The Stable Linux Kernel Tree

Delivering a Stable Platform on a Constantly Moving Base

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33,315 files
13,470,000 lines

2,478 developers
342 companies

11,600 lines added
5,000 lines removed
2,300 lines modified

11,600 lines added
5,000 lines removed
2,300 lines modified

per day for all of 2009

Kernel releases 2.6.30 – 2.6.33
March 2009 – February 2010

5.51 changes per hour

15 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:

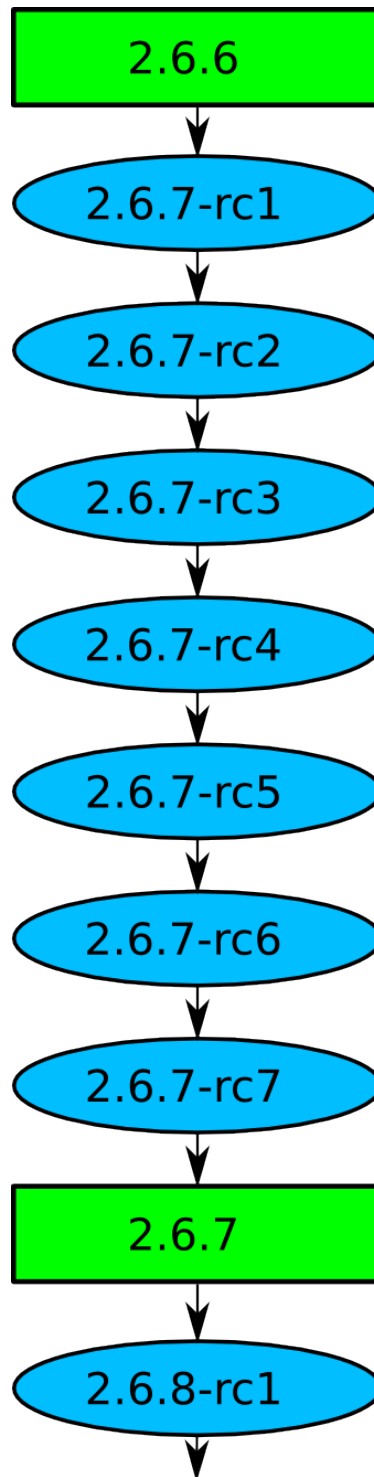# Linux 2.3.0

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

```
        ┌─────────────┐
        │    2.6.6    │
        └─────────────┘
               │
               ▼
         ╭─────────────╮
         │  2.6.7-rc1  │
         ╰─────────────╯
               │
               ▼
         ╭─────────────╮
         │  2.6.7-rc2  │
         ╰─────────────╯
               │
               ▼
         ╭─────────────╮
         │  2.6.7-rc3  │
         ╰─────────────╯
               │
               ▼
         ╭─────────────╮
         │  2.6.7-rc4  │
         ╰─────────────╯
               │
               ▼
         ╭─────────────╮
         │  2.6.7-rc5  │
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         │  2.6.7-rc6  │
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         ╭─────────────╮
         │  2.6.7-rc7  │
         ╰─────────────╯
               │
               ▼
        ┌─────────────┐
        │    2.6.7    │
        └─────────────┘
               │
               ▼
         ╭─────────────╮
         │  2.6.8-rc1  │
         ╰─────────────╯
               │
               ▼
```

New release every 2¾ months

Kernel releases 2.6.20 - 2.6.33

I'll tell you what the problem is: I don't think you'll find anybody to do the parallell "only trivial patches" tree. They'll go crazy in a couple of weeks. Why? Because it's a _damn_ hard problem. Where do you draw the line? What's an acceptable patch? And if you get it wrong, people will complain _very_ loudly, since by now you've "promised" them a kernel that is better than the mainline. In other words: there's almost zero glory, there are no interesting problems, and there will absolutely be people who claim that you're a dick-head and worse, probably on a weekly basis.

Anybody?

