

Thorsten Leemhuis

**Why #CentOS is a great
Desktop distribution
(and why Ubuntu in the end
often is a better choice)**



*"Who is that guy standing there
and is he qualified for this talk?"*

known in the Linux world
more for his kernel work

*(tacking development &
regression tracking)*

Kernel regression tracking, part 2

By **Jonathan Corbet**
November 6, 2017

[2017 Maintainers Summit](#)

The tracking of kernel regressions was [discussed at the 2017 Kernel Summit](#); the topic made a second appearance at the first-ever Maintainers Summit two days later. This session was partly a repeat of what came before for the benefit of those (including Linus Torvalds) who weren't at the first discussion, but some new ground was covered as well.

Thorsten Leemhuis started with a reprise of the Kernel Summit discussion, noting that he has been doing regression tracking for the last year and has found it to be rather harder than he had expected. The core of the problem, he said, is that nobody tells him anything about outstanding regressions or the progress that has been made in fixing them, forcing him to dig through the lists to discover that information on his own. He had, though, come to a few conclusions on how he wants to proceed.

First, he will try again to establish the use of special tags to identify regressions. His first attempt had failed to gain traction, but he agreed that he perhaps had not tried hard enough to publicize the scheme and get developers to use it. He will be looking into using the kernel Bugzilla again, even though it still seems like unpleasant work to him. He'll try to improve the documentation of how regressions should be tracked and handled. There is a plan to create a new mailing list on vger.kernel.org, with the idea that regression reports would be copied there. He will put more effort into poking maintainers about open regressions.

The discussion quickly turned to the problem (as seen by some) of the many kernel subsystems that do not use the kernel.org Bugzilla instance for tracking bugs. Peter Anvin said that many developers don't see much value in that system. Reported bugs tend to say something like "my laptop doesn't boot" with no further information; that tends not to be useful for the identification of any actual bugs. Beyond that, many bugs reported against the core kernel or x86 architecture turn out to be driver bugs in the end.

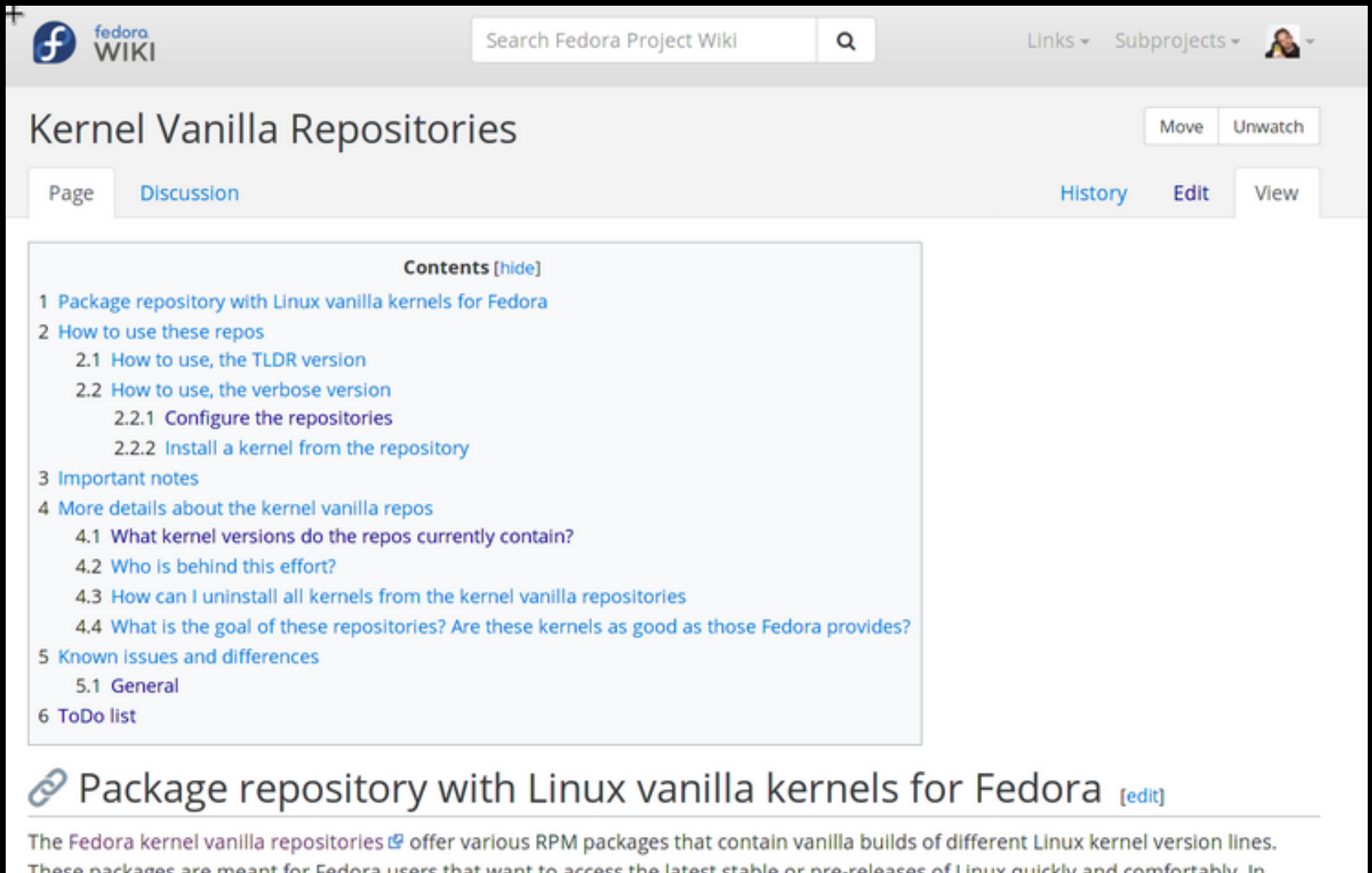
Users, it was suggested, should be explicitly directed to the mailing lists when reporting bugs for the subsystems that do not use Bugzilla. Laura Abbott said



