

# Secrets Behind Linux Kernel Patch Statistics

Chen WANG

Trend Micro

Fujitsu



World's No. 1  
again on  
TOP500 List



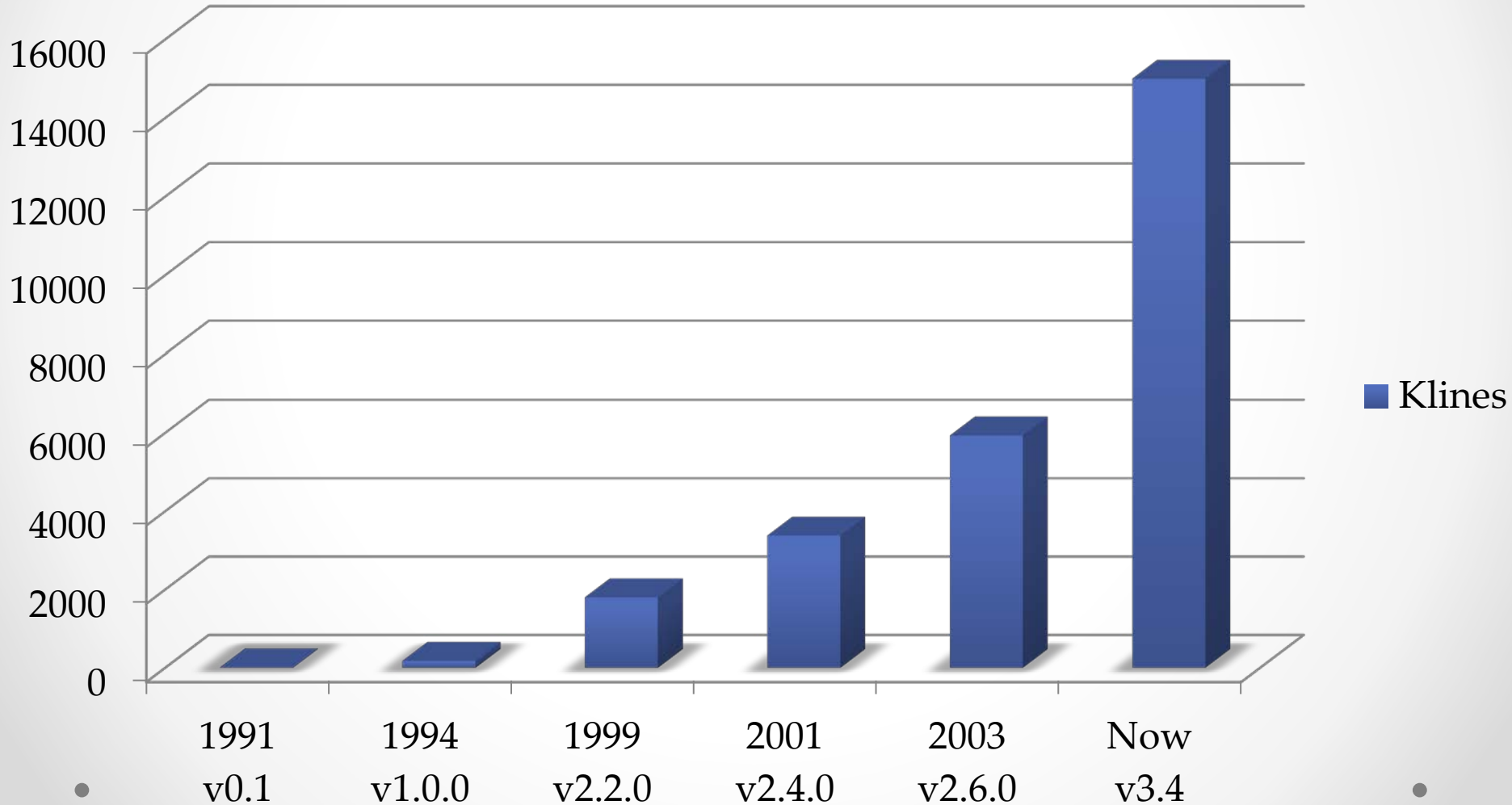
Performance of  
over 10 Peta\* flops

\* 10 Peta = 10,000,000,000,000,000

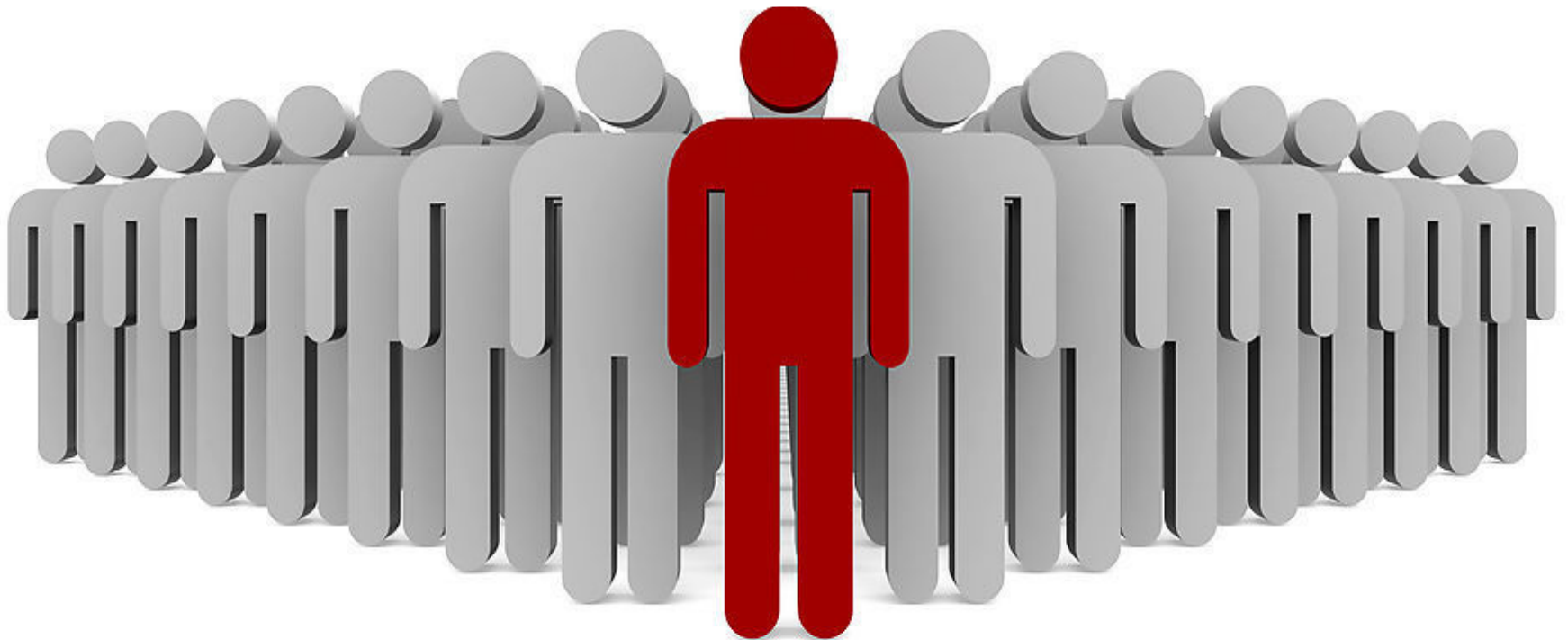
1991



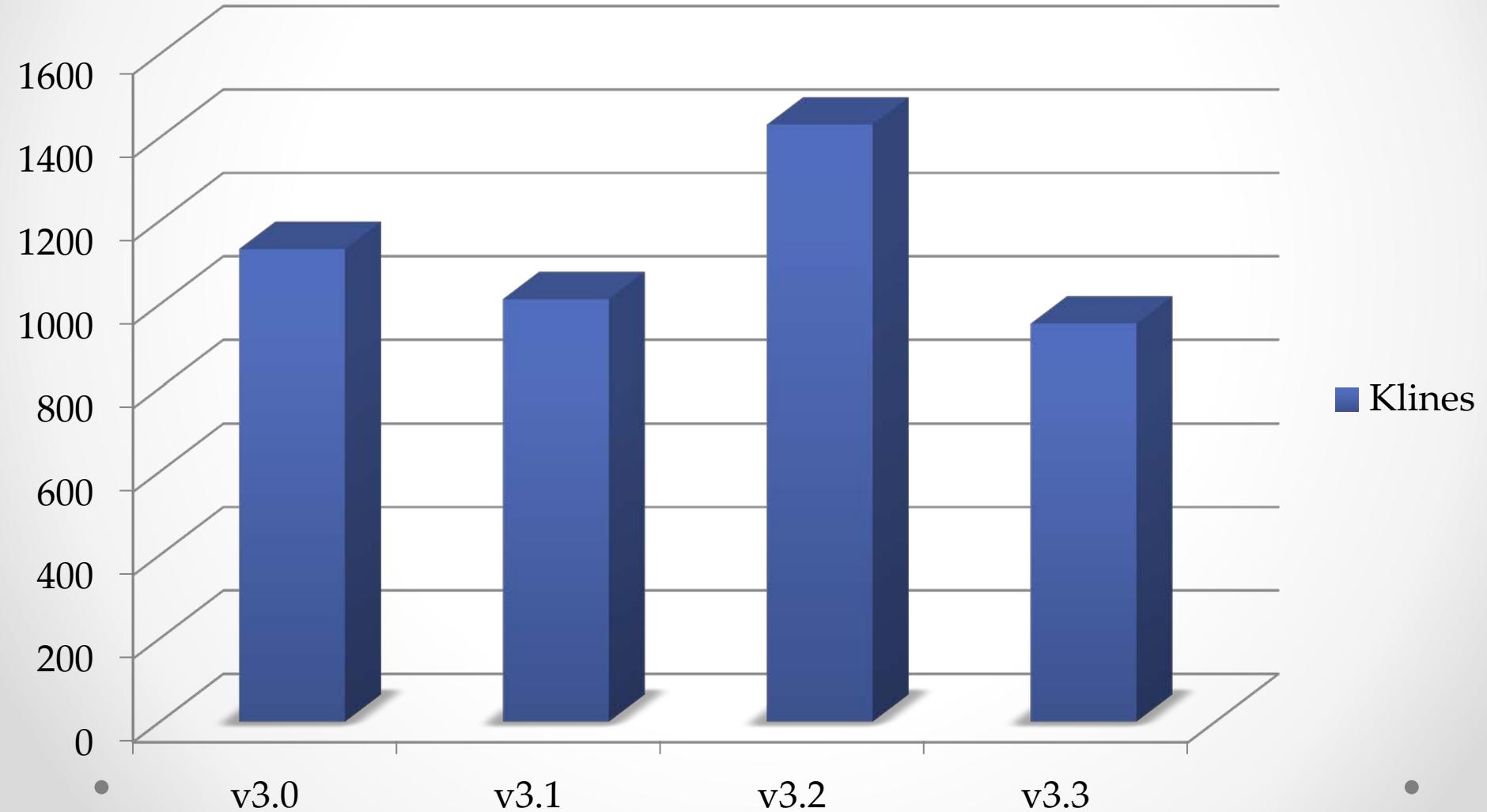
# Kernel Code Growth



185 Engineers 21 Years



# Kernel Code Change



# Come From Community



# What's community





# What's community





```
---
drivers/media/rc/fintek-cir.c | 32 +++++-----
drivers/media/rc/nuvoton-cir.c | 145 ++++++-----
2 files changed, 90 insertions(+), 87 deletions(-)
```

```
diff --git a/drivers/media/rc/fintek-cir.c b/drivers/media/rc/fintek-cir.c
index 4a3a238..01764a3 100644
--- a/drivers/media/rc/fintek-cir.c
+++ b/drivers/media/rc/fintek-cir.c
```

```
> > diff --git a/drivers/staging/android/alarm.c b/drivers/staging/android/alarm.c
> > index c68950b..4ea07bb 100644
> > --- a/drivers/staging/android/alarm.c
> > +++ b/drivers/staging/android/alarm.c
> > @@ -302,8 +302,8 @@ int android_alarm_set_time(int dev, int type, int value)
> >     }
> >     ret = rtc_set_time(alarm_rtc_dev, &rtc_time, value);
> >     if (ret < 0)
```

The reset date of the ST Micro version correct weekday for 2000-01-01 is saturday. This may lead to alarm malfunction if RTC\_DR indicates reset.

