Linux Kernel Development

Greg Kroah-Hartman
gregkh@linux.com

37,617 files
14,998,000 lines

2,823 developers
379 companies

12,300 lines added
8,800 lines removed
2,300 lines modified

12,300 lines added
8,800 lines removed
2,300 lines modified

per day for all of 2011

5.77 changes per hour

Kernel releases 2.6.37 – 3.2.0
January 2011 – January 2012

How we stay sane

Time based releases
Incremental changes

How we stay sane

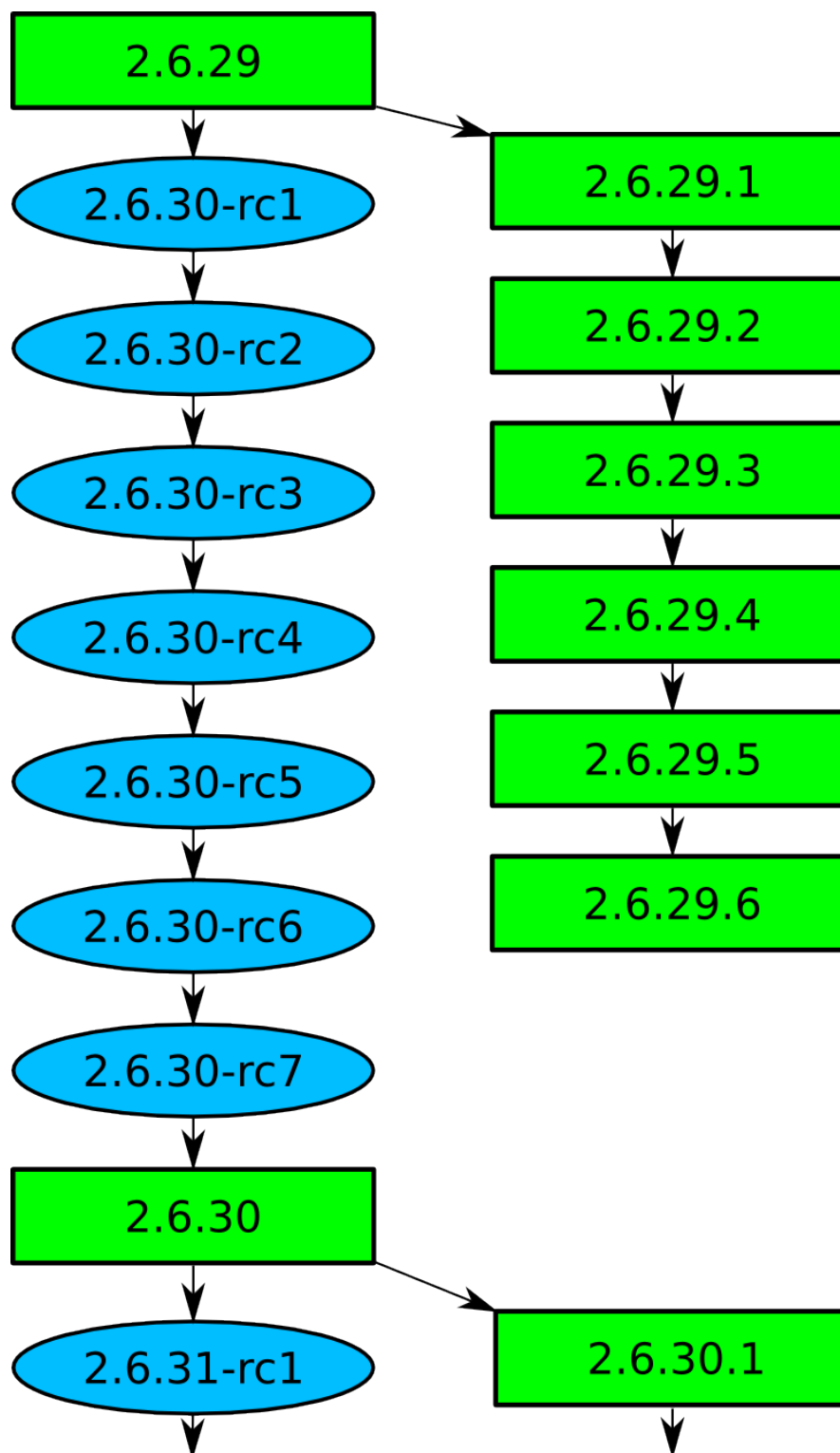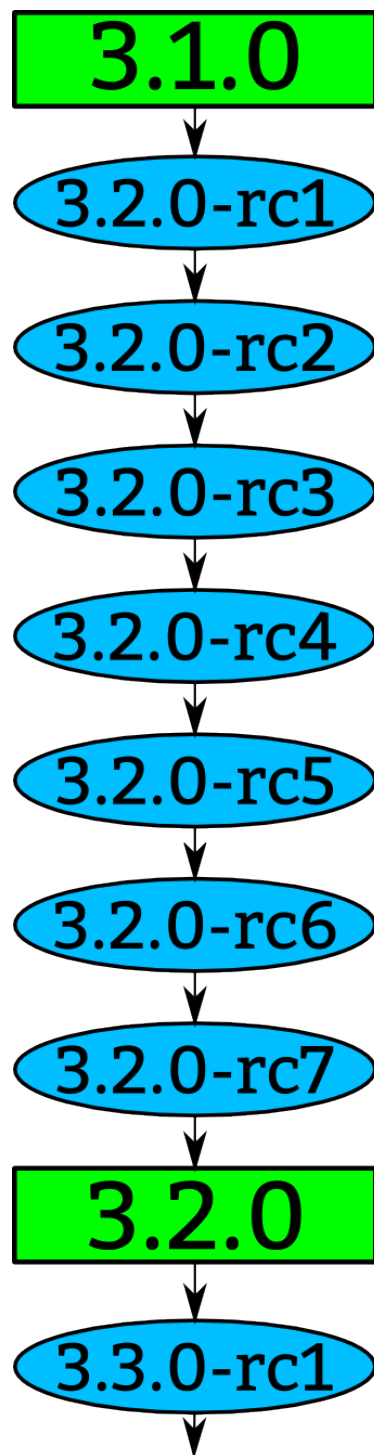Time based releases
Incremental changes