used to be a quite active
Fedora contributor



whoami



The screenshot shows the top navigation bar of the Fedora Project Wiki, including the logo, search bar, and user profile. The main heading is "Kernel Vanilla Repositories" with "Move" and "Unwatch" buttons. Below the heading are tabs for "Page" and "Discussion", and buttons for "History", "Edit", and "View". A "Contents [hide]" section lists the following items:

- 1 [Package repository with Linux vanilla kernels for Fedora](#)
- 2 [How to use these repos](#)
 - 2.1 [How to use, the TLDR version](#)
 - 2.2 [How to use, the verbose version](#)
 - 2.2.1 [Configure the repositories](#)
 - 2.2.2 [Install a kernel from the repository](#)
- 3 [Important notes](#)
- 4 [More details about the kernel vanilla repos](#)
 - 4.1 [What kernel versions do the repos currently contain?](#)
 - 4.2 [Who is behind this effort?](#)
 - 4.3 [How can I uninstall all kernels from the kernel vanilla repositories](#)
 - 4.4 [What is the goal of these repositories? Are these kernels as good as those Fedora provides?](#)
- 5 [Known issues and differences](#)
 - 5.1 [General](#)
- 6 [ToDo list](#)

Below the contents is a link to the main article: [Package repository with Linux vanilla kernels for Fedora](#) [edit]. The first sentence of the article reads: "The [Fedora kernel vanilla repositories](#) offer various RPM packages that contain vanilla builds of different Linux kernel version lines. These packages are meant for Fedora users that want to access the latest stable or pre-releases of Linux quickly and comfortably. In

https://fedoraproject.org/wiki/Kernel_Vanilla_Repositories

working for a
mainstream German
computer magazine
regularly testing Linux distros there



Smartwatches
im Test

Richtig einstellen mit wenig Aufwand

Die Sicherheits-Checkliste

Handy, Router, NAS, Smart-TV, Server, Browser, Facebook ...

Upgrade auf Windows 10 stoppen

VR-Brille Samsung Gear

USB-Sticks mit Typ C

Fairphone 2 im Test

Spiele-Highlights 2015

Audi macht Ernst mit VR

Die Kabel-Deutschland-Lücke

Web-Typographie

Linux-Prozessmanagement

GUI mit Python

Skylake übertakten

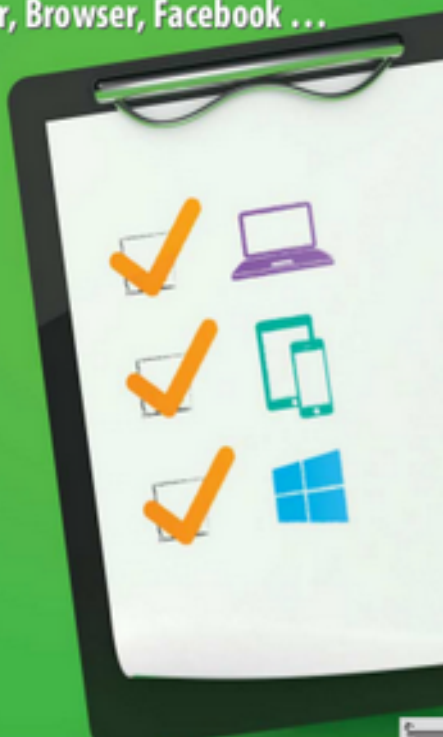
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Thorsten Leemhuis

Linux-Kernel 4.4

3D-Grafiktreiber für virtuelle Maschinen
und mehr Sicherheit bei RAID 5

Der Linux-Kernel 4.4 wird einen Grafiktreiber für den Raspi mitbringen. Performance-Verbesserungen im Netzwerksystem sollen DDoS-Angriffen erschweren. Zwei neue Ansätze versprechen High-End-SSDs mehr Leistung zu entlocken.