Signed-off-by: Rajkumar Kasirajan <rajka@kernel.org>  
Signed-off-by: Linus Walleij <linus.walleij@linaro.org>  
Cc: Mattias Wallin <mattias.wallin@steris.com>  
Cc: Alessandro Zummo <a.zummo@towertech.it>  
Signed-off-by: Andrew Morton <akpm@linuxfoundation.org>  
Signed-off-by: Linus Torvalds <torvalds@linuxfoundation.org>



>> Applied, thanks.





# Who are in Community

<http://remword.com/kps>



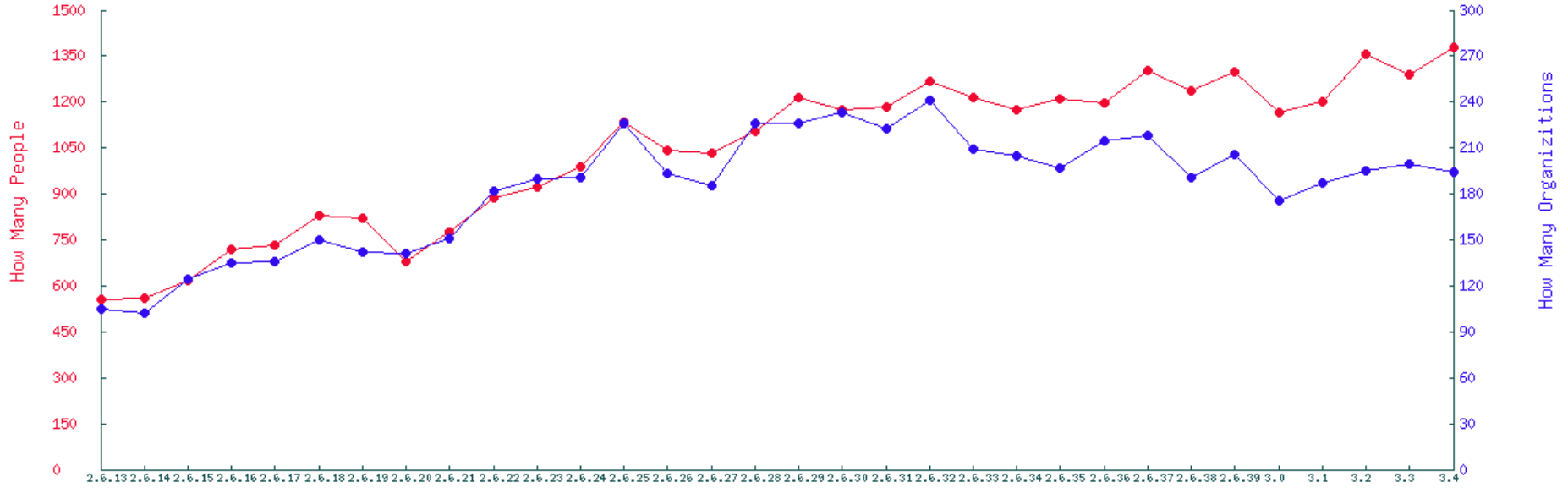
Johnathan Corbet



Greg Kroah-Hartman

— — —  
+ + + git

How Many People and Org are Committing



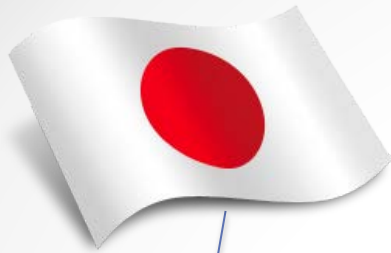


# Organization

1. Hobbyists	16.51%
2. Red Hat	11.89%
3. Intel	7.79%
4. Novell	6.43%
5. IBM	5.95%
6. Unknown	5.20%
7. Oracle	2.44%
8. Academics	1.87%
9. Consultants	1.79%
10. TI	1.53%

