

# Linux Kernel Development

Going faster than you think

Greg Kroah-Hartman

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[github.com/gregkh/kernel-development](https://github.com/gregkh/kernel-development)

**53.000 files**

**21.150.000 lines**

3.974 developers  
440 companies

Kernel releases 4.0.0 – 4.5.0  
April 2015 – March 2016

10.800 lines added

5.300 lines removed

1.875 lines modified

Kernel releases 4.0.0 – 4.5.0  
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1.875 lines modified

Every day

Kernel releases 4.0.0 – 4.5.0  
April 2015 – March 2016

# 7,8 changes per hour

Kernel releases 4.0.0 – 4.5.0  
April 2015 – March 2016

8,1 changes per hour

4.3 release

# How we stay sane

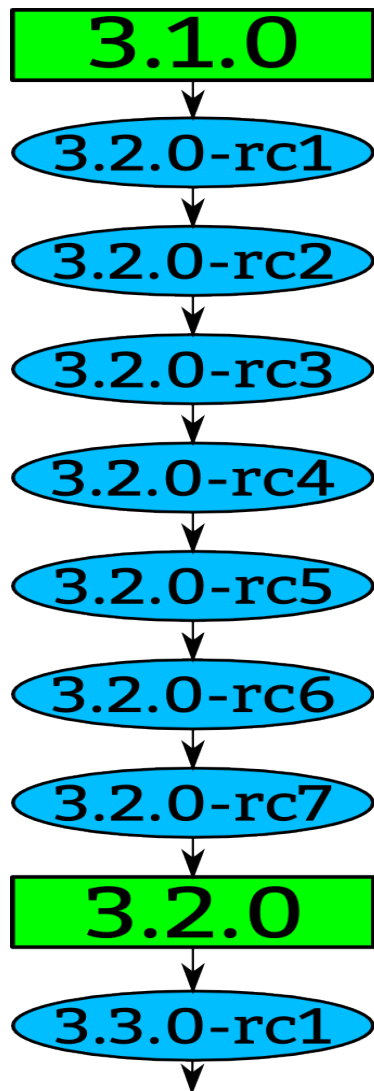