Das in der ersten Jahreshälfte erwartete Linux 4.4 erweitert die Fähigkeiten des Treibers Virtio-GPU. Dadurch sollen Linux-Distributionen, die in einer mit KVM betriebenen virtuellen Maschine (VM) laufen, in Zukunft die 3D-Beschleunigung des Wirtsystems nutzen können. Bei diesem noch im Dezember erscheinenden Update werden mehrere Jahre als „Virtio 3D“ entwickelten Ansatz reicht ein Gast-3D-Treiber die OpenGL-Befehle zur Ausführung an den Host weiter. Das Verfahren erfordert neben Linux 4.4 die Grafikbibliothek Mesa 11.1 und den Systememulator Qemu 2.3; beide sollen noch im Dezember erscheinen.

Virtualisierungs-Software von VMware oder VirtualBox ermöglicht schon länger eine Nutzung der 3D-Beschleunigung in Linux-VMs. Die VMware-Produkte sind allerdings proprietär und VirtualBox erfordert oft die mühsame Einrichtung passender 3D-Gasttreiber. Anders als Virtio 3D funktioniert der 3D-Support dieser Virtualisierungslösungen allerdings auch in VMs mit Windows. Selbiges gilt auch für das noch unfertige „KVMGT“ von Intel, bei dem der Gast-Treiber direkt auf Funktionen von Intel-GPUs zugreifen.

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Raspi-Treiber

Linux bringt mit Version 4.4 erstmals einen Kernel-Grafiktreiber für die Broadcom-Prozessoren mit, die auf den verschiedenen Ausführungen des Raspberry Pi sitzen. Dieser Treiber funktioniert weitgehend autark und ist nicht auf den Grafiktreiber in der proprietären Firmware angewiesen, wie es bei den derzeit meist eingesetzten Treibern der Fall ist. Der in 4.4 enthaltene und von Broadcom selbst vorangetriebene Treiber beherrscht aber

bislang keine 3D-Beschleunigung, die sollen Verbesserungen ermöglichen, die in Linux 4.5 einfließen sollen.

Der MD-RAID-Code wird bei Software-RAIDs der Level 4, 5 und 6 ein Log führen können, das auf einem weiteren Datenträger liegt und Datenverfälschungen bei Systemabstürzen verhindert. Das zugrundeliegende Verfahren ähnelt dem von Journaling Dateisystemen wie Ext4. Der Kernel schreibt jede Änderung zuerst in das Log und erst danach auf die am RAID beteiligten Datenträger. Falls die Stromversorgung beim Schreiben auf die RAID-Datenträger ausfällt, kann der Kernel die im Log hinterlegten Daten beim nächsten Start nutzen, um die Integrität innerhalb kurzer Zeit wiederherzustellen.

Das Log kann auch die Geschwindigkeit ein wenig steigern, da es Änderungen kurz puffert. Die Log-Funktion für MD-RAID stammt von Facebook-Mitarbeitern, die bereits an Erweiterungen arbeiten, die das Log zu einem vollwertigen Writeback-Cache machen. Dabei puffert das Log länger und mehr, was der Geschwindigkeit zugutekommt.

Offene SSDs

Neu ist auch Unterstützung für ein LightNVM genanntes Framework, das für „Open Channel SSDs“ gedacht ist. Mit diesem Begriff bezeichnen die LightNVM-Entwickler einige vornehmlich für Server gedachte SSDs, bei denen das Betriebssystem einige Arbeiten übernehmen kann, die normalerweise der Flash Translation Layer (FTL) oder das Bad Block Management der SSD-Firmware erledigen. Das Delegieren ans Betriebssystem



ge-Algorithmen meist tun. RACK ist vorerst experimentell und stammt von Google. Das Unternehmen setzt den Algorithmus offenbar schon eine Weile ein und hat ihn bei der IETF zur Standardisierung eingereicht.

Unprivilegierte Anwendungen können erstmals mit dem eBPF (extended Berkeley Packet Filter) ausgeführte Programme in den Kernel laden, um damit Datenströme zu verarbeiten, die durch den Kernel fließen. Dadurch kann beispielsweise ein nicht von Root ausgeführtes Topdamp in Zukunft eBPF-Filter beim Kernel hinterlegen, damit der nur die Netzwerkpakete an den Sniffer weitergibt, die der Nutzer untersuchen will. Von unprivilegierten Anwendungen stammende eBPF-Programme unterliegen allerdings einigen Einschränkungen, damit Angreifer den eBPF-Interpreter nicht missbrauchen.