11. Renesas Tech	1.28%
12. Broadcom	1.18%
13. Linux Foundation	1.11%
14. Fujitsu	1.10%
15. Analog Devices	1.07%
16. Nokia	1.03%
17. QUALCOMM	1.02%
18. AMD	0.99%
19. Google	0.99%
20. Parallels	0.95%





# Individual

- |                     |              |                   |                   |
|---------------------|--------------|-------------------|-------------------|
| 1. David S. Miller  | @Red Hat     | 11. Paul Mundt    | @Renesas          |
| 2. Al Viro          | @Red Hat     | 12. Bartlomiej Z. | @Hobbyists        |
| 3. Takashi Iwai     | @Novell      | 13. Greg KH       | @Linux Foundation |
| 4. Mark Brown       | @Wolfson M   | 14. Stephen H.    | @Vyatta           |
| 5. Tejun Heo        | @Novell      | 15. Adrian Bunk   | @Movial           |
| 6. Ingo Molnar      | @Red Hat     | 16. Christoph H.  | @Unknown          |
| 7. Russell King     | @Consultants | 17. Alan Cox      | @Intel            |
| 8. Johannes Berg    | @Intel       | 18. Ralf Baechle  | @Intel            |
| 9. Thomas Gleixner  | @Linutronix  | 19. Joe Perches   | @Hobbyists        |
| 10. Mauro C. Chehab | @Red Hat     | 20. Andrew Morton | @Google           |

# Nation

No.1 American	18.57%
No.2 Unknown	17.45%
No.3 German	12.42%
No.4 English	8.09%
No.5 Chinese	5.59%
No.6 Russian	3.76%
No.7 Japanese	3.74%
No.8 Indian	3.46%
No.9 Australian	2.84%
No.10 Frenchman	2.84%

# Why They Join



| 1 | | laptop | → | child |  
one laptop per child™



# Corporation

Distro

Hardware

Software

IT  
Solution

# Distro



- kernel/trace/
- arch/[x86 | sparc\* | ia64 | powerpc | x86\_64]/
- drivers/[net | char | scsi | media | ata | md | ...]/
- fs/gfs2/



