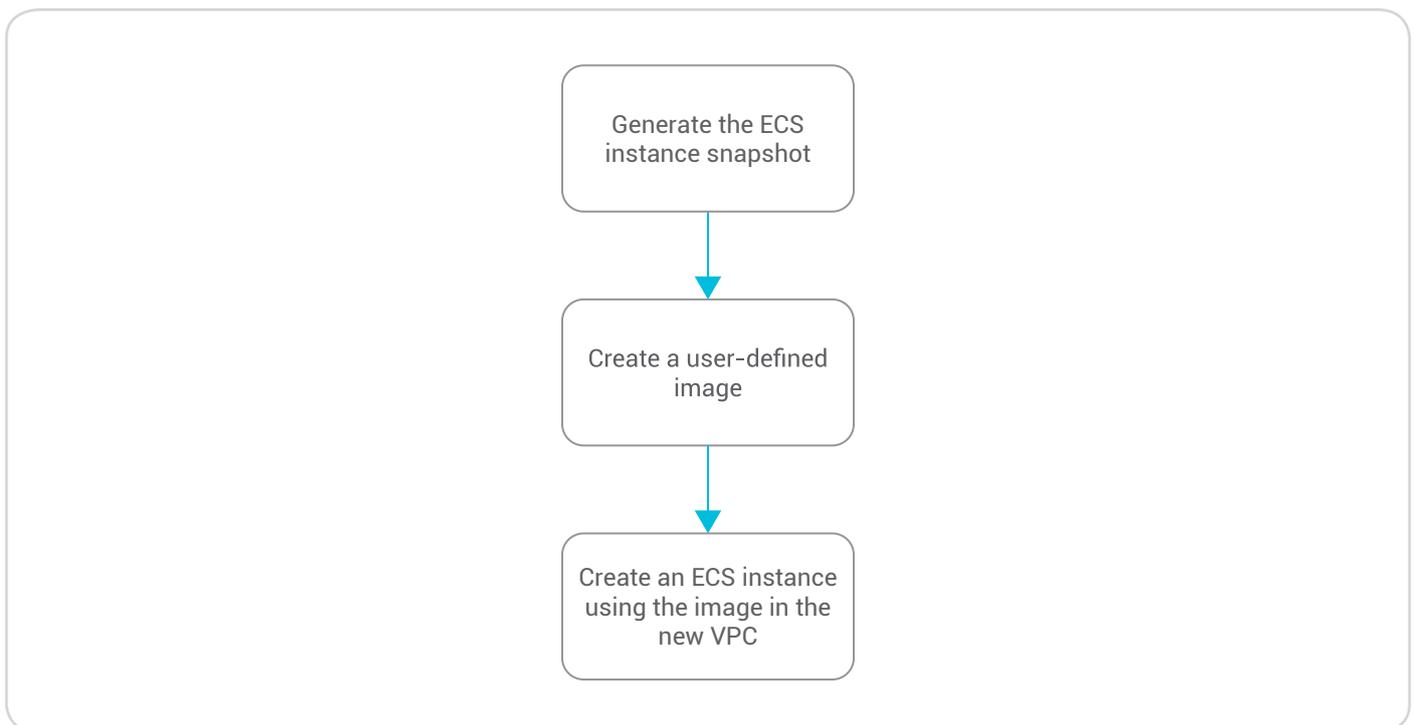
## 07 Alibaba Cloud Cross-VPC, Cross-region, and Cross-account Image Migration Practices

The main demand scenarios of image migration in Alibaba Cloud include the following:

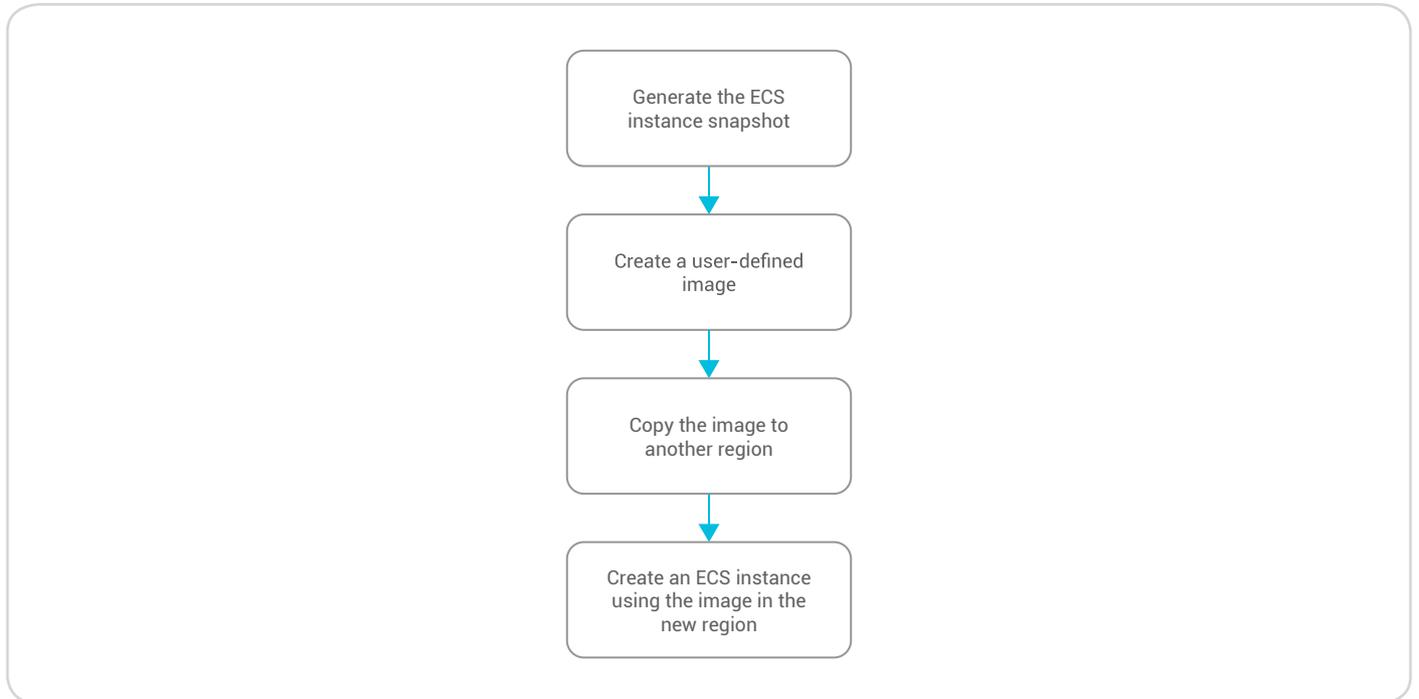
- Migrate ECS instances across VPCs, such as from VPC A to VPC B environment
- Migrate ECS instances across regions, such as from the Shanghai region to the Hangzhou region
- Migrate ECS instances across accounts, such as from Account A to Account B

Alibaba Cloud provides ECS instance snapshots and user-defined images (supporting system disks and data disks) features, and user-defined images allow the user to copy across regions and share to other accounts for use. Based on these features, users can achieve image migration across VPCs, regions, and accounts.