Unabhängig davon haben die Entwickler das Performance-Analyse-Werkzeug perf erweitert, damit es eBPF-Programme automatisch bauen, prüfen und in den Kernel laden kann. Der Kernel kann mit solchen Programmen irrelevante Events frühzeitig auffiltern, um Overhead und den Störeinfluss der Analyse zu reduzieren.

Langzeit-Kernel

Facebook-Entwickler haben die Prozesslast beim Einsatz der Btrfs-Mount-Option rd, journal reduziert. Zuvor hatten sie festgestellt, dass die darüber aktivierte Datenverteilungsmethode die Performance bei ihren Hardware-RAIDs der Level 5 und 6 erheblich verbessert.

Zu dem neu zum Kernel stößenden Treiber gehört einer für USB-WLAN-Chips von Realtek, für die es bislang nur einen Staging-Treiber gab, der größere Qualitätsmängel aufweist. Der Kernel 4.4 wird zudem einige per Firmware angesprochene Sound-Chips besser unterstützen und spricht per I2S angebundene Audio-Chips von Skylake-Notebooks an. Der Webcam-Treiber steuert jetzt vier weitere Grafiktablets der Intel-Serie an. Linux 4.4 wurde zudem vorab zu einem Longterm-Kernel erklärt. Daher soll es nicht nur knapp drei Monate, sondern bis mindestens Januar 2018 mit Fehlerkorrekturen und kleineren Verbesserungen versorgt werden. (thilfct.de)

so why am I here?

running CentOS
on servers

just one at home and one at work

CentOS on machines
I administrate for less
tech-savvy people

helped to get
EPEL running

helped to get
RPM Fusion running

goal:

make CentOS a
kind of Fedora LTS

*a Fedora developer who wanted to
feel right at home on CentOS*

CentOS worked quite
well for my first long-
term girlfriends desktop

~15 years ago, CentOS 4, iirc

didn't work out for my
second long-term
girlfriends Laptop

~4 years ago, CentOS 6 (32 bit x86)

installed Xubuntu 16.04 instead :-/

a new co-worker
recently had trouble, too
installed Fedora instead

*those incidents were one
motivation; the other:*

my work / our magazine

we sometimes write articles like
use $\{\text{this Linux}\}$
 $\{\text{like that}\}$ on machines
you want to use for
 $\{\text{Particular_Use_Case}\}$

#{Particular_Use_Case} ==

home server

*CentOS strong contender
that gets used sometimes*

#{Particular_Use_Case} ==

Desktop for less tech-
savvy people

(aka friends and family)

note: Desktop includes Laptop use here and from now on

CentOS was sometimes
considered, but always
quickly discarded

I did not like that much,
but had to agree
*multiple reasons why it's
not the best choice for a...*

mainstream magazine
that wants to make sure
readers are happy

*we want them to buy
the magazine again ;-)*

*in the end, most of the time we
agreed on...*

Ubuntu

CentOS with a few
tweaks could be great
for this use case

let's dig into this

why CentOS is great,
but OTOH failed to
satisfy

*for Desktop/Laptops,
at home & at work*

first & quickly:

why it's great

*what a lot of people want on
Desktops*

install and use till you
throw the hardware
away

never have to learn
anything brand new
during that time

*or adjust yourself or some config file
to new versions*

aka "stable" (stands for "not changing much" and "reliable" here)

CentOS is way better
than all the
other distros here

CentOS:

it's no cost & gets 10
years of regular support

*nearly 7 years if you install right
before a new major version*

Ubuntu:

5 years of regular
support

*only 3(!) if you install right before
a new major version*

note:

some less tech-savvy
people use hardware
even longer...

but we leave that aside here, 7 to 10 is enough for most

side note:

Mint is similar to Ubuntu

Debian, too (with LTS)

all other free distros are worse

there are more areas
where CentOS shines

*or at least is not
as bad as people think*

CentOS:

relative modern
software for a
enterprise/LTS distro

*relaxed update approach,
still avoids disruptive change*

new versions for
Desktop software are
okay, but...

...big differences (like
Gnome 2.y->3)
still are a "no-no"

bad point in time to
explain, as RHEL8 is not
old enough yet

Gnome and LibreOffice get rebased

Gnome 3.28.y, released Mar 2018, is currently in RHEL/CentOS 7.x (initially released in 2014)

Libreoffice 5.3.y, released Feb 2017, is currently in RHEL/CentOS 7.x (initially released in 2014)

Gnome and LibreOffice never get rebased in Ubuntu LTS

*will stay in 18.04 on 3.28 and 6.0 till
EOL – IOW: the well known classic
approach Debian uses everywhere*

so you don't get any of
the bugfixes that new
versions of Gnome and
LibreOffice brought

*bit yes, you obviously sometimes get
new bugs, too :-/*

related:

CentOS also gets
support for newly
released hardware

CentOS:

Updated HW support
every 6 months

(first after 6 months)

for the first 5 years

(~10 minor updates with driver updates in total, one every 6 month)

Ubuntu:

Updated HW support
every 6 months

(first after 9 months)

for the first 2 1/4 years

(4 minor updates with new drivers in total, one every 6 month)

RHEL 8.1 brought DRM
from Linux 5.1 in
November

that's newer than Ubuntu 18.04.3

DRM == kernel graphics driver subsystem & drivers

Ubuntu 18.04.x
still is on Linux 5.0

since 18.04.3, released in August;

to be fair: Ubuntu 18.04.4 will soon bring Linux 5.3

side note:

Debian stable does not
get fresh drivers for
newly released HW

*apart from those that make it to the
stable kernel*

becomes a bigger
problem over time

the older a Debian release gets

IOW: no clear
winner here

*but the 4.18 based Linux kernel in
CentOS is not as bad as it sounds
and sometimes better than kernel 4.19 in Debian GNU/Linux 10*

reminder:

this was just about
graphics drivers

situation more complicated...

*and that's why the CentOS kernel **is** a problem, but we'll get to that*

CentOS very interesting due to

- * long life time

- * minor releases with
update software
and drivers

so where is CentOS
lagging behind?

three problems on my
current girl-friends
Laptop

video camera failed

*needed a media driver not enabled in
the RHEL/CentOS kernel*

wifi needed
proprietary driver

missing as well: broadcom-wl :-/

dependency problems

when installing audio and video packages from a 3rd party side

I would have been
able to work around all
those problems

*but in the end I choose it's not worth
the maintenance hassle;*

installed Xubuntu 16.04 instead :-/

these problems are
anything but atypical

turns out these are
quite similar to
concerns at work, too
albeit from different angle

users need FOSS
drivers for quite old and
brand new hardware

some users require
proprietary drivers

most users want to
easily install software
CentOS does not ship
must work flawlessly

so let's look closer at the
problems

= first problem =

hardware support with free drivers

RH disables quite a few
kernel drivers relevant
for Desktop users

*quite a few == hundreds, maybe
thousands, afaics*



The image shows a terminal window with three tabs. The active tab is titled 'thl@xps13:~/tmp/kernels'. The terminal output shows two 'find' commands being executed to count files in specific kernel directories. The first command counts files in the 4.18.0-147.el8.x86_64 directory, resulting in 2509 files. The second command counts files in the 5.3.7-301.fc31.x86_64 directory, resulting in 3553 files. The terminal prompt is currently at the end of the second command.

```
thl@xps13:~/tmp/kernels
thl@xps13:~/var/dokumente
thl@xps13:~/tmp/kernels
thl@xps13:~

[thl@xps13 kernels]$ find */lib/modules/4.18.0-147.el8.x86_64/ -type f | wc -l
2509

[thl@xps13 kernels]$ find */lib/modules/5.3.7-301.fc31.x86_64/ -type f | wc -l
3553

[thl@xps13 kernels]$ █
```

```
# CONFIG_ATH10K_TRACING is not set
# CONFIG_WCN36XX is not set
# CONFIG_WLAN_VENDOR_ATMEL is not set
CONFIG_WLAN_VENDOR_BROADCOM=y
# CONFIG_B43 is not set
# CONFIG_B43LEGACY is not set
CONFIG_BRCMUTIL=m
CONFIG_BRCMSMAC=m
CONFIG_BRCMFMAC=m
CONFIG_BRCMFMAC_PROTO_BCDC=y
CONFIG_BRCMFMAC_PROTO_MSGBUF=y
CONFIG_BRCMFMAC_SDIO=y
CONFIG_BRCMFMAC_USB=y
CONFIG_BRCMFMAC_PCIE=y
# CONFIG_BRCM_TRACING is not set
# CONFIG_BRCMDBG is not set
# CONFIG_WLAN_VENDOR_CISCO is not set
CONFIG_WLAN_VENDOR_INTEL=y
# CONFIG_IPW2100 is not set
# CONFIG_IPW2200 is not set
# CONFIG_IWL4965 is not set
# CONFIG_IWL3945 is not set
CONFIG_IWLWIFI=m
CONFIG_IWLWIFI_LEDS=y
CONFIG_IWLDVM=m
CONFIG_IWLMVM=m
CONFIG_IWLWIFI_OPMODE_MODULAR=y
# CONFIG_IWLWIFI_BCAST_FILTERING is not set

#
# Debugging Options
#
# CONFIG_IWLWIFI_DEBUG is not set
CONFIG_IWLWIFI_DEBUGFS=y
# CONFIG_IWLWIFI_DEVICE_TRACING is not set
```

```
# CONFIG_B43LEGACY_DEBUG is not set
CONFIG_B43LEGACY_DMA=y
CONFIG_B43LEGACY_PIO=y
CONFIG_B43LEGACY_DMA_AND_PIO_MODE=y
# CONFIG_B43LEGACY_DMA_MODE is not set
# CONFIG_B43LEGACY_PIO_MODE is not set
CONFIG_BRCMUTIL=m
CONFIG_BRCMSMAC=m
CONFIG_BRCMFMAC=m
CONFIG_BRCMFMAC_PROTO_BCDC=y
CONFIG_BRCMFMAC_PROTO_MSGBUF=y
CONFIG_BRCMFMAC_SDIO=y
CONFIG_BRCMFMAC_USB=y
CONFIG_BRCMFMAC_PCIE=y
# CONFIG_BRCM_TRACING is not set
# CONFIG_BRCMDBG is not set
# CONFIG_WLAN_VENDOR_CISCO is not set
CONFIG_WLAN_VENDOR_INTEL=y
# CONFIG_IPW2100=m
CONFIG_IPW2100_MONITOR=y
# CONFIG_IPW2100_DEBUG is not set
CONFIG_IPW2200=m
CONFIG_IPW2200_MONITOR=y
CONFIG_IPW2200_RADIO_TAP=y
CONFIG_IPW2200_PROMISCUOUS=y
CONFIG_IPW2200_QOS=y
# CONFIG_IPW2200_DEBUG is not set
CONFIG_LIBIPW=m
# CONFIG_LIBIPW_DEBUG is not set
CONFIG_IWLEGACY=m
CONFIG_IWL4965=m
CONFIG_IWL3945=m
```