- sound/pci/
- drivers/\*/
- fs/btrfs/

# Hardware



- drivers/net/
- drivers/acpi/
- arch/[x86 | ia64 | x86\_64]/



- arch/blackfin/



- arch/sh/

# Software

## ORACLE<sup>®</sup>

- fs/[btrfs | ocfs2 | nfs]/
- block/

## || Parallels<sup>™</sup>

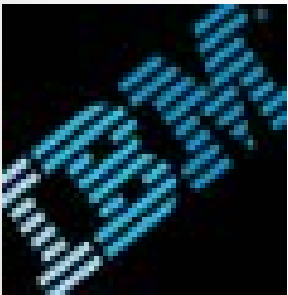
- net/[ipv4 | ipv6 | core]/



# IT Solution



- kernel/trace/
- drivers/pci/
- mm/
- arch/[x86 | ia64]/



- arch/[powerpc | s390 | ppc64]/
- kernel/
- fs/[cifs | ext3 | ext4]/



- fs/xfst/
- mm/
- arch/ia64/

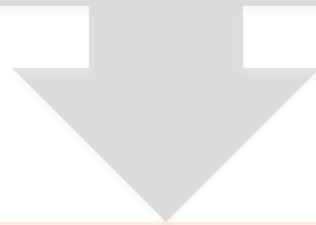
# Win Win

Linux-2.6.13

Customization

Product Code

Product V1.0



Linux-2.6.23

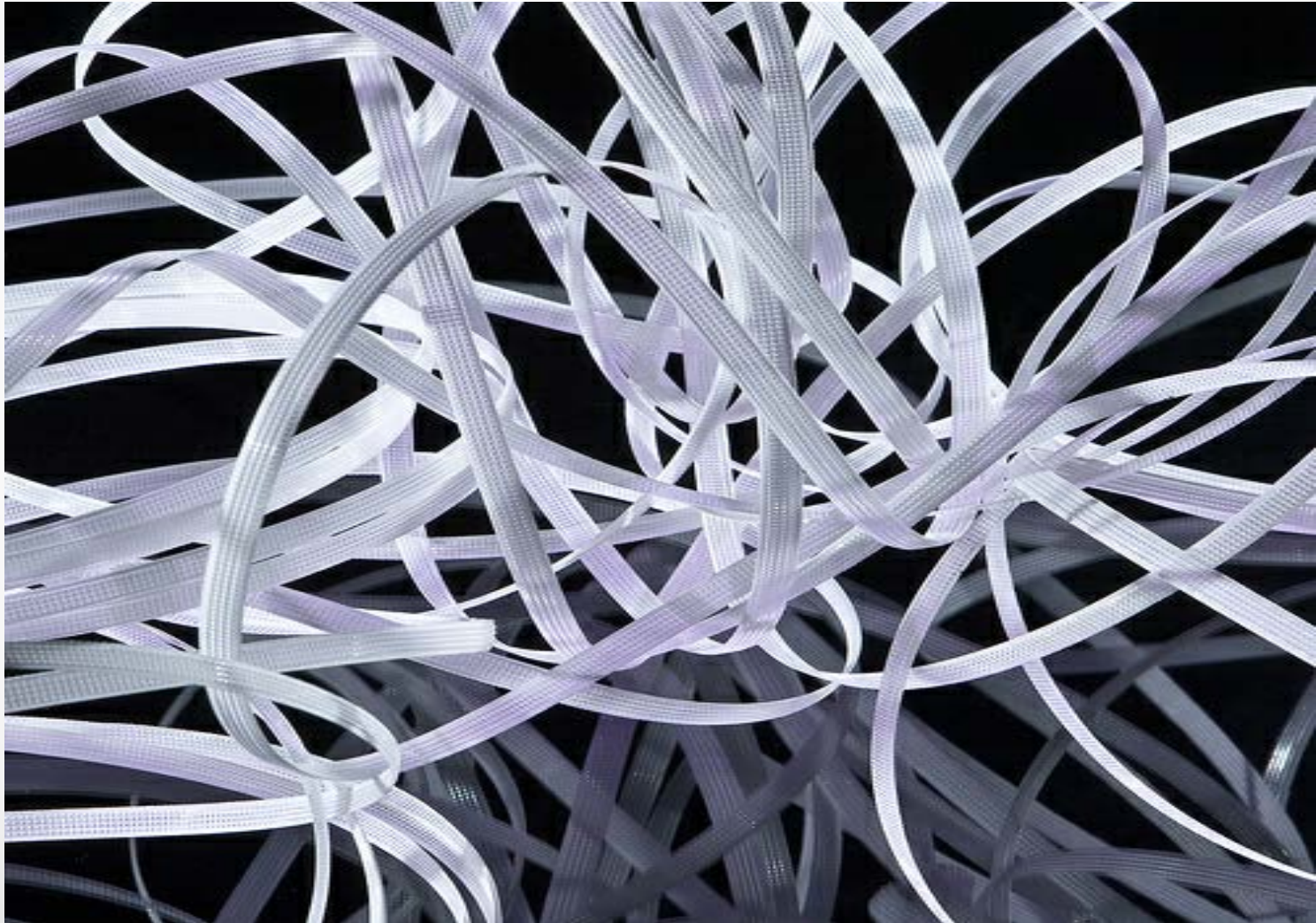
Product Code

Product V2.0

# Non Profit



# How it works



# Mainline

2012-03-18

Linux-3.3

Linux-3.4 RC

Bug Fix Only

Linux-3.4

2012-05-20

# Dev Tree

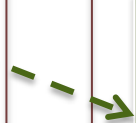
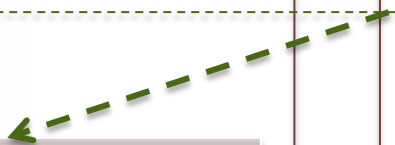
New Features

New Features  
Developing ...

