# Oracle® Virtual Networking Host Drivers for Oracle Linux 7 Release Notes

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Oracle Virtual Networking Host Drivers for Oracle Linux 7 Release Notes

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# Using This Documentation

- **Overview** – Provides late-breaking information about Oracle Virtual Networking host driver, version 5.1.0 for Red Hat-compatible kernel for Oracle Linux and Oracle Virtual Networking host driver for UEK kernel (embedded driver).
- **Audience** – System administrators, authorized service providers, and users who have experience in administering advanced networks.
- **Required knowledge** – Advanced experience in using Oracle Virtual Networking host drivers for Oracle Linux.

## Product Documentation Library

Documentation and resources for this product and related products are available at http://www.oracle.com/goto/Oracle-Virtual-Networking/docs

## Feedback

Provide feedback about this documentation at http://www.oracle.com/goto/docfeedback

# Late-Breaking Information

These topics provide late-breaking information about version 5.1.0 of the Oracle Virtual Networking host drivers for Oracle Linux.


- "What's New in This Release" on page 9
- "Minimum Requirements" on page 9
- "Downloading and Installing the Host Drivers" on page 11
- "Known Issues" on page 14


## What's New in This Release

This version of host drivers provides the following new functionality:

- Support for Oracle Linux 7, both unbreakable enterprise kernel (UEK) and Red Hat-Compatible Kernel (RHCK).

  Local boot on hosts is supported in this release. PXE, SAN, and iSCSI boot are not supported.

## Minimum Requirements

These topics provide minimum system requirements for the host drivers.


- "Supported OS Levels" on page 9
- "Supported HCAs" on page 10
- "System Limitations and Restrictions" on page 10


### Supported OS Levels

The 5.1.0 release of the host drivers were tested with and support Oracle Linux 7 UEK3 and Red Hat compatible kernel.

Although Red Hat Enterprise kernels are supported, Oracle Virtual Networking host drivers are tested and qualified on Oracle Linux with RHEL-compatible kernels, not Vanilla Red Hat Enterprise Linux ISO images, which is distributed from official Red Hat Enterprise.

# Supported HCAs

This host driver release supports Oracle HCAs as well as third‐party manufacturers' HCAs with the requirement that the HCAs use the required version of firmware. Refer to the HCA's product notes for latest firmware versions.

The following Oracle HCAs are supported.

| Supported Oracle HCAs | Documentation |
|---|---|
| Sun InfiniBand Dual Port 4x QDR PCIe Low Profile Host Channel Adapter M2 | http://docs.oracle.com/cd/E19241-01/index.html |
| Sun InfiniBand Dual Port 4x QDR PCIe Express Module Host Channel Adapter M2 | http://docs.oracle.com/cd/E19157-01/index.html |
| Oracle Dual Port QDR InfiniBand Adapter M3 | http://docs.oracle.com/cd/E40985_01/index.html |

For third-party HCAs, refer to the manufacturer's documentation for the required firmware version.

# System Limitations and Restrictions


- “Virtual Resources Supported” on page 10
- “Boot Methods” on page 11


## Virtual Resources Supported

This release of the host drivers supports the following number of virtual resources for each host.

| I/O Resource | Maximum of Type |
|---|---|
| vNICs | ■ Eight 10-Gbps vNICs<br>■ Sixteen 1-Gbps vNICs<br>■ Four jumbo vNICs, either 1-Gbps or 10-Gbps vNICs with a 9014-byte MTU |

| I/O Resource | Maximum of Type |
|---|---|
| | ■ Four iSCSI vNICs (for iSCSI storage)<br>■ Eight PVI vNICs<br>■ PVI vNICs and standard vNICs can be configured in any combination as long as they are within the maximum limit supported |
| vHBAs | ■ Eight vHBAs<br>■ Four multipath vHBAs |

### Boot Methods

This host driver release supports only the local boot from server's hard driver. PXE and SAN boot are not supported on both UEK and RHC kernel.

# Downloading and Installing the Host Drivers

These topics describe how to download and install the host drivers for UEK and RHCK.

Oracle virtual networking supports both UEK and RHCK that are distributed with Oracle Enterprise Linux ISO. The following table describes the installation and configuration differences between the two kernels.

| UEK | RHCK |
|---|---|
| Oracle virtual networking host drivers are embedded with Oracle Linux 7.0 OS. | Oracle virtual networking host drivers are unbundled and not embedded into Oracle Linux 7.0 OS. |
| Host drivers are not stand-alone RPMs that you need to install. | Host drivers are a separate, stand-alone package (for example, an individual RPM) that you must install after the OS is installed. |
| Embedded host drivers must be activated. You must install `userspace_RPM` to activate the host drivers. | After the host driver package is installed, you must reboot the host to load the host driver package into memory. |


- “Enabling Host Drivers on Embedded Kernels” on page 11
- “Install Host Drivers for Red Hat-Compatible Kernels” on page 14


# Enabling Host Drivers on Embedded Kernels


- “Installing Host Drivers for Unbreakable Enterprise Kernel” on page 12
- “Activate Oracle Virtual Networking Service” on page 13
- “ Verify That the Server Is Detected by the Oracle Fabric Interconnect” on page 13

## Installing Host Drivers for Unbreakable Enterprise Kernel

You install `orclovn-user` RPM for UEK either by using an automated installer, such as Yum, or manually.


