

Linux Kernel Development

Going faster than you think

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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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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

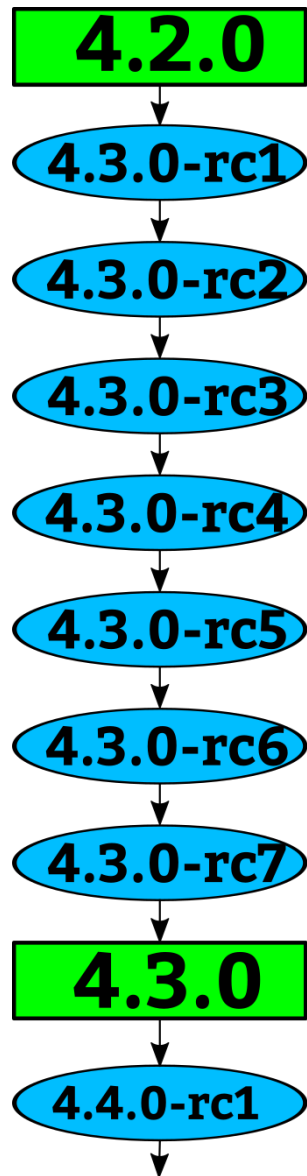
4.3 release

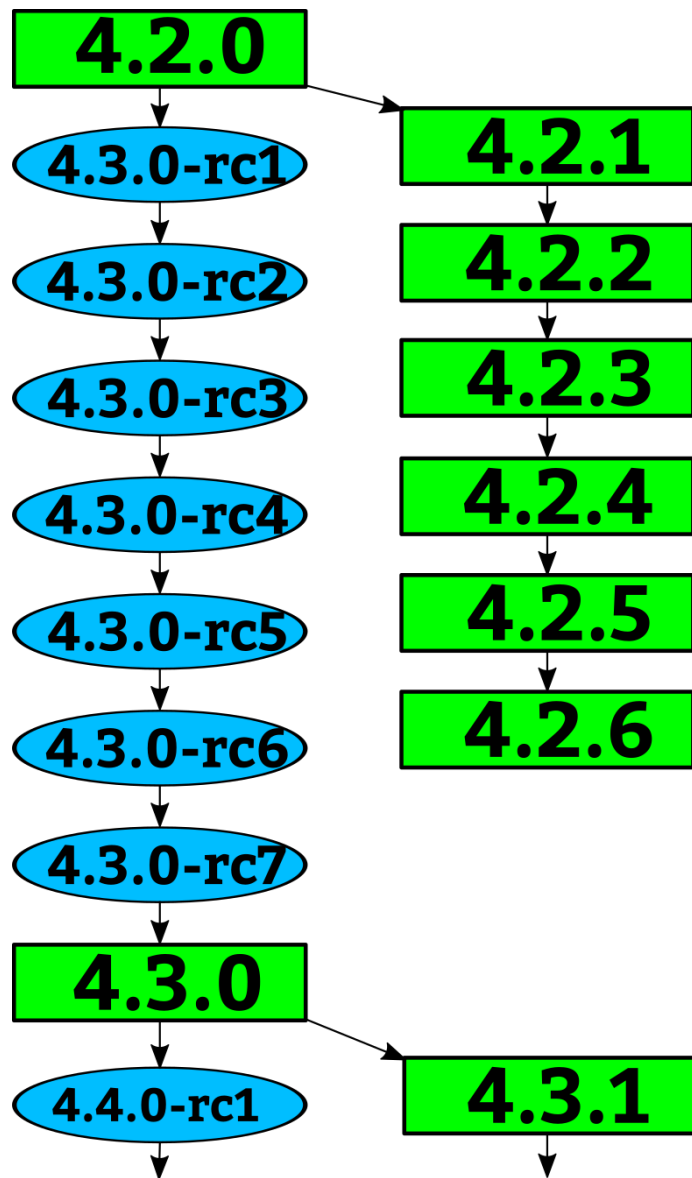
How we stay sane

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

Kernel Security

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Almost all bugs can be a “security” issue.

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Almost all bugs can be a “security” issue.

Fix them as soon as possible.

Kernel Security

Averaging 10 fixes per day.

“If you are not using a stable /
longterm kernel, your machine
is insecure”

– me

**“We need airbags for software”
– Konstantin Ryabitsev**

**“We will always have bugs,
we must stop their exploitation”**

– Kees Cook

Kernel Hardening

kernsec.org/wiki/index.php/Kernel_Self_Protection_Project

Core Infrastructure Initiative

**“Ceaseless change is the only
constant thing in Nature.”**

– John Candee Dean



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