New release every 2¾ months

Kernel releases 2.6.20 – 3.2.0

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        2.6.29
          │
          │  ──────────────▶  2.6.29.1
          ▼                       │
     2.6.30-rc1                    ▼
          │                   2.6.29.2
          ▼                       │
     2.6.30-rc2                    ▼
          │                   2.6.29.3
          ▼                       │
     2.6.30-rc3                    ▼
          │                   2.6.29.4
          ▼                       │
     2.6.30-rc4                    ▼
          │                   2.6.29.5
          ▼                       │
     2.6.30-rc5                    ▼
          │                   2.6.29.6
          ▼
     2.6.30-rc6
          │
          ▼
     2.6.30-rc7
          │
          ▼
        2.6.30  ──────────────▶  2.6.30.1
          │                       │
          ▼                       ▼
     2.6.31-rc1
          │
          ▼
```

```
3.1.0 ──────────────→ 3.1.1
  │                     │
  ↓                     ↓
3.2.0-rc1             3.1.2
  │                     │
  ↓                     ↓
3.2.0-rc2             3.1.3
  │                     │
  ↓                     ↓
3.2.0-rc3             3.1.4
  │                     │
  ↓                     ↓
3.2.0-rc4             3.1.5
  │                     │
  ↓                     ↓
3.2.0-rc5             3.1.6
  │
  ↓
3.2.0-rc6
  │
  ↓
3.2.0-rc7
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  ↓
3.2.0 ──────────────→ 3.2.1
  │                     │
  ↓                     ↓
3.3.0-rc1
  │
  ↓
```
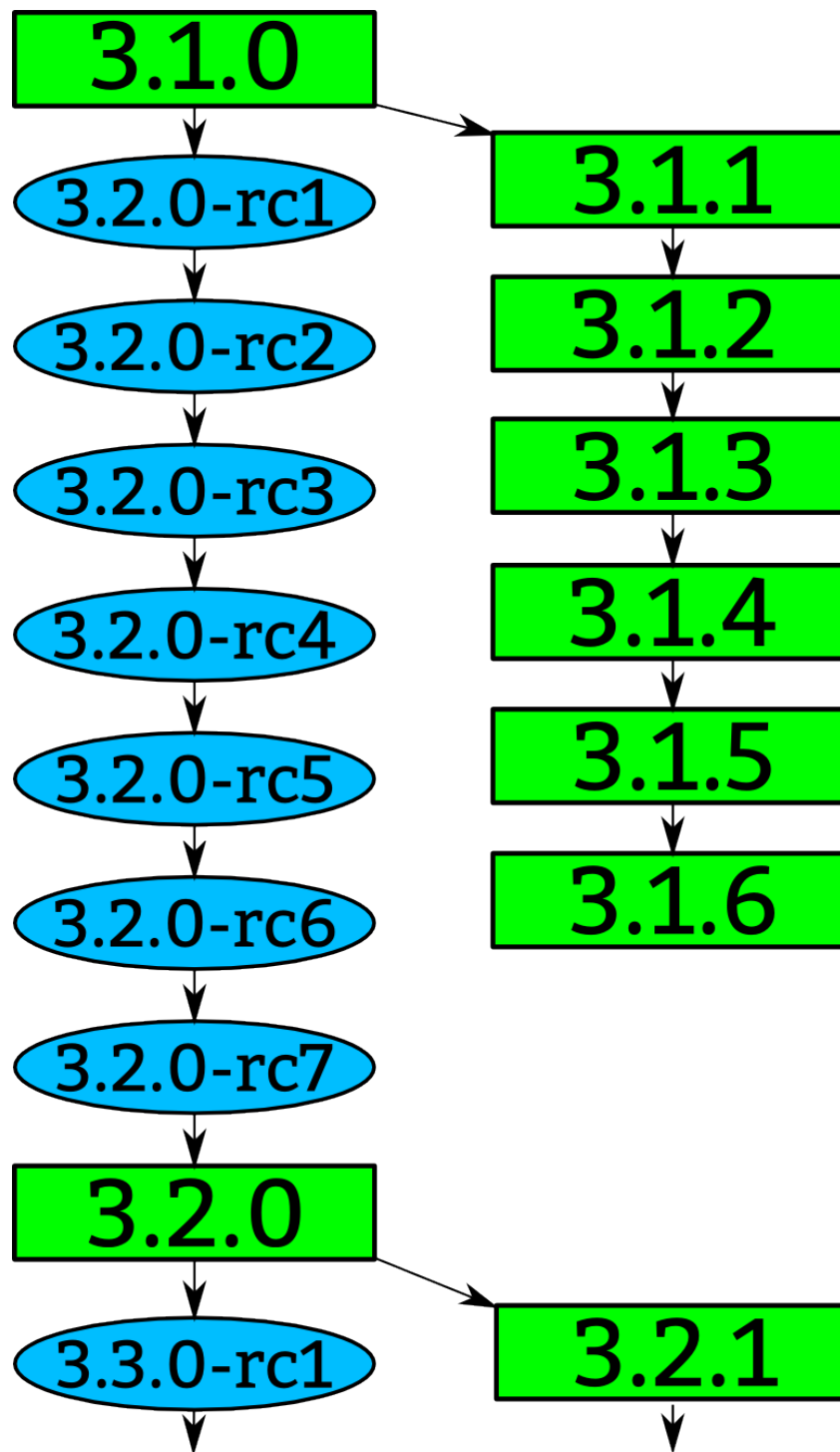
developer developer developer developer developer