that's not the only
problem with the kernel

minor releases bring
drivers for newly
released hardware,
but...

...that's too late for
people at the up front

...RH focuses on
enterprise hardware

popular Intel WiFi: likely
not that far behind

unpopular Realtek WiFi:
depends on the model and
a bit of luck

gaming hardware?

just 3 examples to show:

the RHEL-Kernel holds
CentOS back on the
Desktop

see no easy solution
within the bounds of the
CentOS project's goal
bug-to-bug compatibility!

possible solution:

a different kernel in an
official add-on repo?

*easy to use alternative for those that
really need it*

maybe use the
Fedora kernel

*likely will need a slightly
adjusted .config...*

maybe offer the latest
Longterm kernel
derived from Fedora once a year?

not much else needed
for supporting a broader
range of Hardware

both old & fresh

an up2date
Mesa/Libdrm would be
good for gaming

no need for frequent Xserver rebases anymore

sure...

nothing you likely can do
in your spare time

*but definitely does not need a team
of 10+ persons ;-)*

this would have fixed the
first problem

gf. Laptop: missing free driver

*magazine: proper support for most
old and new hardware*

second problem

drivers & software
missing in
RHEL/CentOS


gf. Laptop: broadcom-wl

magazine colleagues: nvidia is hard


Fedora is not
good here either
in CentOS it's worse

Anwendungen & Aktualisierungen

Ubuntu-Anwendungen | Andere Programme | Aktualisierungen | Authentifizierung | **Zusätzliche Treiber** | Entwickleroptionen

 **NVIDIA Corporation: GF108 [GeForce GT 430]**
Dieses Gerät benutzt einen alternativen Treiber.

- NVIDIA binary driver - version 361.42 von nvidia-361 werden verwendet (Proprietär, getestet)
- NVIDIA legacy binary driver - version 304.131 von nvidia-304-updates werden verwendet (Proprietär)
- X.Org X server – Nouveau display driver von xserver-xorg-video-nouveau werden verwendet (Quelloffen)
- NVIDIA legacy binary driver - version 304.131 von nvidia-304 werden verwendet (Proprietär)
- NVIDIA binary driver - version 340.96 von nvidia-340 werden verwendet (Proprietär)

 **Unbekannt: Unbekannt**
Dieses Gerät benutzt einen alternativen Treiber.

- Processor microcode firmware for Intel CPUs von intel-microcode werden verwendet (Proprietär)
- Das Gerät nicht benutzen

1 proprietärer Treiber in Verwendung. Zurücksetzen Änderungen anwenden

Proprietäre Treiber enthalten privaten Quelltext, den Ubuntu-Entwickler weder überprüfen, noch verbessern können. Sicherheits- und andere Aktualisierungen hierfür können nur vom Treiberanbieter bereitgestellt werden.

Schließen

it needs to get as easy
as least as easy as it is in Fedora

better:

even more straight-
forward than in Ubuntu

that includes proper Optimus support

(important to support modern Laptops properly)

proper FOSS driver not in sight, so...

tried to improve things in
this area once

got frustrated (among others)

dealing with Red Hat side was hard :-/

work on the Fedora &
CentOS side needed

*might be impossible for RH-
employees – but they could help
encourage and help on their side*

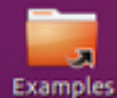
related:

there is another thing,
where Ubuntu is
way ahead

Ubuntu:

disabling secure boot
restriction is easy

mokutil --disable-validation



Examples

Installation

Installation von Ubuntu wird vorbereitet

- Herunterladen der Aktualisierungen, während Ubuntu aktualisiert wird

Dies spart Zeit nach der Installation.