From: Greg KH <greg@kroah.com>
Subject: Re: RFD: Kernel release numbering
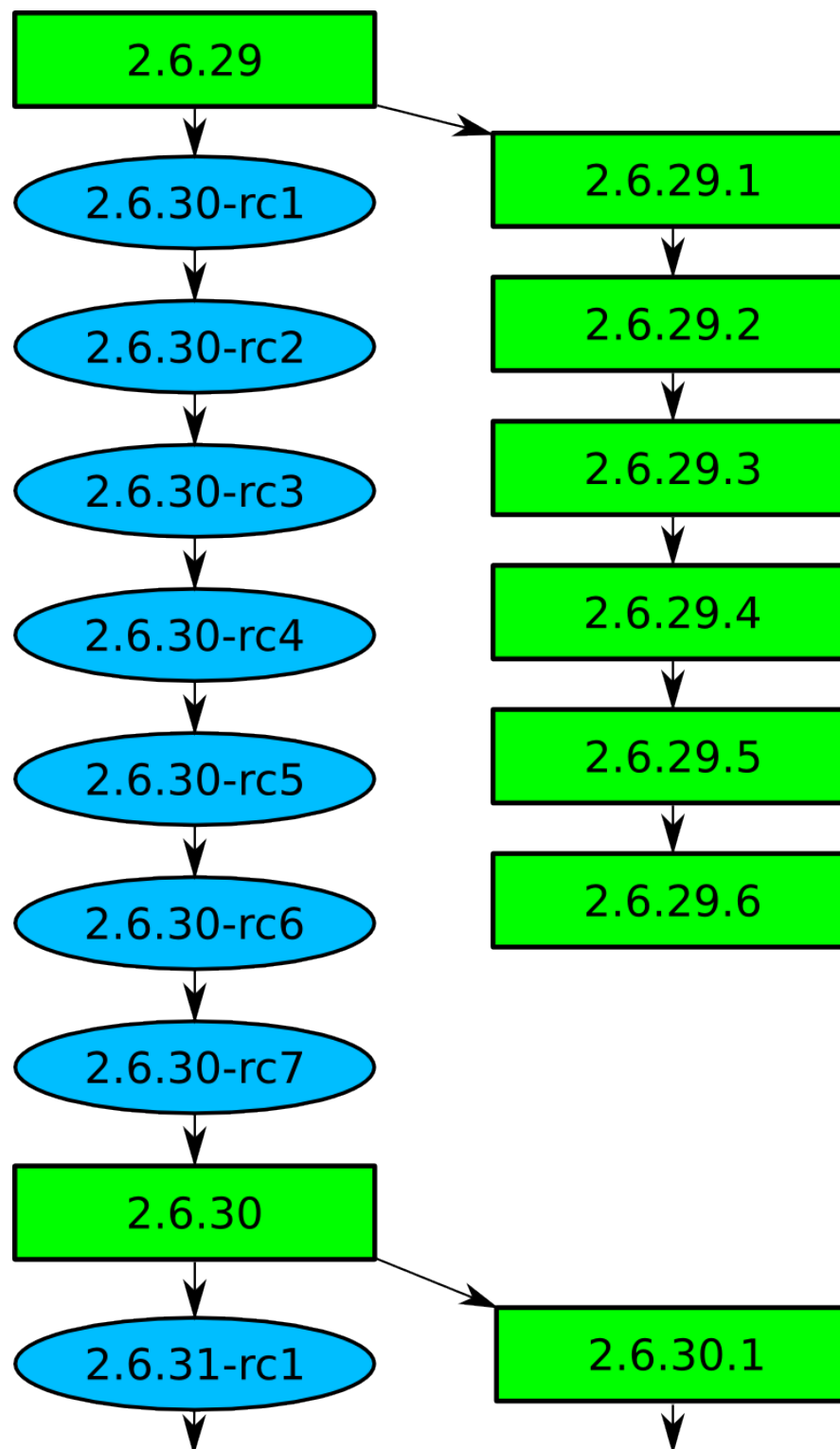Date: 2005-03-03 16:43:53 GMT

> Anybody?

Well, I'm one person who has said that this would
be a very tough problem to solve. And hey, I like
tough problems, so I'll volunteer to start this.
If I burn out, I'll take the responsibility of
finding someone else to take it over.

From: Chris Wright <chrisw@osdl.org>
Subject: Re: RFD: Kernel release numbering
Date: 2005-03-03 16:55:33 GMT

> Anybody?

Andres Salomon (-as patches) and I have been
talking about that at least regarding security
fixes. It's worth trying in a more complete and
formalized way. Guess I can be branded a sucker :)

```
                    ┌─────────────┐
                    │   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 │                  │
                    ╰─────────────╯                  ▼
                           │
                           ▼
```

stable_kernel_rules.txt

– obviously correct and tested
– not bigger than 100 lines
– must fix only one thing
– must fix a real bug
– must fix a real problem
– new device ids and quirks
– must be in Linus's tree already

version	# releases	# patches
2.6.11	12	79
2.6.12	6	53
2.6.13	5	44
2.6.14	7	96
2.6.15	7	110
2.6.16	62	1053
2.6.17	14	191
2.6.18	8	240
2.6.19	7	189
2.6.20	21	447

version	# releases	# patches
2.6.21	7	321
2.6.22	19	1584
2.6.23	16	613
2.6.24	7	383
2.6.25	20	419
2.6.26	8	321
2.6.27	54	1584
2.6.28	10	613
2.6.29	6	383
2.6.30	10	419

version	# releases	# patches
2.6.31	14	826
2.6.32	23	2003
2.6.33	7	883
2.6.34	7	601
2.6.35	6	442

stable_kernel_rules.txt

- "Cc: <stable@kernel.org>" to the
  Signed-off-by: area of the patch
- send git commit id to stable@kernel.org

Review cycle

– patches are sent to maintainers
 and authors
– 48-72 hour review
– new release happens

Get Involved

- tag your patches!
- send commit ids to `stable@kernel.org`
- `stable-commits@vger.kernel.org`
- `stable-review@kernel.org`