



# Release Notes

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## openSUSE 13.2

openSUSE is a free and Linux-based operating system for your PC, Laptop or Server. You can surf the web, manage your e-mails and photos, do office work, play videos or music and have a lot of fun!

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##### openSUSE ##### [http://en.opensuse.org/openSUSE:Release\\_Notes](http://en.opensuse.org/openSUSE:Release_Notes) ↗

## 1 ##

### 1.1 #####

##### # 2.1 ##openSUSE ###

## 2 ####

### 2.1 openSUSE ##

```
# ##### KDE # Gnome ##### LibreOffice ##### bash #####  
##### opensuse-startup_${LANG} ##### /usr/share/doc/manual/opensuse-manuals_  
${LANG} ##### http://doc.opensuse.org ↗ #
```

### 2.2 UEFI—#####

Prior to installing openSUSE on a system that boots using UEFI (Unified Extensible Firmware Interface), you are urgently advised to check for any firmware updates the hardware vendor recommends and, if available, to install such an update. A pre-installed Windows 8 is a strong indication that your system boots using UEFI.

Background: Some UEFI firmware has bugs that cause it to break if too much data gets written to the UEFI storage area. Nobody really knows how much "too much" is, though. openSUSE minimizes the risk by not writing more than the bare minimum required to boot the OS. The minimum means telling the UEFI firmware about the location of the openSUSE boot loader. Upstream Linux Kernel features that use the UEFI storage area for storing boot and crash information (pstore) have been disabled by default. Nevertheless, it is recommended to install any firmware updates the hardware vendor recommends.

### 2.3 UEFI#GPT # MS-DOS #####

Together with the EFI/UEFI specification, a new style of partitioning arrived: GPT (GUID Partition Table). This new schema uses globally unique identifiers (128-bit values displayed in 32 hexadecimal digits) to identify devices and partition types.

Additionally, the UEFI specification also allows legacy MBR (MS-DOS) partitions. The Linux boot loaders (ELILO or GRUB2) try to automatically generate a GUID for those legacy partitions, and write them to the firmware. Such a GUID can change frequently, causing a rewrite in the firmware. A rewrite consist of two different operation: removing the old entry and creating a new entry that replaces the first one.

```
#####garbage collector#####entries#####entries#####
##entries#####
##### MBR ##### GPT #####
```

## 2.4 ### Secure Boot ###

```
##### UEFI Secure Boot #####
```

The new version of the shim loader allows more machines to boot with Secure Boot enabled than with openSUSE 13.1. Nevertheless, in case of trouble, first update the BIOS of your machine to the latest version. If the BIOS update does not help, report the model of your machine to the wiki (<http://en.opensuse.org/openSUSE:UEFI>). Then we can track it for the next release.

## 3 #####

## 4 #####

### 4.1 ## Nouveau #####

```
##### NVIDIA ##### nouveau ##### nouveau #####
#####
##### grub #####'##'## 'e' ##### 'Linux'## 'linuxefi'#####
brokenmodules=nouveau ##### F10 ##### nouveau ##### /etc/
modprobe.d/50-blacklist.conf ##### nouveau ###
```

### 4.2 AppArmor #####

AppArmor is enabled by default. This means more security, but might prevent services from working if you run them in unexpected ways. If you encounter strange permission problems, try to switch the AppArmor profile for the affected service to complain mode with:

```
aa-complain /usr/bin/$your_service
```

Complain mode means: allow everything, and log things that the profile would not allow.  
Even if it helps, report it as a bug! We want to fix AppArmor profiles to also cover corner cases.

## 4.3 Skype

```
## Skype 4.2 ##Linux ##### PulseAudio 4.0 ##### Skype ##### skype #
```

```
PULSE_LATENCY_MSEC=60 skype
```

```
##### http://arunraghavan.net/2013/08/pulseaudio-4-0-and-skype/ ↗ #
```

## 5 ##

N/A

## 6 More Information and Feedback

- Read the READMEs on the CDs.
- Get detailed changelog information about a particular package from the RPM:

```
rpm --changelog -qp <FILENAME>.rpm
```

<FILENAME>. is the name of the RPM.

- Check the ChangeLog file in the top level of the DVD for a chronological log of all changes made to the updated packages.
- Find more information in the docu directory on the DVD.
- <https://activedoc.opensuse.org/> ↗ contains additional or updated documentation.
- Visit <http://www.opensuse.org> ↗ for the latest product news from openSUSE.

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