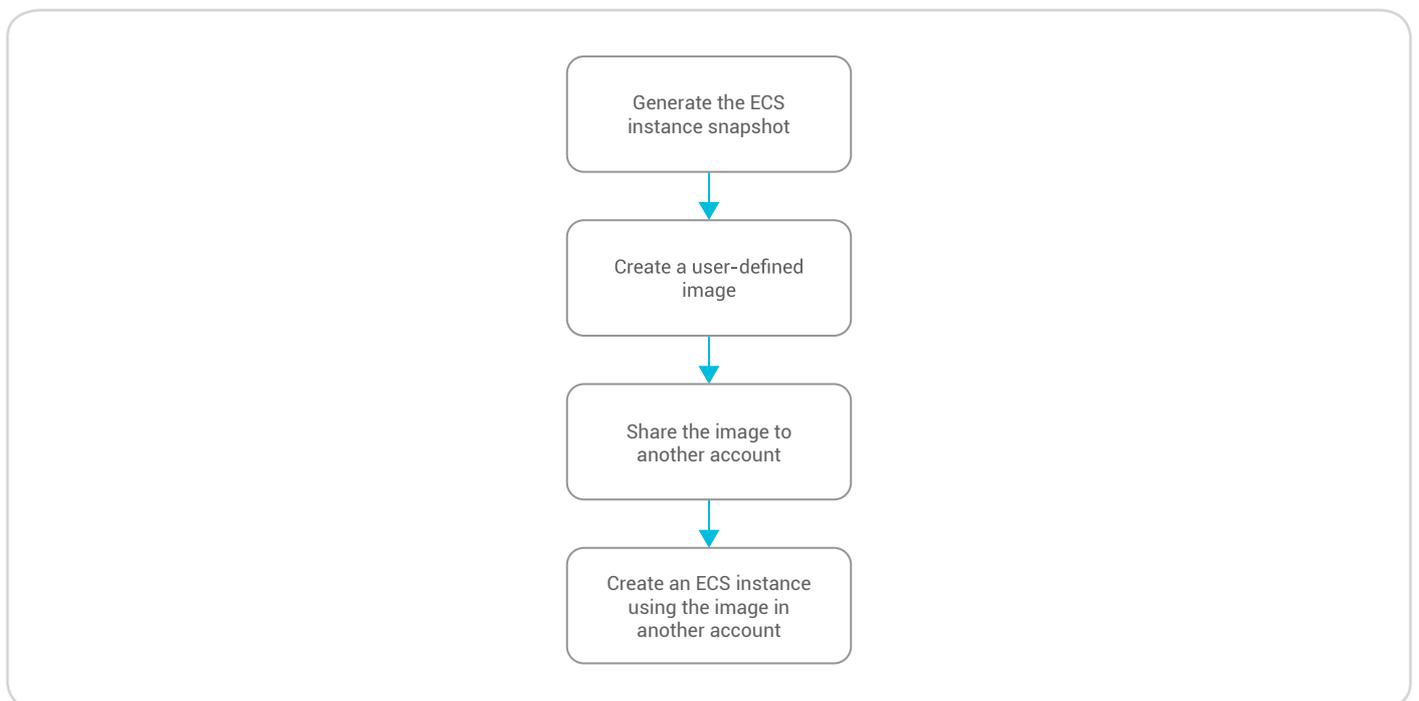
The following diagram illustrates the Alibaba Cloud cross-VPC migration process.



The following diagram elucidates the cross-region migration process for Alibaba Cloud.



Please refer to the following diagram to understand Alibaba Cloud cross-account migration process.



The steps defined in the migration processes above are as follows.

## 7.1 Generate the ECS Snapshot

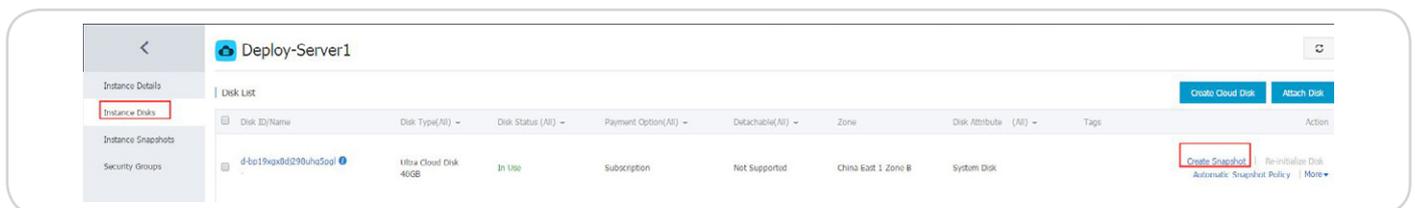
The snapshot refers to a data backup of the disk at a certain point in time. Please note that if you want to maintain data consistency, you should stop the server or service to capture the snapshot.

### A. ECS snapshot operation procedure:

1. Log on to the [ECS console](#).
2. Click the instance region, and select the instance in the left navigation area. Select the instance name or select **Manage** on the right side of the instance.