- Installation von Drittanbieter-Software für Grafik- und WLAN-Geräte, Flash, MP3 und anderer Medien

This software is subject to license terms included with its documentation. Some is proprietary.

Die MP3-Erweiterung von Fluendo enthält »MPEG Layer-3«-Audio-Dekodierungstechnologien, die vom Fraunhofer IIS und von Technicolor SA lizenziert sind.

Die Installation von Treibern von Drittanbietern erfordert das Abschalten von Secure Boot. Um das zu tun, müssen Sie jetzt einen Sicherheitsschlüssel wählen, den Sie nach dem Neustart des Systems eingeben müssen.

[Learn more...](#)

- Turn off Secure Boot

Ein Passwort auswählen: Gutes Passwort

Passwort wiederholen: ✓

Beenden

Zurück

Weiter

it's explained to you why
& when you need to do it

*among others, to use any additional
kernel drivers (Nvidia, VMware, ...)*

*so something quite a
few people will want :-/*

also something where
Fedora would need to
provide foundations

*problem worse for CentOS users:
harder to find solutions on the net*

improvements would fix
my second problem

gf. Laptop: missing nonfree driver

magazine: proper, easy to use

support for nvidias proprietary driver

third problem

installing additional
Software must be easily

*gf. Laptop & colleagues:
third party repos and proprietary
software like Chrome, Stream, ...*

CentOS looks bad when
compared to Debian

Debian:

fourty to fifty thousand
packages

in their default repos!

Debian:

not only makes FLOSS,
but also "freeworld" stuff
easy to come by

*vlc, unfree video drivers, VirtualBox
are all part of the distro*

Debian:

properly filled de-facto
standard repo for
nonfree software

*nvidia drivers, steam, doom-
shareware files, ...*

Debian:

all take care of for at
least three years

*most of it even for five
(thx to optional LTS)*

Ubuntu not as good as
Debian

Ubuntu:

not as many packages
as Debian, but a good
deal of it

still way better than CentOS

Ubuntu:

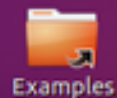
also a de-facto
add-on repo

*makes installing freeworld and
nonfree software really easy when
compared to CentOS*

Ubuntu:

codec install sometimes
happens semi-
automatically

*without user noticing much or
anything at all*



Examples

Installation

Installation von Ubuntu wird vorbereitet

- Herunterladen der Aktualisierungen, während Ubuntu aktualisiert wird

Dies spart Zeit nach der Installation.

- Installation von Drittanbieter-Software für Grafik- und WLAN-Geräte, Flash, MP3 und anderer Medien

This software is subject to license terms included with its documentation. Some is proprietary.

Die MP3-Erweiterung von Fluendo enthält »MPEG Layer-3«-Audio-Dekodierungstechnologien, die vom Fraunhofer IIS und von Technicolor SA lizenziert sind.

Die Installation von Treibern von Drittanbietern erfordert das Abschalten von Secure Boot. Um das zu tun, müssen Sie jetzt einen Sicherheitsschlüssel wählen, den Sie nach dem Neustart des Systems eingeben müssen. [Learn more...](#)

- Turn off Secure Boot

Ein Passwort auswählen: Gutes Passwort

Passwort wiederholen: ✓

Beenden

Zurück

Weiter

disclaimer for Ubuntu:

reminder: only packages
in "main" get five years
support

*round about a package set not that
different from RHEL/CentOS*

most Ubuntu users seem to not care:

packages in universe
and multiverse are only
"community supported"

*quite a few packages after importing
from Debian never get touched again*

still, from the point of users

CentOS is way behind in
several aspects

EPEL helps quite a bit

*but: not enabled by default,
less packages*

*on every system I used CentOS for
at least one package
from stock Fedora I
could not easily come by
it's not really bad, but [c|sh]ould be a
bit better*

Situation worse for things
that CentOS/Fedora/RHEL
can't include

*freeworld software (vlc, unfree video
drivers, VirtualBox, ...)*

*nonfree software (nvidia drivers, chrome,
steam, doom-shareware files, ...)*

Flatpak/Flathub starts to
help here somewhat
even more in the future?

but it won't help with
things you want
on the host OS

nvidia drivers, video codecs

*sure, a lot of packages are available
in 3rd party repos*

if you google you soon
get into a mess which
repo to use

googling for "3rd party repo centos":

find docs like "the 8
best 3rd party repos for
CentOS"

RPM Fusion, elrepo,
negativo17.org,
GhettoForge, NUX-
dextop,

*"interesting" things will happen when
you mix them... ;-)*

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Available Repositories for CentOS

There are several repositories provided by CentOS and other 3rd party developers that offer software packages that are not included in the default base and updates repositories. While no list can be 100% complete, as anyone may announce an archive, it represents some major efforts and provides a summary of what each repository offers. These repositories have **varying levels of stability, support and cooperation** within the CentOS community.

