Linux Kernel Development

Greg Kroah-Hartman
gregkh@linuxfoundation.org

github.com/gregkh/kernel-development

cc BY NC SA

48,000 files
19,100,000 lines

Kernel release 3.19.0

3,692 developers
448 companies

Kernel releases 3.14.0 – 3.19.0
January 2014 – February 2015

8,400 lines added
5,300 lines removed
2,100 lines modified

Kernel releases 3.14.0 – 3.19.0
January 2014 – February 2015

8,400 lines added
5,300 lines removed
2,100 lines modified

Every day

Kernel releases 3.14.0 – 3.19.0
January 2014 – February 2015

8.1 changes per hour

Kernel releases 3.14.0 – 3.19.0
January 2014 – February 2015

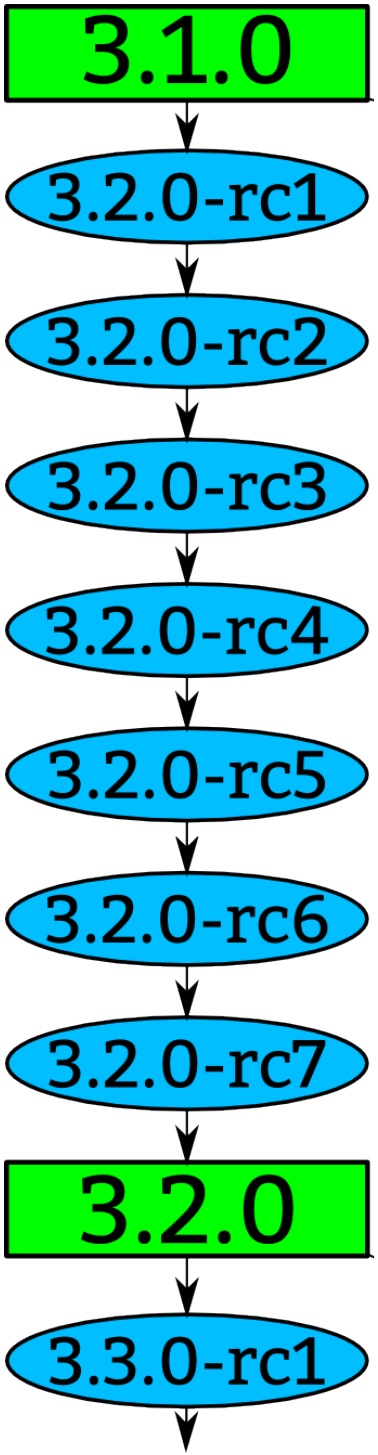
9.5 changes per hour

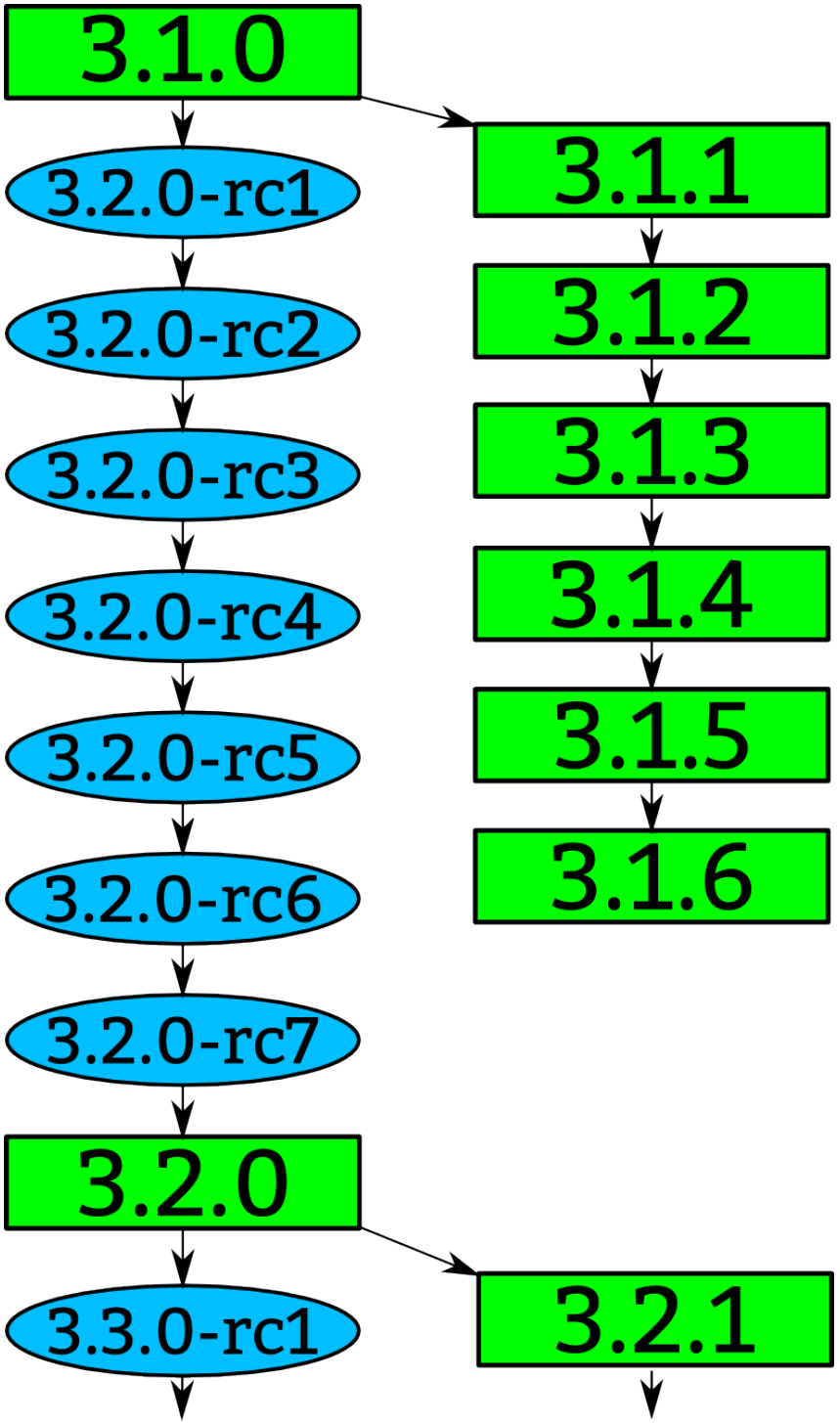
3.16 release

How we stay sane

Time based releases
Incremental changes

New release every
2½ months
Kernel releases 3.10.0 – 3.14.0


3.1.0
3.2.0-rc1
3.2.0-rc2
3.2.0-rc3
3.2.0-rc4
3.2.0-rc5
3.2.0-rc6
3.2.0-rc7
3.2.0
3.3.0-rc1