- "Install Host Drivers (Yum)" on page 12
- "Install Host Drivers (Manually) " on page 12


### ▼ Install Host Drivers (Yum)

Before installing the host drivers, make sure the following prerequisites have been completed:

- The Yum repository is reachable through the network by the Oracle Linux server.
- The Yum service is running correctly.
- You have root access to the Yum repository.

You use the `yum install` command to install the kernel and Oracle Virtual Networking user space application from the Yum repository. Using Yum, you do not install the software from the Oracle server or the Oracle Fabric Interconnect.

- **Install the Oracle Virtual Networking user space application.**

  For example:

```
# yum install orclovn-user.x86_64
```

### ▼ Install Host Drivers (Manually)

If you are not using an automated update manager, you can install the kernel like any other software. Before installing the host drivers, ensure that the following prerequisites are met:

- The Oracle Linux OS or Oracle VM hypervisor is installed on the server, including all require patches and updates.
- All RPMs for Oracle Virtual networking are downloaded to the Oracle Linux servers' hard drive. For information about kernel and kernel firmware sites, see *Oracle Virtual Networking Host Drivers for Oracle Linux and Oracle VM Installation Guide*.
- You have root access on the server.

When manually installing the RPMs, you load the UEK2 or UEK3 firmware, kernel, and Oracle Virtual Networking user space application by using the `rpm -ivh` command. Using the manual installation procedure, you install the software directly from the server, not the Oracle Fabric Interconnect.

1. **Download Oracle Virtual Networking user space RPM from:**

http://public-yum.oracle.com/repo/OracleLinux/OL7/addons/x86_64/getPackage/orclovn-user-6.0.r7588-1.el7.x86_64.rpm

2. **Install the Oracle Virtual Networking user space application.**
   For example:

```
# rpm -ivh orclovn-user-6.0.r7588-1.el7.x86_64.rpm
```

## Activate Oracle Virtual Networking Service

Enable the Oracle Virtual Networking service, which is named `xsigo`.

1. **Turn on the Oracle Virtual Networking service.**

```
# chkconfig xsigo on
```

2. **Verify that the Oracle Virtual Networking service is on.**

```
# chkconfig –list xsigo

xsigo 0:off 1:off 2:on 3:on 4:on 5:on 6:off
```

3. **Enable the `ovn.service` service.**

```
# systemctl enable ovn.service
```

4. **Run the setup script to load OVN modules.**

```
# /opt/xsigo/bin/orclovn-setup –install
```

5. **Reboot the host.**
   By default, the `orclovn-user` package chooses the first UEK kernel from your current `grub.conf` file. Wait until the host reboots, and then proceed to the next section.

## Verify That the Server Is Detected by the Oracle Fabric Interconnect

Verify that the server is detected from the Fabric Interconnect after the server has completed the reboot.

- **Locate the server.**

```
# show physical-server
name     guid           descr port        os
 version       server-profile
-------------------------------------------------------------------------------------------------------------------
```

```
halfdome 2c903000451d1 jammu:ServerPort7 Linux/3.8.13-35.2.1.el7uek.x86_64/
x86_64 2.9.1000/3.0.0 halfdome
```

## Install Host Drivers for Red Hat-Compatible Kernels

1. **Remove any InfiniBand stack that is earlier than version 1.5.3.2.**
2. **Remove the existing host drivers.**
3. **Download the suitable drivers from:**

   http://download.oracle.com/otn-pub/otn_software/xsigo/5.1.0-LX.zip
4. **Install the host driver.**

   For example:

   ```
   # rpm -ivh xsigo-hostdrivers-kmod-3.10.0_123.el7.5.1.0.LX-native.x86_64.rpm
   ```
5. **Enable the `ovn.service` service to start at boot time.**

   ```
   # systemctl enable ovn.service
   ```
6. **Reboot the host.**
7. **Verify that the server is detected by the Oracle Fabric Interconnect.**

   ```
   # show physical-server

   name     guid           descr port       os
    version        server-profile
   ----------------------------------------------------------------------------------------------------------------------
   halfdome 2c903000451d1 jammu:ServerPort7 Linux/3.8.13-35.2.1.el7uek.x86_64/
   x86_64 2.9.1000/3.0.0 halfdome
   ```

# Known Issues

The following known issues are for this release of Oracle Virtual Networking host drivers for Oracle Linux 7.

| Bug ID | Description |
|---|---|
| 19974945 | **Cannot Remove Softline With Driver Uninstalled** |

| Bug ID | Description |
|---|---|
| | When the `ovn.service` is enabled at host bootup, it creates a symbolic link to load at boot time. However, when the host drivers are uninstalled, the symbolic link should be removed, but it is not. While the symbolic link remains, this problem is cosmetic and does not affect system functionality. |
| 19435287 | **Getting Continuous `XSCORE` Logs on Console**<br><br>When a server profile is attached to a host, continuous `xscore` messages can be logged on the server's management console. This problem is cosmetic and does not affect system functionality. |