

# How to Fix a VPS That Does Not Boot After a Kernel Update

## Issue

Upgrading kernel(s) inside Linux guests to the following versions will break them. Updated guest(s) won't ever boot and will crash on startup.

## Environment

CentOS 6.x kernel version  $\geq$  2.6.32-754.2.1.el6.x86\_64

Debian 9.x kernel version  $\geq$  4.9.0-7-amd64

## Resolution

The issue can be fixed in one of the following ways:

1. Skip the recent kernel while updating guest's packages:

- Update CentOS 6.x with:

```
# yum update --exclude=kernel*2.6.32-754.2.1*
```

- Update Debian 9.x with:

```
# apt-mark hold linux-image-amd64 linux-headers-amd64
# apt-get update
# apt-get dist-upgrade
```

2. After the kernel was updated, add the following kernel options to the GRUB boot loader configuration file:
  - For CentOS 6.x, add *eagerfpu=off* option to *edit /boot/grub/grub.conf* file
  - For Debian 9.x, add *elevator=noop* and *pti=off* options to *edit /boot/grub/menu.lst* file.

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Revision #2

Created 2023-10-20 11:59:11 CEST by DotRoll Knowledge Base

Updated 2026-05-14 14:33:34 CEST by DotRoll Knowledge Base