

NAME

vmm.ko - bhyve virtual machine monitor

SYNOPSIS

To load the driver as a module at boot, add this line to loader.conf(5):

```
vmm_load="YES"
```

The module can also be loaded manually with kldload(8):

```
kldload vmm
```

DESCRIPTION

vmm.ko provides the kernel portion of the bhyve(4) hypervisor.

An Intel CPU with VT-x/EPT or AMD CPU with SVM support is required.

PCI device passthrough to a virtual machine requires hardware with VT-d support.

PCI PASSTHROUGH

When the hardware supports VT-d, and **vmm.ko** has been loaded at boot time, PCI devices can be reserved for use by the hypervisor. Entries consisting of the PCI *bus/slot/function* are added to the *pptdevs* loader.conf(5) variable. Additional entries are separated by spaces. Host PCI devices that match an entry will be assigned to the hypervisor and will not be probed by FreeBSD device drivers. See the *EXAMPLES* section below for sample usage.

A large number of PCI device entries may require a string longer than the 128-character limit of loader.conf(5) variables. The *pptdevs2* and *pptdevs3* variables can be used for additional entries.

LOADER TUNABLES

Tunables can be set at the loader(8) prompt before booting the kernel or stored in loader.conf(5).

```
hw.vmm.maxcpu
```

Maximum number of virtual CPUs. The default is the number of physical CPUs in the system.

EXAMPLES

Reserve three PCI devices for use by the hypervisor: bus 10 slot 0 function 0, bus 6 slot 5 function 0, and bus 6 slot 5 function 1.

```
pptdevs="10/0/0 6/5/0 6/5/1"
```

SEE ALSO

bhyve(4), loader.conf(5), bhyve(8), bhyveload(8), kldload(8)

HISTORY

vmm.ko first appeared in FreeBSD 10.0.

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