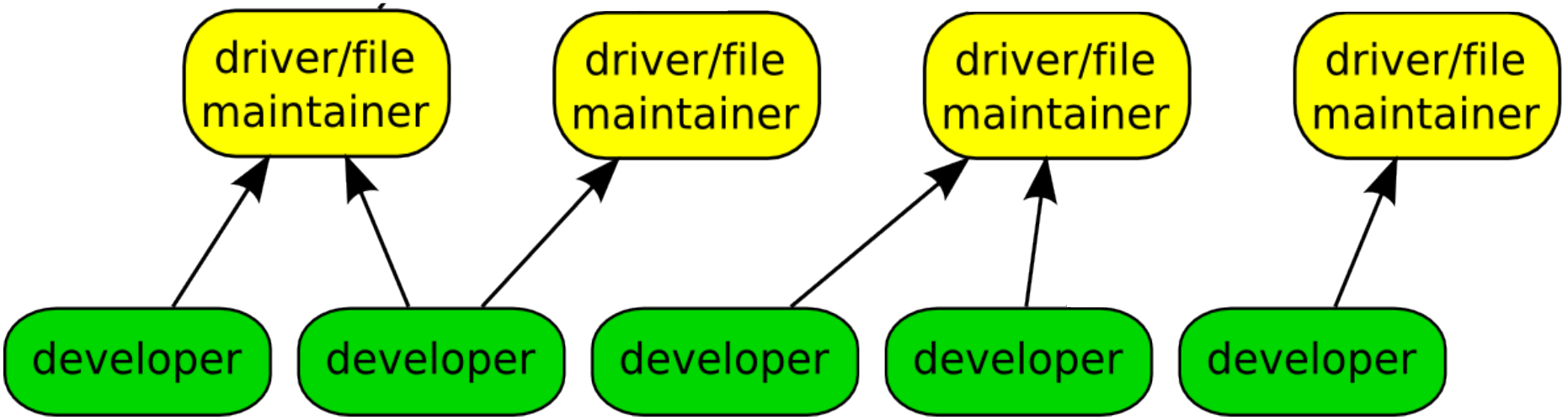

3.1.0
3.2.0-rc1
3.2.0-rc2
3.2.0-rc3
3.2.0-rc4
3.2.0-rc5
3.2.0-rc6
3.2.0-rc7
3.2.0
3.3.0-rc1
3.1.1
3.1.2
3.1.3
3.1.4
3.1.5
3.1.6
3.2.1

“Longterm kernels”

