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"Cannot open /dev/vmmon: No such file or directory" error when powering on a VM

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Products

VMware Desktop Hypervisor

Issue/Introduction

The article provide steps to sign VMware drivers on Linux host with secure boot enabled, so that VMware Workstation can run VMs successfully.

Symptoms:

- Powering on a virtual machine on Linux hosts that boots from UEFI with secure boot enabled fails
- You see the error:
  `Cannot open /dev/vmmon: No such file or directory. Please make sure that the kernel module `vmmon' is loaded`

Environment

VMware Workstation Pro 12.x (Linux)

Cause

On Linux host with secure mode enabled, it is not allowed to load any unsigned drivers. Due to this, VMware drivers, such as `vmmon` and `vmnet`, are not able to be loaded which prevents virtual machine to power on.

Resolution

Notes:

- Workstation does not ship `vmmon.ko` and `vmnet.ko` in the bundle currently. The two modules are built during the installation or the first launch of workstation.
- During the installation if the host provides the proper kernel headers and gcc, these two modules will be built silently. The progress is logged into `/tmp/vmware-root/vmware-PID.log`.
- When workstation is first launched, a dialog will pop up to ask you for the usable kernel headers and/or gcc. These two modules will be built with window showing the progress and log printed on terminal.
- Ensure to have the Host OS updated with the latest patches.

To correct the issue with secure boot enabled:

1. Generate a key pair using the `openssl` to sign `vmmon` and `vmnet` modules:

   ```
   $openssl req -new -x509 -newkey rsa:2048 -keyout MOK.priv -outform DER -out MOK.der -nodes -days 36500 -subj "/CN=VMware/"
   ```

   Replace `MOK` with the name of the file you want for the key.

2. Sign the modules using the generated key by running these commands:

   ```
   $sudo /usr/src/linux-headers-`uname -r`/scripts/sign-file sha256 ./MOK.priv ./MOK.der $(modinfo -n vmmon)
   ```

   ```
   $sudo /usr/src/linux-headers-`uname -r`/scripts/sign-file sha256 ./MOK.priv ./MOK.der $(modinfo -n vmnet)
   ```

- Import the public key to the system's `MOK` list by running this command:

  ```
  $mokutil --import MOK.der
  ```

- Confirm a password for this `MOK` enrollment request.
- Reboot your machine. Follow the instructions to complete the enrollment from the UEFI consol.

Note: Preceding commands are verified to work on Ubuntu 16.04 hosts. The general steps are applicable to all Linux distributions, but specific Linux distributions might differ in commands.

Additional Information

With VMware you will have two modules with this problem, `vmmon` and `vmnet`. You must sign them both:

- `user@localhost:$ sudo /usr/src/kernels/$(uname -r)/scripts/sign-file sha256 ./MOK.priv ./MOK.der $(modinfo -n vmmon)`
- `user@localhost:$ sudo /usr/src/kernels/$(uname -r)/scripts/sign-file sha256 ./MOK.priv ./MOK.der $(modinfo -n vmnet)`

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