## Time based releases

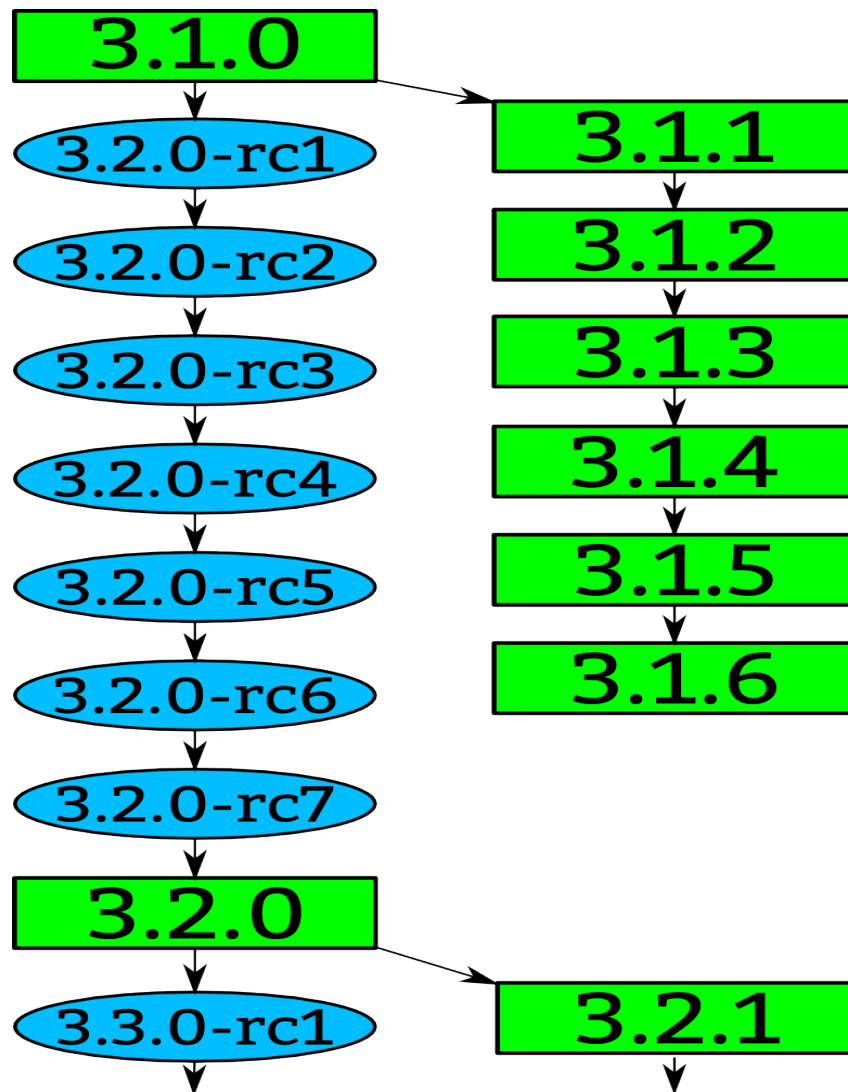
## Incremental changes





**New release every  
2½ months**





# “Longterm kernels”

One picked per year

Maintained for two years

3.14    4.1    4.4

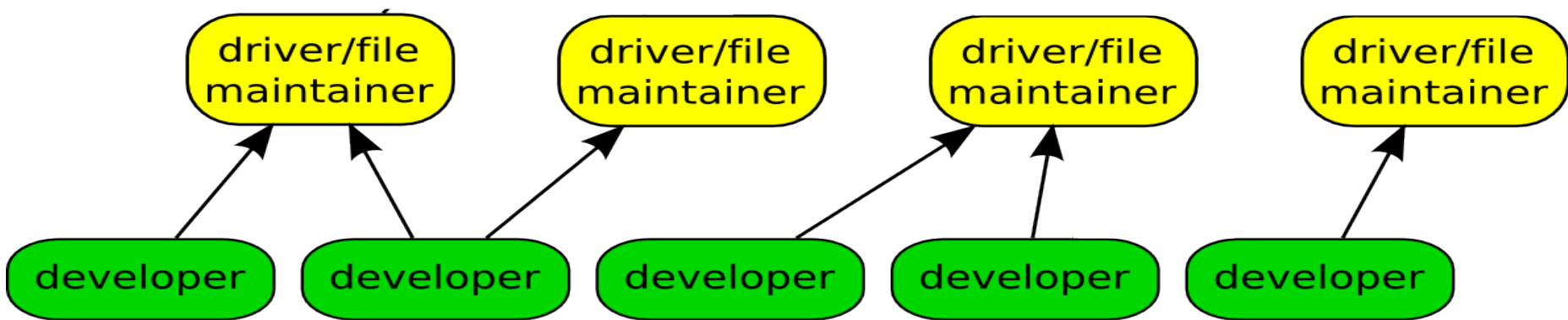
developer

developer

developer

developer

developer



commit ecf85e481a716cfe07406439fdc7ba9526bbfaeb  
Author: Robert Jarzmik <robert.jarzmik@free.fr>  
AuthorDate: Tue Apr 21 20:33:10 2009 -0700  
Commit: Greg Kroah-Hartman <gregkh@suse.de>  
CommitDate: Thu Apr 23 14:15:31 2009 -0700

USB: otg: Fix bug on remove path without transceiver

In the case where a gadget driver is removed while no transceiver was found at probe time, a bug in otg\_put\_transceiver() will trigger.

