ORACLE

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

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

Overview

This document provides a comprehensive guide for preparing an on-premises custom image for deployment on Oracle Cloud Infrastructure (OCI). It outlines the necessary configuration steps to ensure optimal performance and compatibility of virtual machines (VMs) in the OCI environment. Key areas covered include network interface configuration, boot parameters, serial console setup, and the integration of VirtIO drivers for paravirtualized instances.

1. vNIC Configuration

Avoid HW-ADDR Specification: Do not specify the HW-ADDR in the vNIC configuration file (ifcfg-). This includes not exposing the HW-ADDR in the configuration.

2. Pre-export Considerations for Virtual Machines

Before exporting a Virtual Machine to OCI, ensure the following configurations are applied for Oracle Linux 6/7 (grub2):

Edit Grub Configuration

Open the file /etc/sysconfig/grub.

Add the following parameters to the GRUB_CMDLINE_LINUX line:

bash
net.ifnames=0 biosdevname=0

Update Grub2 Configuration

Run the following command to update the grub configuration:

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

Check UDEV Rules

Verify there are no UDEV rules for vNIC names in /etc/udev/rules.d.

If automated UDEV rules are created for net-persistence, consider possible workarounds.

3. Enable Virtual Machine Serial Console

Enabling the serial console aids in troubleshooting instances running on OCI. Follow these steps:

Edit GRUB Configuration

Open the file /etc/default/grub.

Remove the resume= parameter from the kernel parameters for improved boot time.

Replace GRUB_TERMINAL="gfxterm" with:

bash
GRUB_TERMINAL="console serial"

Add the following line to configure GRUB's serial connection:

bash
GRUB_SERIAL_COMMAND="serial --unit=0 --speed=115200"

Update the GRUB_CMDLINE_LINUX line to include the serial console:

bash
GRUB_CMDLINE_LINUX="console=ttyo console=ttyS0,115200"

Regenerate initramfs

Run the following command to regenerate the initramfs:

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

Verify Configuration

Reboot the machine and check the updated kernel parameters with:

bash
dmesg | grep console=ttyS0

4. VirtIO Drivers and Paravirtualized Option

To ensure your instance can run in a paravirtualized mode on OCI:

Check Kernel Version

Verify that your system is running a Linux kernel version of 3.4 or later:

bash
uname -a

Rebuild initrd with Dracut

Add the qemu module by running:

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

Verify VirtIO Drivers

Confirm that the virtio drivers are present by running:

bash
lsinitrd | grep virtio

By following these guidelines, users can ensure their virtual machines are well-prepared for migration to Oracle Cloud Infrastructure, minimizing potential issues during deployment.