```
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);
 }
```
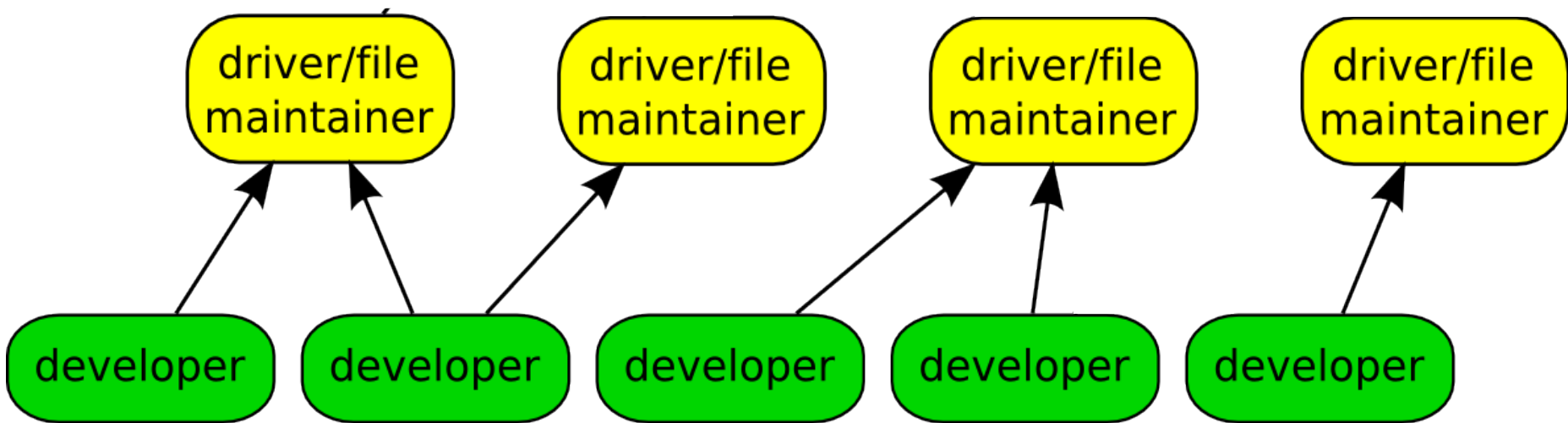