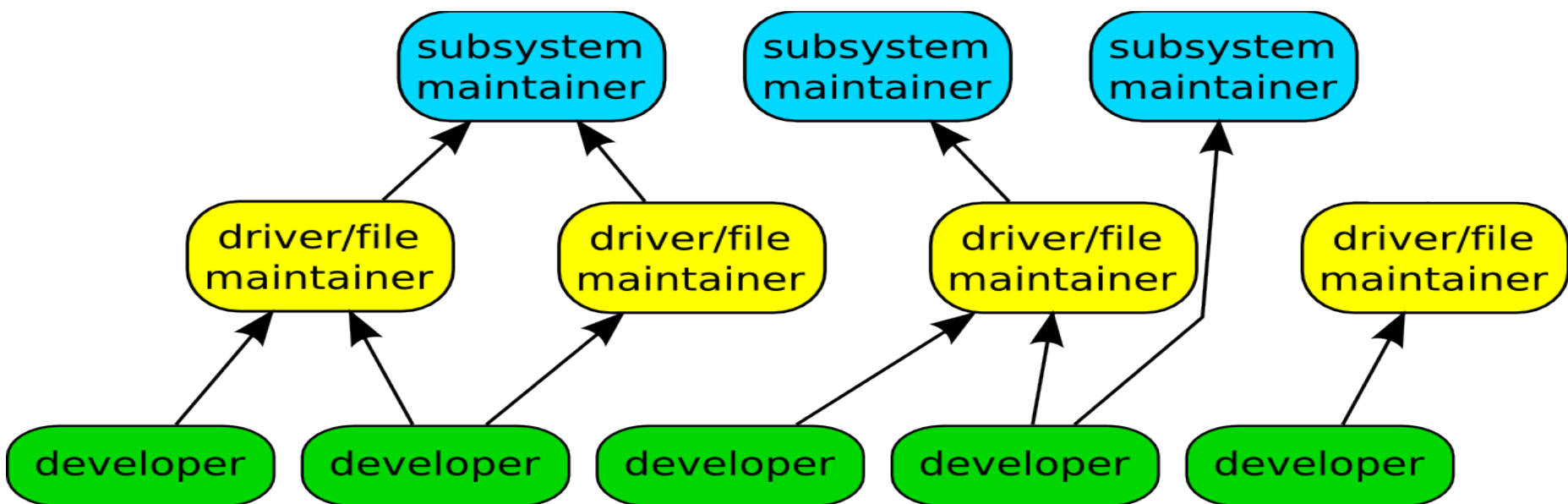
Signed-off-by: Robert Jarzmik <robert.jarzmik@free.fr>  
Acked-by: David Brownell <dbrownell@users.sourceforge.net>  
Signed-off-by: Greg Kroah-Hartman <gregkh@suse.de>

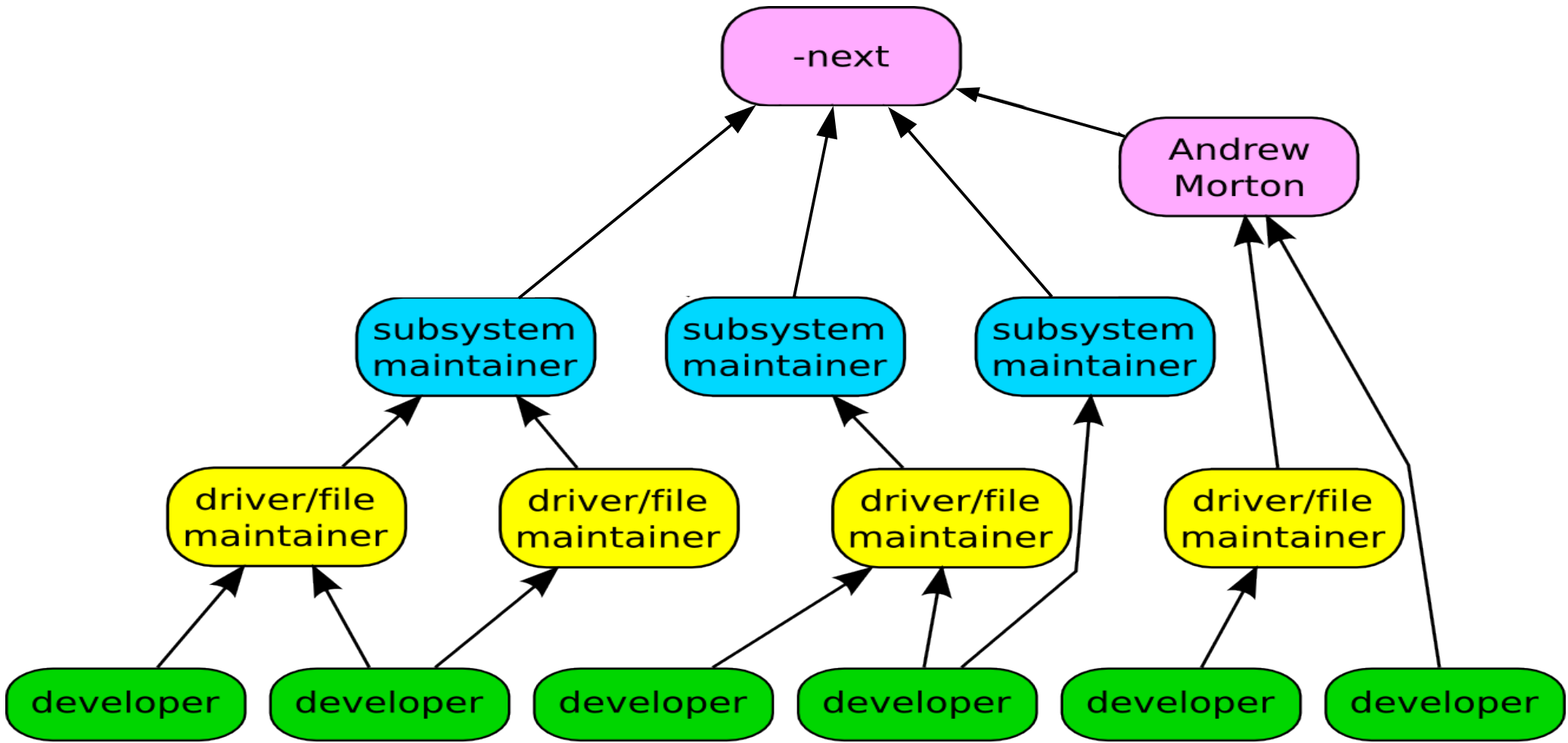
```
--- a/drivers/usb/otg/otg.c
+++ b/drivers/usb/otg/otg.c
@@ -43,7 +43,8 @@ EXPORT_SYMBOL(otg_get_transceiver);
 void otg_put_transceiver(struct otg_transceiver *x)
```