One picked per year
Maintained for two years

3.10 3.14

developer
developer
developer
developer
developer


driver/file maintainer
driver/file maintainer
driver/file maintainer
driver/file maintainer
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)
 {
-       put_device(x->dev);
+       if (x)
+               put_device(x->dev);
 }
```

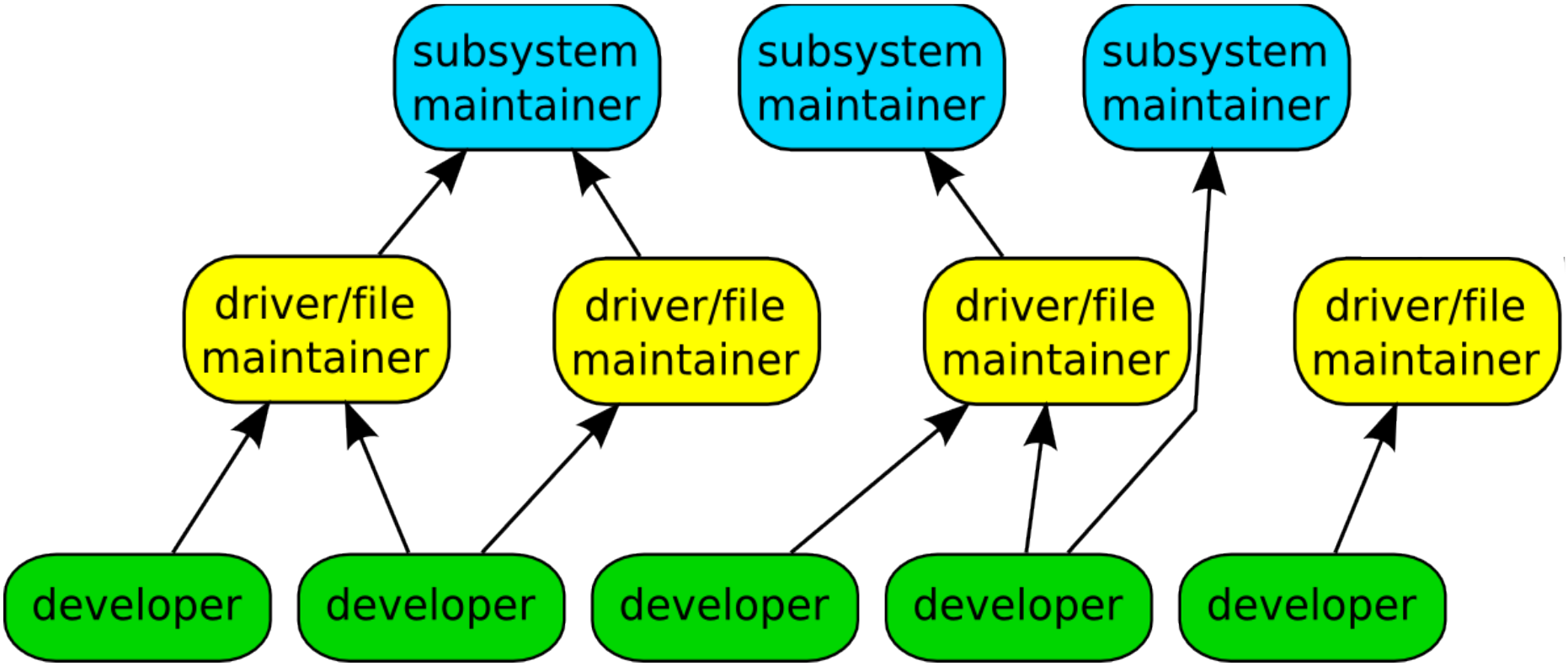
Developer's Certificate of Origin

(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

(d) This contribution is public.


subsystem maintainer
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subsystem maintainer
driver/file maintainer
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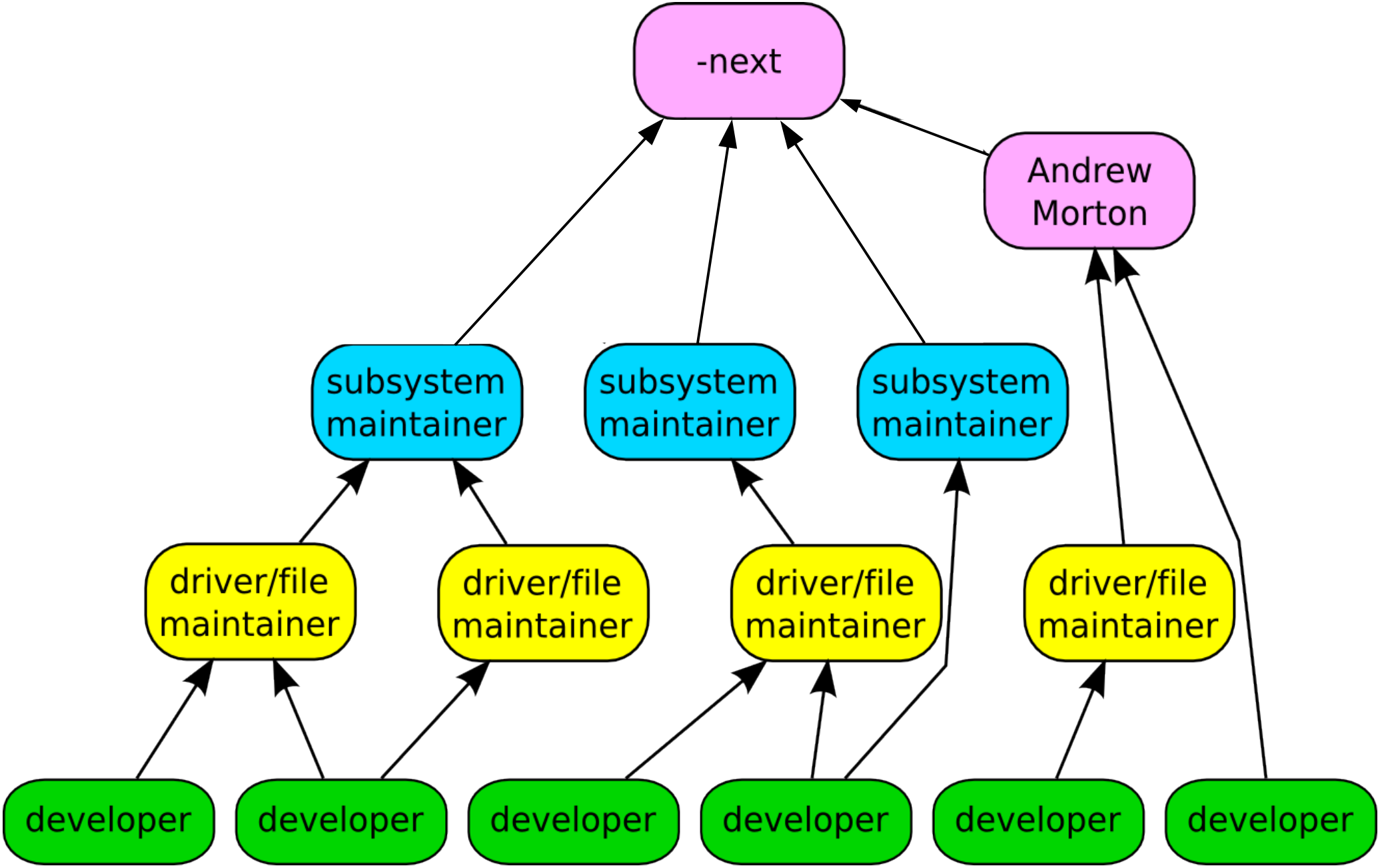