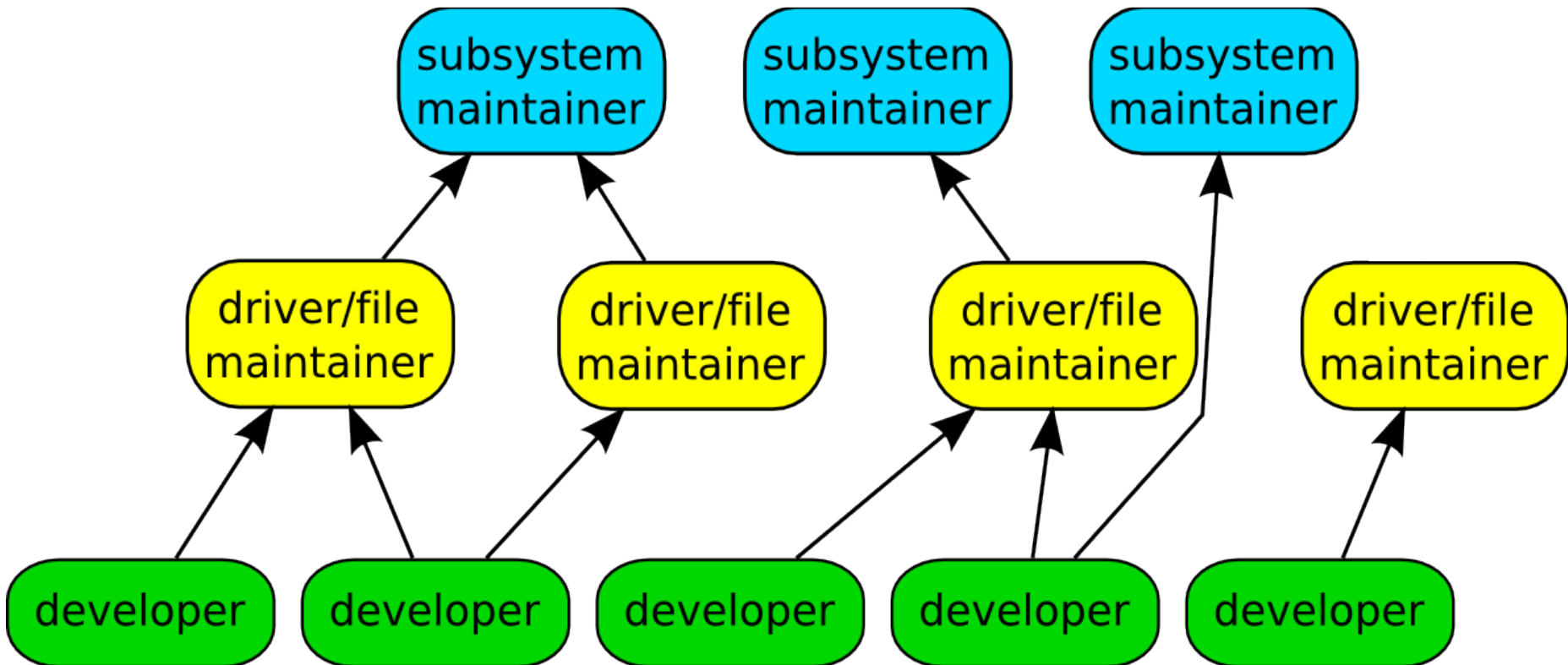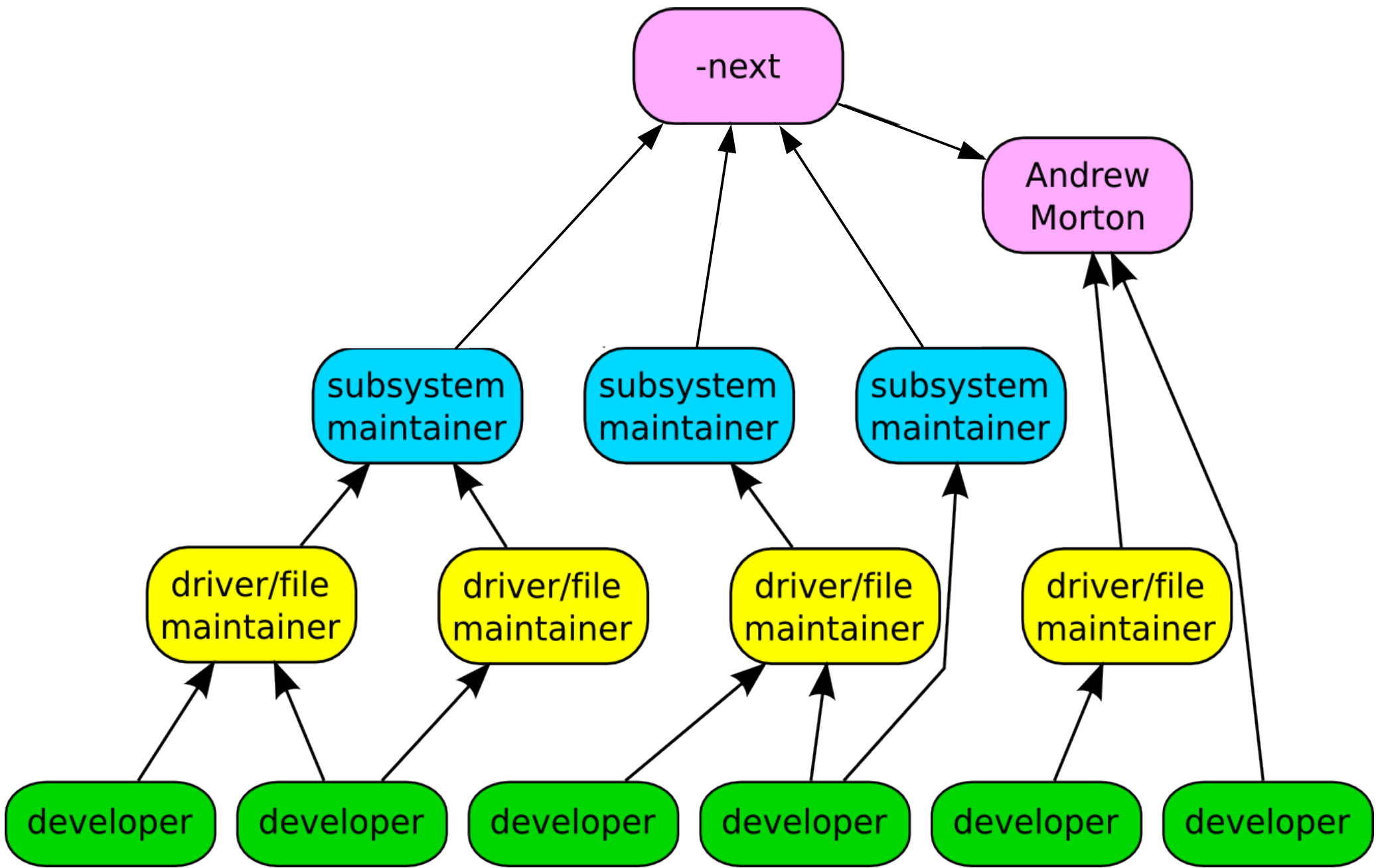
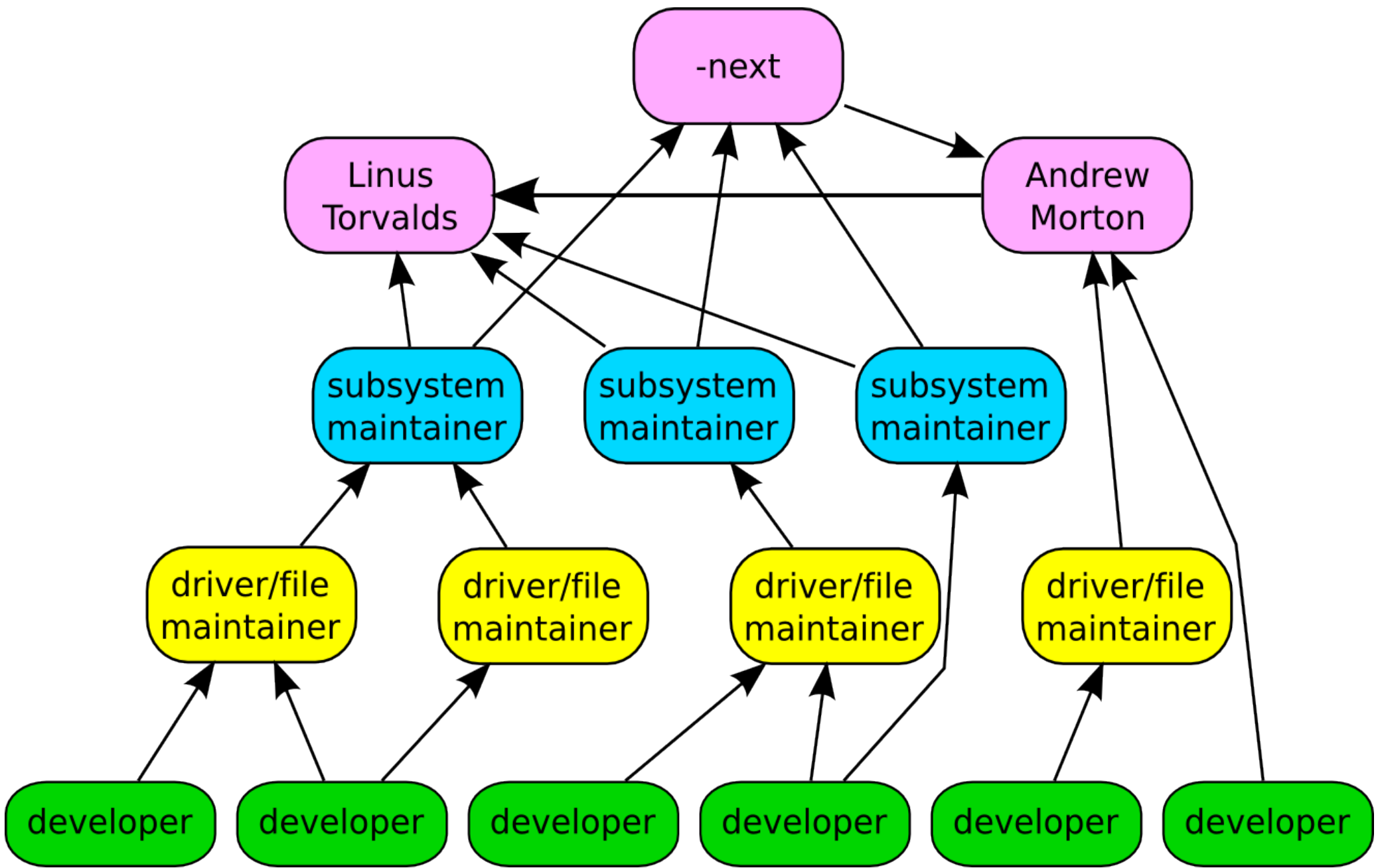# Developer's Certificate of Origin

(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.