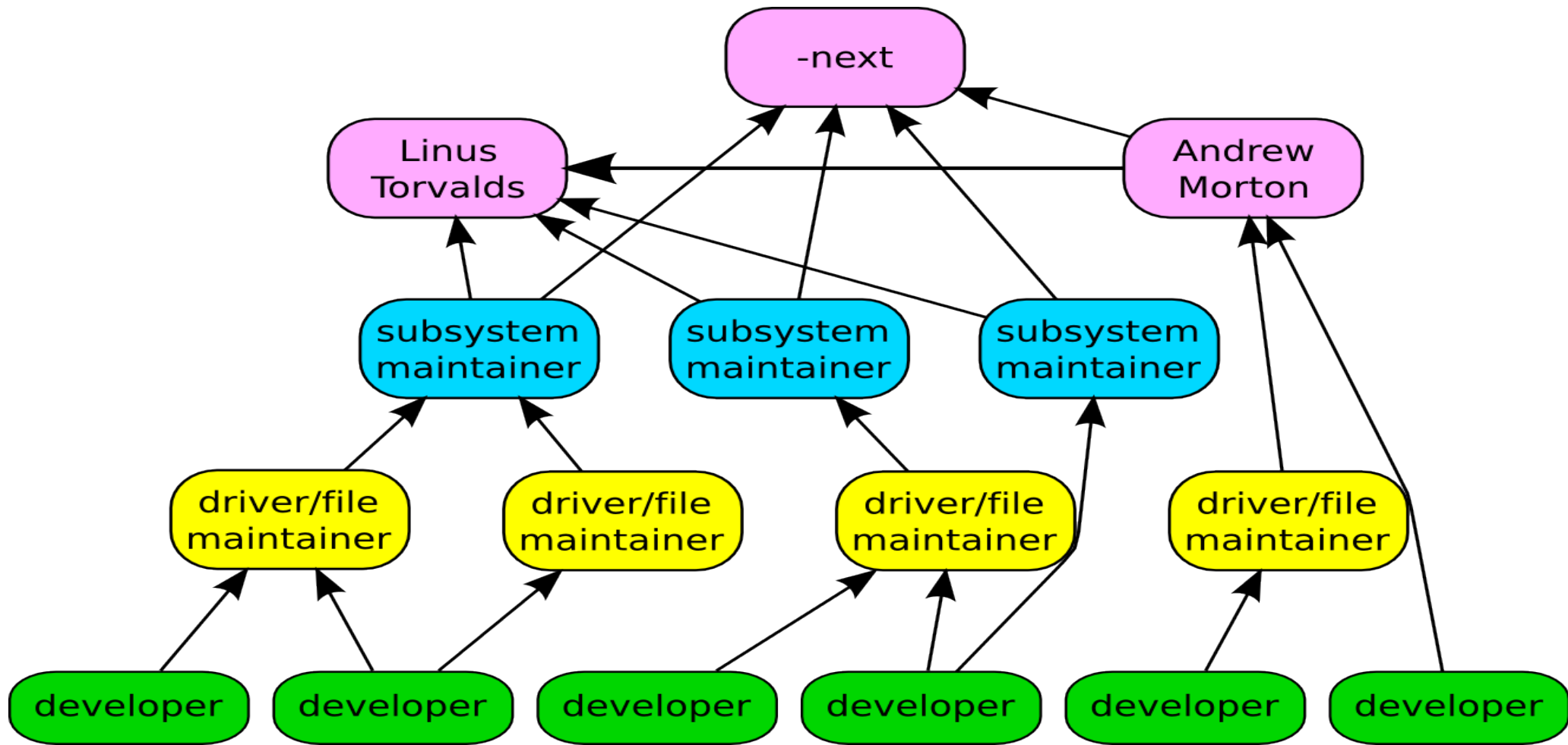
# Developer's Certificate of Origin

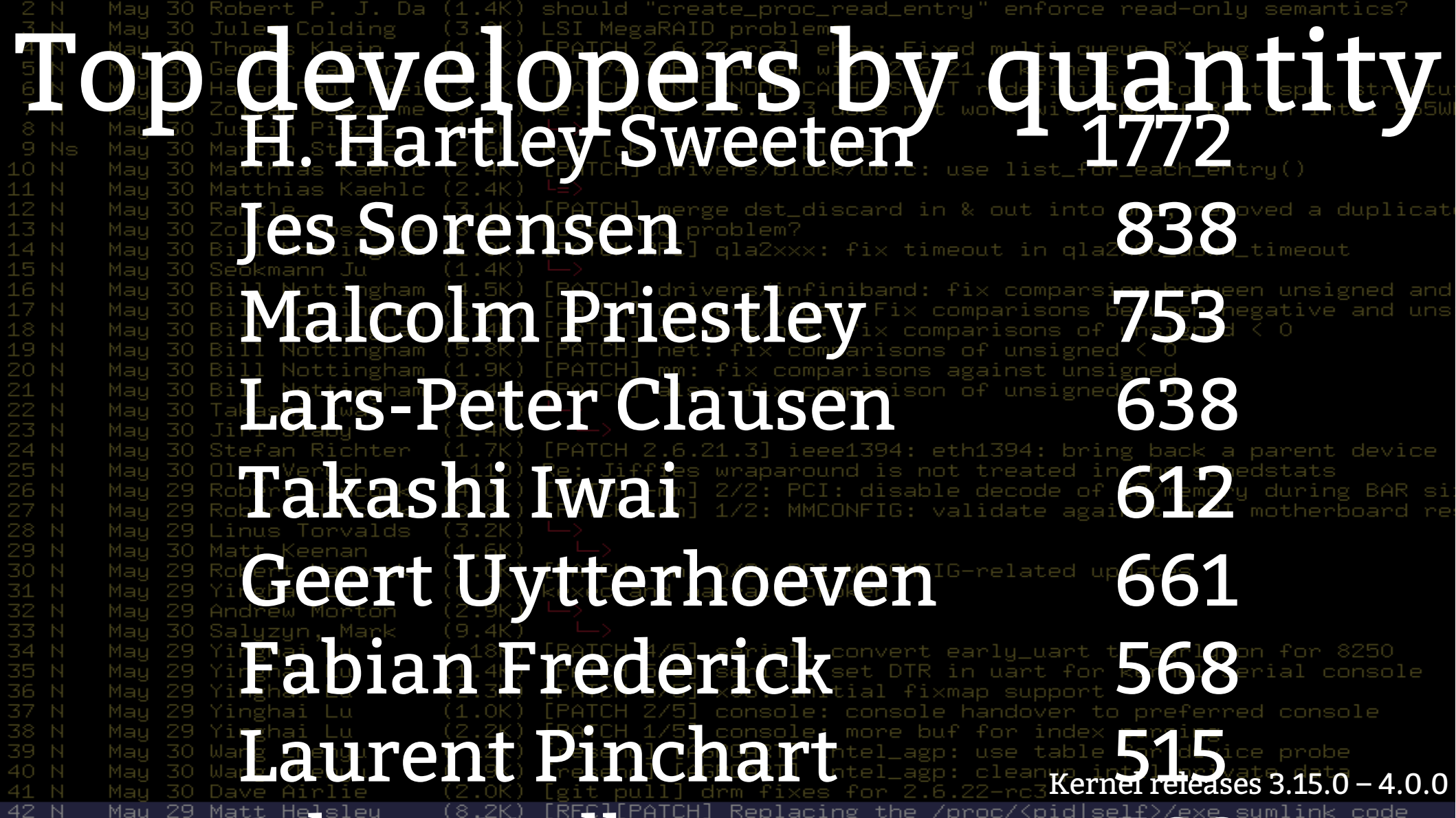
- (a) I created this change; or
- (b) Based this on a previous work with a compatible license; or
- (c) Provided to me by (a), (b), or (c) and not modified











