Linux Kernel Maintainers

Greg Kroah-Hartman
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Why are they so grumpy?

What you can do to avoid this.

What maintainers owe you.

2,833 developers
373 companies

Kernel releases 3.0.0 – 3.4.0
May 2011 – May 2012

5.79 changes per hour

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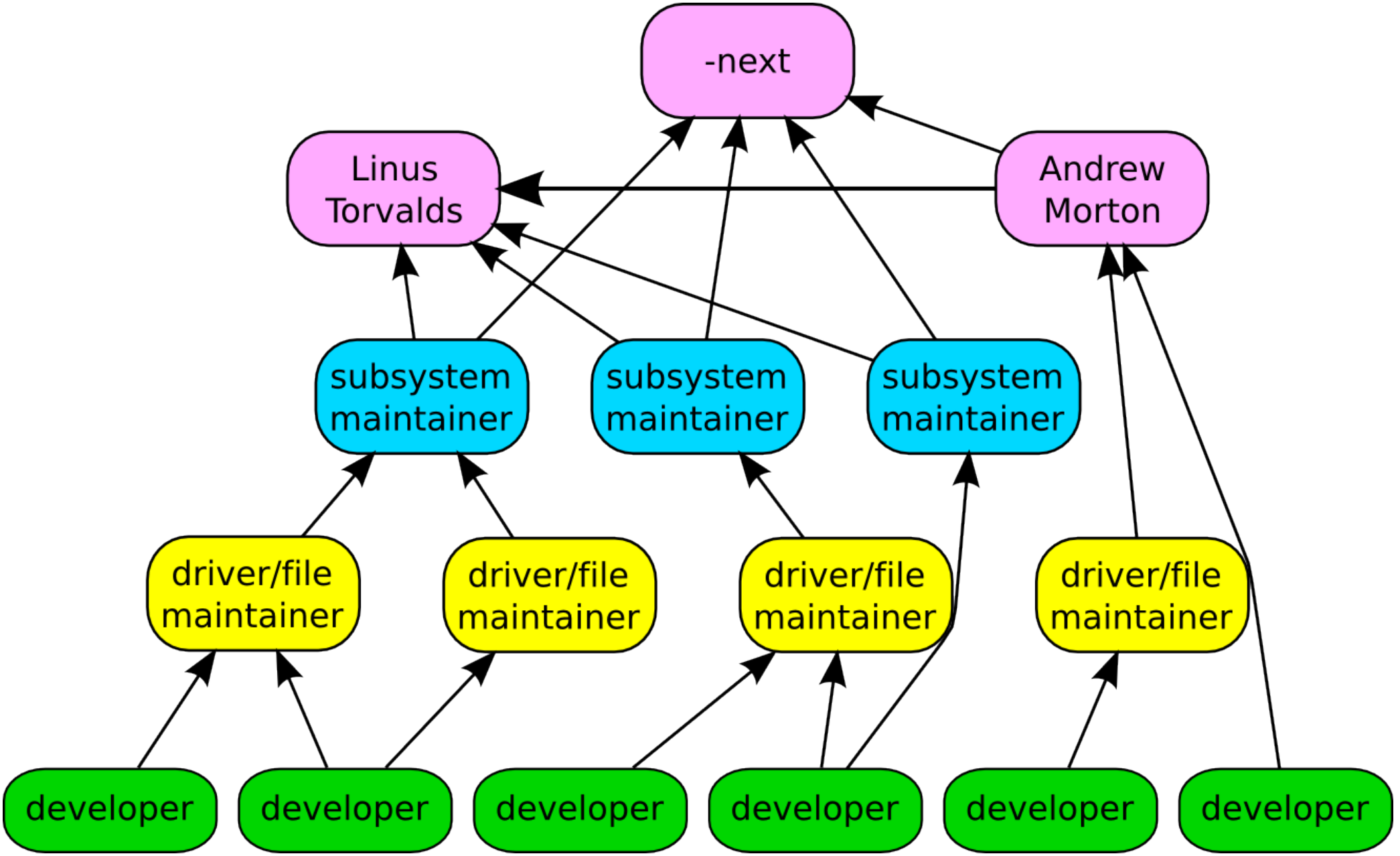
7.21 changes per hour

3.4.0 release


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

Patches I received in the past 2 weeks

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487

Subject: [PATCH 48/48] ...

