

On-premise Linux VM migration pre-requisites steps BYOI to Oracle OCI



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Sharath Kumar
EMEA Cloud Compute Black Belt

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NB: Avoid directly doing copy/paste from this document since it could include hidden characters resulting into command lines failures.

Scope

This guide is intended for cloud administrators, Linux system administrators, and infrastructure engineers preparing custom images of Oracle Linux 7/8 , RHEL 7/8 and CentOS 7/8 for OCI migration using BYOI.

The document covers:

- Network (Vnic) configuration
- Bootloader (GRUB) modifications
- UDEV rule checks
- Enabling serial console access
- Ensuring VirtIO driver compatibility

Overview

To ensure successful deployment and operation of Linux VMs on OCI, certain configurations must be applied to the on-prem VM before exporting. These include disabling persistent NIC naming, ensuring kernel and drivers are compatible with OCI, and enabling serial access for troubleshooting.

Vnic Configuration

- **Avoid HWADDR in ifcfg- files:** Ensure the `HWADDR` entry is **not** specified in `/etc/sysconfig/network-scripts/ifcfg-*` files.
- This prevents MAC address conflicts or mismatches post-migration.

Pre-export Considerations

Edit GRUB Configuration

- File: `/etc/sysconfig/grub`
- Add to `GRUB_CMDLINE_LINUX`:

`net.ifnames=0 biosdevname=0`

Update GRUB2 Configuration

```
grub2-mkconfig -o /boot/grub2/grub.cfg
```

Check UDEV Rules

- Ensure no persistent UDEV rules exist in `/etc/udev/rules.d` related to NICs.
- If present, remove or comment them to prevent naming issues.

Enable Virtual Machine Serial Console

Edit GRUB for Console Access

- File: `/etc/default/grub`
- Modify:
- `GRUB_TERMINAL="console serial"`
- `GRUB_SERIAL_COMMAND="serial --unit=0 --speed=115200"`
`GRUB_CMDLINE_LINUX="console=tty0 console=ttyS0,115200"`

Remove `resume=` parameter if present.

Regenerate initramfs

```
grub2-mkconfig -o /boot/grub2/grub.cfg
```

Verify Configuration

```
dmesg | grep console=ttyS0
```

VirtIO Drivers and Paravirtualization

Check Kernel Version

Ensure kernel version is 3.4 or later:

```
uname -a
```

Rebuild initrd with Dracut

```
dracut -logfile /var/log/Dracut.log -force -add qemu
```

Verify VirtIO Drivers

lsinitrd | grep virtio

Summary

This document provides a technical pre-requisite guide for migrating on-premise Oracle Linux, RHEL and CentOS virtual machines (VMs) using Bring Your Own Image (BYOI) to Oracle Cloud Infrastructure (OCI). It outlines steps needed to prepare, configure, and validate the Linux VMs before migration, ensuring compatibility with OCI infrastructure and services.

For more on importing custom linux images follow below link:

https://docs.oracle.com/en-us/iaas/Content/Compute/Tasks/importingcustomimagelinux.htm#Importing_Custom_Linux_Images

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