# Top developers by quantity

H. Hartley Sweeten	1772
Jes Sorensen	838
Malcolm Priestley	753
Lars-Peter Clausen	638
Takashi Iwai	612
Geert Uytterhoeven	661
Fabian Frederick	568
Laurent Pinchart	515

Kernel releases 3.15.0 – 4.0.0

Top Signed-off-by:  
Greg Kroah-Hartman 10511

David S. Miller 5652

Mark Brown 3127

Linus Torvalds 2750

Andrew Morton 2629

Mauro Carvalho Chehab 2228

Daniel Vetter 2049

John Linville 1352

# Who is funding this work?

1. “Amateurs”	12.8%
2. Intel	11.0%
3. Red Hat	8.4%
4. Unknown Individuals	5.6%
5. Samsung	4.0%
6. Linaro	3.9%
7. SuSE	3.5%
8. Consultants	3.2%

# Who is funding this work?

11. Texas Instruments 2.2%

12. Google 2.1%

13. Renesas 2.0%

14. Free Electrons 1.9%

15. Freescale 1.7%

16. Oracle 1.1%

17. AMD 1.1%

18. FOSS OPFW 1.0%

**“Working upstream  
saves time and money”**

Dan Frye – VP Open Systems, IBM

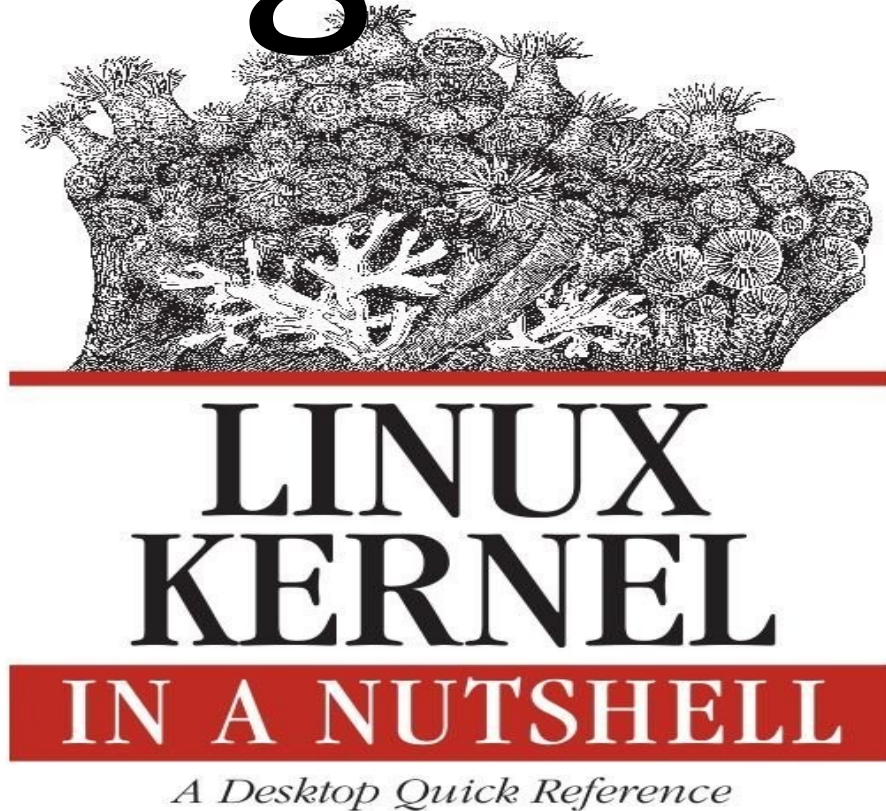
Dirk Hohndel – Chief Technologist, Intel



# Getting involved

Run the `kernel.org` release on your machine

# Getting involved



# Getting involved

Documentation/HOWTO

Documentation/development-process

# Getting involved

[kernelnewbies.org](http://kernelnewbies.org)



# Getting involved

Google “write your first kernel patch”

# Getting involved

[kernelnewbies.org/KernelJanitors/ToDo](https://kernelnewbies.org/KernelJanitors/ToDo)

# Getting involved

Linux Driver Project

`drivers/staging/*/TODO`

# Getting involved

Eudyptula Challenge

(little penguin)

<http://eudyptula-challenge.org/>





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