3. Thereafter, select the instance disk on the left side to create snapshots of the system disk and data disk.



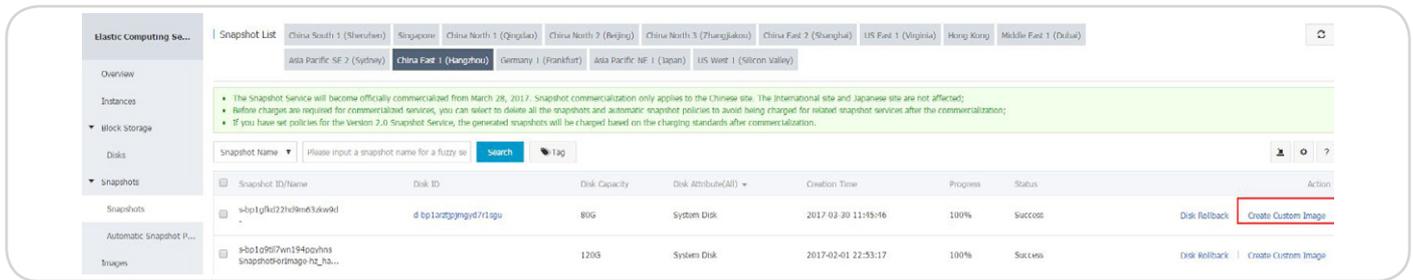
### B. Create a user-defined image

The image is a template of the ECS instance runtime environment. It includes the operating system with a preinstalled software.

The user-defined images are usually from the following channels:

- Create a user-defined image based on the snapshots of existing ECS instances
- Import an image file of an offline environment into an ECS cluster to generate a user-defined image

Go to the ECS instance management control, select **Manage**, and then select the instance snapshot on the left side to identify whether the disk attribute of the snapshot is a system disk. Note that you cannot use data disks alone to create an image. Then select **Create User-defined Image**.



### C. Copy an image across regions

Copying an image allows you to use images across regions.

Open a ticket to activate this feature. State the size of the image you want to copy.

By default, custom images cannot be used across regions. However, you can copy a custom image from one region to another. This allows you to deploy a backup image system, or an identical application environment, in another region.

### D. Copy an image

To copy an image, perform the following:

1. Log on to the [ECS Management Console](#).
2. Click **Images** in the left-side navigation bar.
3. Select your desired region.
4. Select the image you want to copy.  
**Note:** The image type must be Custom Image.
5. Click **Copy Image**. In the displayed dialog box, you can view the image ID.
6. Specify the target region to which you want to copy the image.
7. Enter a name and description for the target image and click **OK**.

A snapshot and a custom image will be automatically created in the target region. Ensure the status of the new image is available before using it to create ECS instances.

### E. Cancel the copying of an image

If you do not need an image currently being copied, cancel the copying operation as follows:

1. Log on to the [ECS Management Console](#).
2. Select **Images** in the left navigation bar.

3. Select the target region of the image being created. The image list is displayed.
4. Select the image that is being created and click **Cancel Copy**.
5. The system will prompt you to confirm cancel image copying and click **OK**.

## 7.2 Share an Image

With Alibaba Cloud, you can share your user-defined images with other users. Through the console or ECS API, you can query the list of images shared by other accounts to your accounts. You can use the images shared by other accounts to create ECS instances or replace the system disk.

**The steps for sharing an image are as follows:**

1. Log on to the [ECS console](#).
2. Select the image in the left navigation bar to view the image list.
3. Select a region at the top of the page.
4. Select the image to copy. The image type must be a user-defined image. Then share the image.
5. In the pop-up dialog box, select the account type and enter an Alibaba Cloud account. Two types of accounts exist:
  - Alibaba Cloud account: Enter the Alibaba Cloud account (login account) of the user with whom you wish to share the image.
  - Account ID: Enter the Alibaba Cloud ID of the user with whom you wish to share the image. You can obtain the Alibaba Cloud ID from the User Center on the Alibaba Cloud website: Account Management > Security Settings > Account ID. You can log on directly through the following link:  
<https://account.console.aliyun.com/#/secure>
6. The shared image to complete sharing the user-defined image.

## 08 Conclusion

Migration of image workload to the cloud helps organizations deliver compelling benefits and avails support to combat such issues as latency, scalability, and storage. However, data and image migration mechanics can strain the organization's IT resources. Alibaba Cloud caters to all data migration needs with its exemplary solutions. Alibaba Cloud invests resources into various categories of image migration to carry out the process with ease and effectiveness.

Image migration on Alibaba Cloud allows you to migrate configured images on the hosted server. This process lowers cost by saving time and reducing the effort of reconfiguring all the images on the server. In addition, you can use Alibaba Cloud Image migration as a data backup solution by creating the images of the disk or the server. Thereafter, you can use these images to create a new disk at the time of requirement.