-next
Andrew Morton
subsystem maintainer
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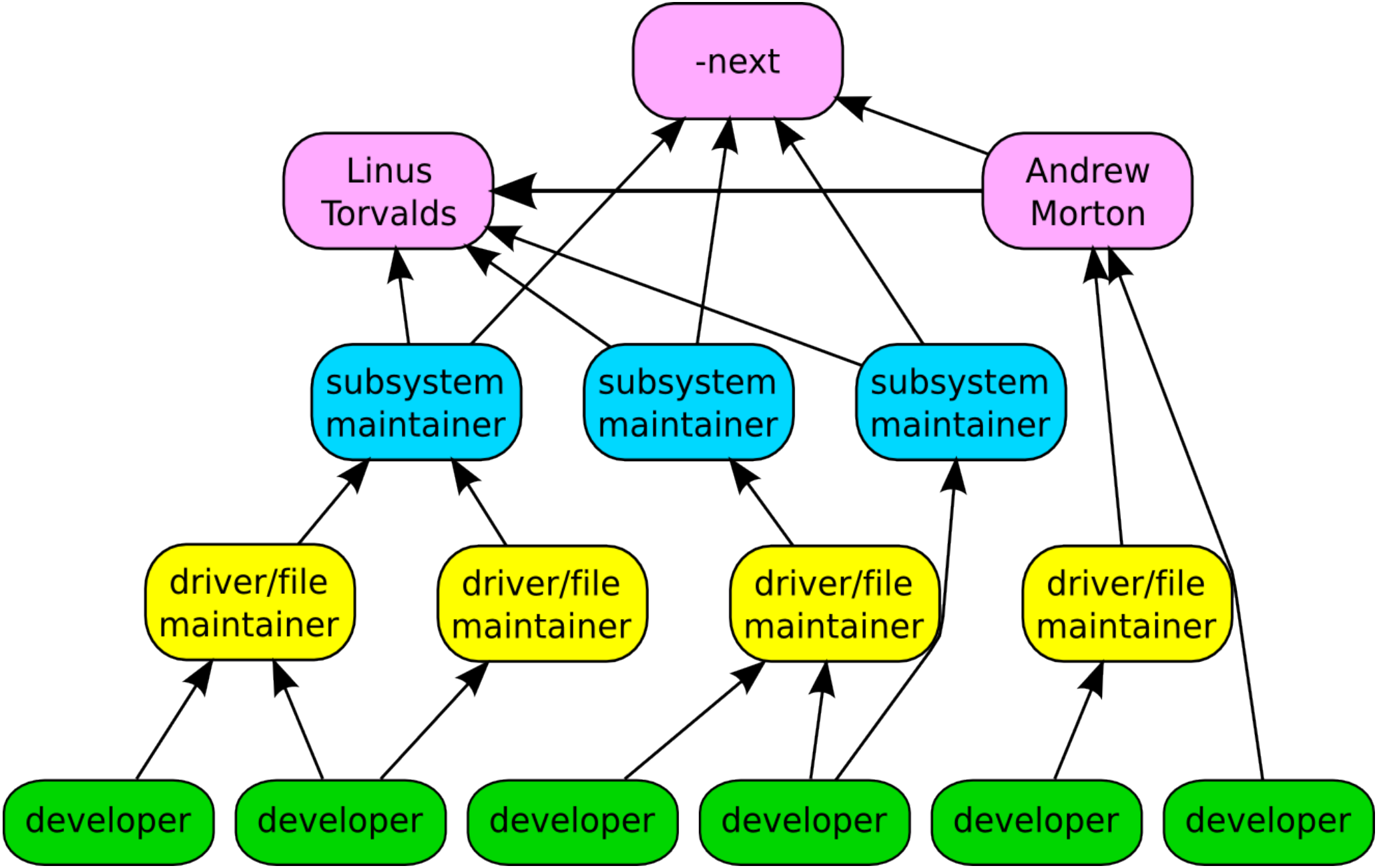
-next
Linus Torvalds
Andrew Morton
subsystem maintainer
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developer
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developer
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developer
developer

Top developers by quantity

H. Hartley Sweeten	1897
Jes Sorensen	825
Malcolm Priestley	769
Laurent Pinchart	672
Geert Uytterhoeven	660
Lars-Peter Clausen	566
Fabian Frederick	530
Johan Hedberg	522
Daniel Vetter	555
Takashi Iwai	510

Kernel releases 3.14.0 – 3.19.0

Top Signed-off-by:

Greg Kroah-Hartman	11054