15 patch series, no order given

Patches 1, 3-10

“Signed-off-by:” in signature

Signature saying email was confidential

Tabs were converted to spaces

Leading spaces removed

diff in non-unified format

Patch created in driver directory

Patch created in /usr/src/linux-2.6.32

Made against different tree

Wrong coding style

Wrong coding style, and acknowledged it

Would not compile

Broke the build on patch 3/6

Broke the build on patch 3/6 and fixed it on 6/6

Broke the build on patch 5/8

Broke the build on patch 5/8

Contained note that fix would be sent later

Patches that had nothing to do with me

1 patch, 450kb big (4500 lines added)

Obviously wrong kerneldoc

This was a calm two weeks

It is in my self-interest to ignore your patch

Give me no excuse to reject your patch

Proper coding style

scripts/checkpatch.pl clean

Sent to proper people and lists

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scripts/get_maintainer.pl

Proper Subject:

Proper changelog comment

“obviously” correct

Small incremental change

Description of WHY it is needed

Which tree it was made against

If multiple patches, state the order

Has to build properly

Make sure it works, if possible

Don't ignore review comments

Don't resend without saying why

What I will do for you:

Review your patch within 1-2 weeks

Offer semi-constructive criticism

Let you know the status of your patch

“Publicly making fun of people is half the fun of open source programming.

In fact the main reason to eschew programming in closed environments is that you can't embarrass people in public.”

– Linus Torvalds

github.com/gregkh/presentation-maintainer

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I'm going to discuss the how fast the kernel is moving, how we do it all, and how you can get involved.

Why are they so grumpy?

What you can do to avoid this.

What maintainers owe you.

So, let's talk about the main problem that people seem to have with Linux kernel maintainers, why are they so grumpy? Hopefully by the end of this talk, you will have an idea of why this always happens, and what you can do to avoid having that anger be directed at you.

Also, I'm going to cover what you should expect from a good kernel maintainer, so if you are a maintainer, here's something that developers can use to get back at you, and me, as I figure it's only fair.

I am going to complain a lot in this talk. Please don't get the impression that I don't like doing this type of work. I love it. It's the best job in the world that I've ever had, and I can't think of anything that I would rather be doing.

2,833 developers
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Kernel releases 3.0.0 – 3.4.0
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This makes the Linux kernel the largest contributed body of software out there that has been created..

This is just the number of companies that we know about, there are more that we do not, and as the responses to our inquiries come in, this number will go up.