About 'enabled' and 'disabled' repository configuration files

Please read `man 5 yum.conf`, particularly the discussion of `enabled=0` versus `enabled=1`. A line containing one of these options is recommended for each repository in each `.conf` file in the `/etc/yum/repos.d/` directory. This

this needs to be easier:

<https://wiki.centos.org/AdditionalResources/Repositories>

an when googling for
Nvidia & CentOS

find lot's of howtos that
explain manual
installation :-/

those were the three
biggest problems #imho
*problems that prevent CentOS from
being a good choice for non-tech
savvy Desktop users*

obviously, as always,
there are more

I mentioned a co-workers problem:

installing CentOS on a

Desktop machine

bug in anaconda

(a more recent Fedora installed just fine)

I've seen things like that
on unorthodox or old
computers now and then
happens, but...

normal distros: someone
will hopefully file a bug
and it hopefully get's fixed!

for CentOS that
won't work
*seems CentOS stream
might somewhat?*

at least if RH devs see a problem relevant for them...

another problem for
non-tech savvy people

updates **really** need to
be reliable

RHEL/CentOS is good there, but...

traditional package updates methods have their pitfalls

`rpm -U` and `dnf update` sometimes fail – it's rare, but a power loss during updates still can mix up the system pretty badly

a "CentOS Silverblue"
could be a big step
forward here

*but I guess we'll see that down the
road anyway*

okay, that were three big
and two smaller problem
areas now

enough for now, let's get to an end

feedback

please provide feedback

*talk to me: negative and positive
feedback welcomed*

takeaways

follow me, if you want:

*@knurd42rhfc on #twitter or
knurd42rhfc@fc.leemhuis.info on
#friendi.ca (the latter works on
mastodon and diaspora, too)*

takeaways



Following

Thorsten 'Das Leben, das U...

@thleemhuis Follows you

Das Leben, das Universum und der ganz Rest. Account 1/6, für die anderen siehe leemhuis.info/me/ Ansichten sind meine eigenen.



Following

Thorsten 'Gnome & Flatpak'...

@knurd42gnome Follows you

The #gnome and #flatpak personality of @knurd42. Account 4/6, for the others see leemhuis.info/me/ Opinions are my own.



Following

Thorsten 'FOSS & Life, The ...

@knurd42 Follows you

Free & Open source software as well as Life, the universe, and everything. Account 3/6, for the others see leemhuis.info/me/ Opinions are my own.



Thorsten 'the Linux kernel I...

@kernellogger

#Linux #kernel and related areas like #xorg, #mesa, #wayland, #qemu, and #mdadm. Account 6/6, for the others see leemhuis.info/me/ Opinions are...



Following

Thorsten 'Computer & freie ...

@thleemhuisfoss Follows you

Computerkram & Free and Open Source Software des @thleemhuis. Account 2/6, für die anderen siehe leemhuis.info/me/ Ansichten sind...



Following

Thorsten 'Red Hat, Fedora ...

@knurd42rhfc Follows you

The #RedHat, #Fedora, and #CentOS personality of @knurd42. Account 5/6, for the others see leemhuis.info/me/ Opinions are my own.

Takeaways

CentOS offers a lot for
people that look for a
LTS desktop distro

a lot is great, but some
things often disqualify it
for non-tech savvy users

*hw must be supported and a lot will
want unfree codecs and Nvidia...*

that's why Ubuntu in the
end often is way more
attractive

some groundwork to
improve things would
have to be done in
Fedora

find a solution for the
"RHEL kernel
sometimes a bad fit"
problem

that will be hard, too :-/

esp. maintenance

work towards a better
EPEL plus **one** proper
3rd party

*to provide all the FOSS and the
freeworld & nonfree stuff users
typically need*

huge amount of work
and not much leverage
to make money out of it

:-/

still worth the effort,
IMHO

CentOS could be one of
the most attractive
LTS Desktop distros

*more testers, more bugs found –
benefit for RHEL*

RHEL desktop users
would benefit from some
of this, too

Fedora would benefit
from some of this, too

and the best and most
versatile "distro universe" on
the market

Fedora rawhide = development, integration

*Fedora (getCurrentRelease()) &
(getCurrentRelease()-1)= for those that want a
really or moderately fresh distro*

*RHEL & CentOS for the typical enterprise and
server usage*

Fedora rawhide =
development, integration

Fedora

(getCurrentRelease()) &
(getCurrentRelease()-
1)= for those that want a
really or moderately
fresh distro

RHEL & CentOS for the
typical enterprise and
server usage

an the Desktop!

that's it – questions?

(TWIMC: this is slide #152)

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@kernellogger on #twitter & #friendica;
4 others, see www.leemhuis.info/me/

#EOF