David S. Miller	6031
Mark Brown	3200
Linus Torvalds	2717
Andrew Morton	2582
Mauro Carvalho Chehab	2270
Daniel Vetter	1968
John Linville	1711
Rafael Wysocki	1021
Marcel Holtmann	958

Kernel releases 3.14.0 – 3.19.0

Who is funding this work?

1. “Amateurs”	13.0%
2. Intel	10.8%
3. Red Hat	8.5%
4. Unknown Individuals	5.0%
5. Samsung	4.1%
6. Linaro	4.0%
7. SuSE	3.3%
8. Consultants	3.0%
9. IBM	2.8%
10. Vision Engraving	2.5%

Kernel releases 3.14.0 – 3.19.0

Who is funding this work?

11. Texas Instruments	2.5%
12. Google	2.3%
13. Renesas	2.2%
14. Freescale	1.7%
15. Free Electrons	1.6%
16. FOSS OPFW	1.3%
17. Oracle	1.1%
16. Nvidia	1.1%
19. AMD	1.0%
20. Broadcom	1.0%

Kernel releases 3.12.0 – 3.17.0

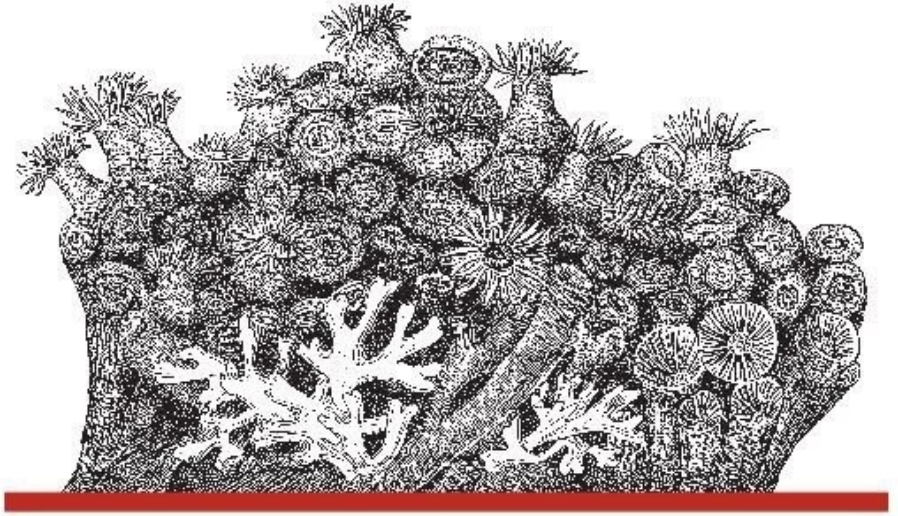
“Working upstream saves time and money”

Dan Frye – VP Open Systems, IBM
Dirk Hohndel – Chief Technologist, Intel

Getting involved

Run the kernel.org release on your machine

Getting involved



LINUX
KERNEL
IN A NUTSHELL

A Desktop Quick Reference

Getting involved

`Documentation/HOWTO`

`Documentation/development-process`

Getting involved

kernelnewbies.org

Getting involved

Google “write your first kernel patch”

Getting involved

kernelnewbies.org/KernelJanitors/Todo

Getting involved

Eudyptula Challenge
(little penguin)

http://eudyptula-challenge.org/

Getting involved

Linux Driver Project

`drivers/staging/*/TODO`

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