```
                          ┌──────────┐
                          │  -next   │───────────┐
                          └──────────┘           ▼
                          ▲   ▲   ▲         ┌──────────┐
                         /    │    \        │  Andrew  │
                        /     │     \       │  Morton  │
                       /      │      \      └──────────┘
                      /       │       \        ▲   ▲
         ┌──────────┐  ┌──────────┐  ┌──────────┐  │  │
         │subsystem │  │subsystem │  │subsystem │  │  │
         │maintainer│  │maintainer│  │maintainer│  │  │
         └──────────┘  └──────────┘  └──────────┘  │  │
          ▲     ▲          ▲              ▲         │  │
         /│     │\         │              │         │  │
  ┌──────────┐ ┌──────────┐ ┌──────────┐ ┌──────────┐│
  │driver/file│ │driver/file│ │driver/file│ │driver/file││
  │maintainer │ │maintainer │ │maintainer │ │maintainer ││
  └──────────┘ └──────────┘ └──────────┘ └──────────┘│
      ▲    ▲       ▲         ▲    ▲           ▲       │
      │    │       │         │    │           │       │
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└─────────┘└─────────┘└─────────┘└─────────┘└─────────┘└─────────┘
```

Top developers by quantity

Mark Brown	743
Thomas Gleixner	643
K. Y. Srinivasan	588
David Miller	533
Joe Perches	493
Axel Lin	444
Al Viro	426
Russell King	426
Takashi Iwai	409
Ben Skeggs	408

Kernel releases 2.6.37 – 3.2.0

Top Signed-off-by:

Greg Kroah-Hartman	5807
David S. Miller	4047
John Linville	3024
Mauro Carvalho Chehab	2237
Linus Torvalds	2120
Mark Brown	1704
Andrew Morton	1642
James Bottomley	1110
Takashi Iwai	957
Russell King	934

Kernel releases 2.6.37 – 3.2.0

Who is funding this work?

1.
2. Red Hat   10.3%
3. Intel   7.3%
4.
5. Novell   4.0%
6. IBM   3.6%
7. Texas Instruments   3.4%
8. Broadcom   2.9%
9. Consultants   2.4%
10. Nokia   1.8%

Kernel releases 2.6.37 – 3.2.0

Who is funding this work?

1. "Amateurs"   15.9%
2. Red Hat   10.3%
3. Intel   7.3%
4. Unknown Individuals   4.4%
5. Novell   4.0%
6. IBM   3.6%
7. Texas Instruments   3.4%
8. Broadcom   2.9%
9. Consultants   2.4%
10. Nokia   1.8%

Kernel releases 2.6.37 – 3.2.0

Getting involved

Run the kernel.org release on your machine

Getting involved

Documentation/HOWTO

Documentation/development-process

Getting involved

kernelnewbies.org

Getting involved

Linux Driver Project

`drivers/staging/*/TODO`

Kernel development changes

17 years ago...

Linux 2.0.0

4 months later:

Linux 2.1.0

Linux branches

Even number stable
Odd number development

848 days and 141 releases later…

Linux 2.2.0

4 months later:

Linux 2.3.0

604 days and 58 releases later...

Linux 2.4.0

10 months later:

Linux 2.5.0

1057 days and 86 releases later...

Linux 2.6.0

2796 days and 39 releases later...

Linux 3.0.0