5.79 changes per hour

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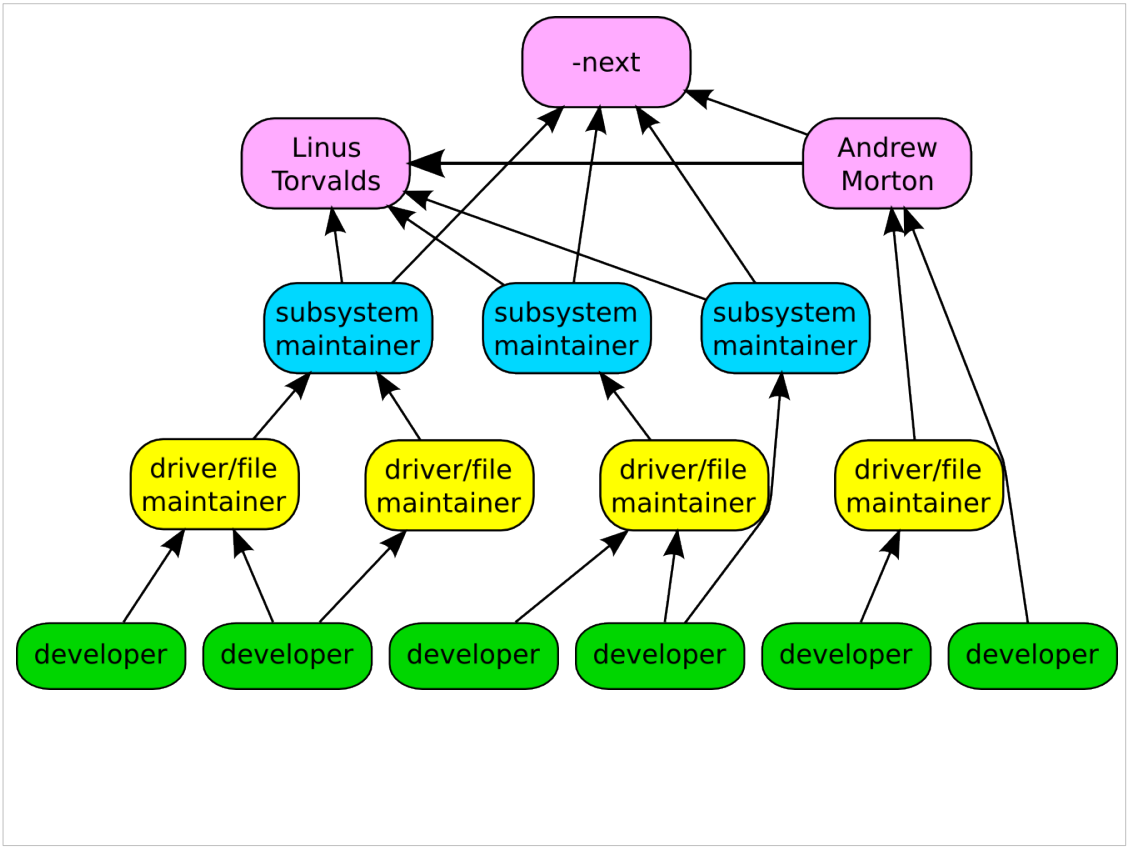
For that year of development, we went at this rate, 24 hours a day, 7 days a week. This is up from last year, which was at 5.2 or so, so we are increasing, which is scary, right?

7.21 changes per hour

3.4.0 release

This past 3.4 release was the fastest we have ever created. That number shows just how well the Linux kernel development model is working. We are growing in developers and in how fast we are developing overall.

Now this is just the patches we accepted, not all of the patches that have been submitted, lots of patches are rejected, as anyone who has ever tried to submit a patch can attest to.



Here's a picture of our development model, in a simplified form.

We have about 3000 different developers. They make a patch, and send it through email to the file/driver maintainer. We have about 700 different maintainers listed in the kernel tree at the moment. That maintainer reviews it, and if they accept it, they forward it on to the subsystem maintainer. We have around 130 different subsystem maintainers at the moment.

Those maintainers have public kernel trees that all get merged into the linux-next release every day. Then, when the merge window opens up, the subsystem maintainers send their stuff to Linus.

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Now, I'm not asking you to take pity on me, just realize that this is the level of incompetence that every single one of those 700 developers encounter on a constant basis.

So when you think we are acting grumpy, remember, how would you act if you had to deal with this all of the time?

Let's get back to what the goal is here. You want to create a patch that is accepted as it does something that you want to do in Linux. The maintainer wants to reject it.

It is in my self-interest to ignore your patch

Seriously. It's easier for the maintainer to not accept your code at all. To accept it, it takes time to review it, apply it, send it on up the development chain, handle any problems that might happen with the patch, accept responsibility for the patch, possibly fix any problems that happen later on when you disappear, and maintain it for the next 20 years.

That's a lot of work that you are asking someone else to do on your behalf. You are asking someone who doesn't usually work for your company, who probably lives in a different country, who you have never met in person, to assume responsibility for your work, and to do extra work on top of the normal work they do in the kernel every day.

So you can see how it's in my interest to ignore your patch. And it's in your interest to keep me from ignoring it, because you want it accepted.

Give me no excuse to reject your patch

So your goal is, when sending a patch, is to give me NO excuse to not accept it. To make it such that if I ignore it, or reject it, I am the one that is the problem here, not you.

What can you do to keep me from rejecting your patch outright

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First off, don't do any of the things I listed above, that's obvious, right? But that's a "do not do" list, how about a list of what to do:

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Obligatory Penguin Picture