# Stable

Fixing

Merge Window



# Mainline



# Dev Tree

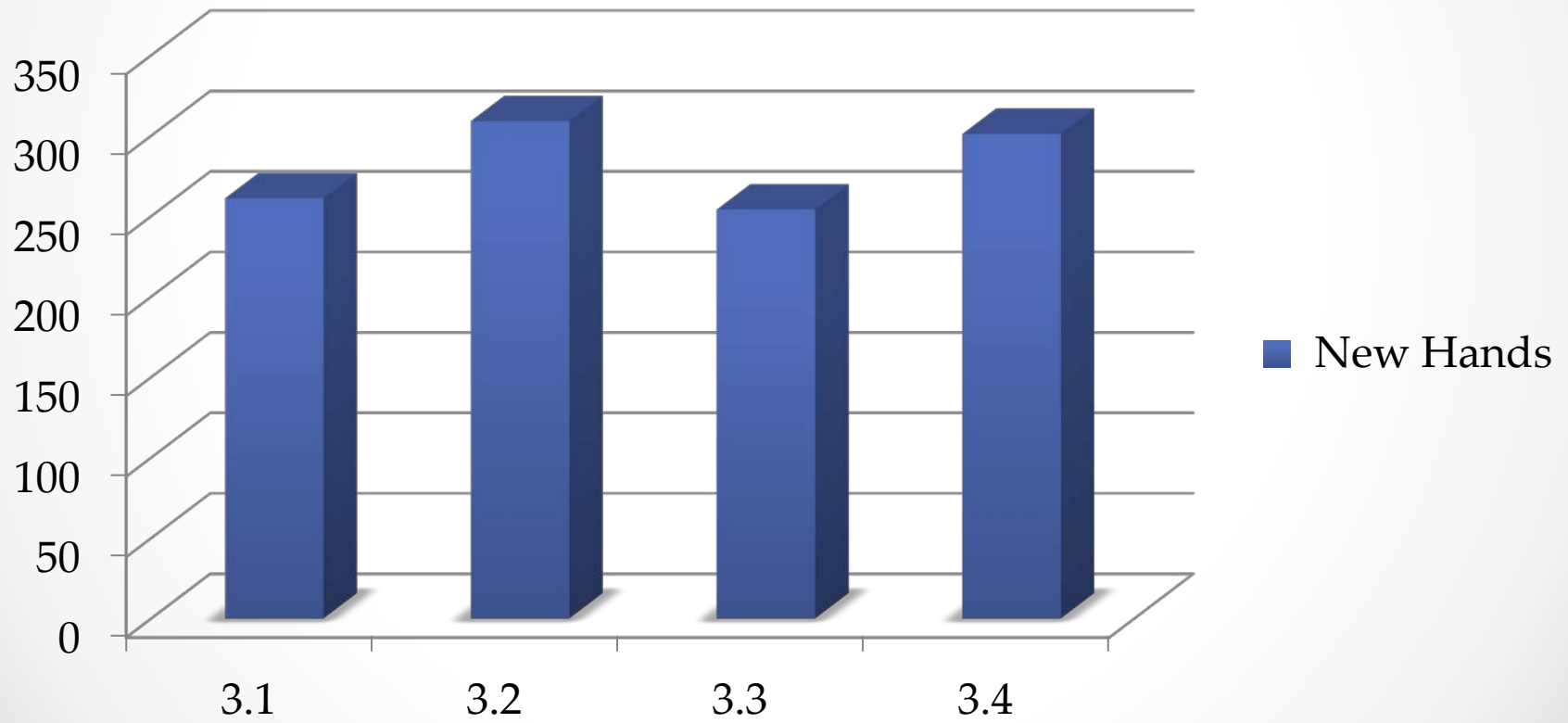


# Stable

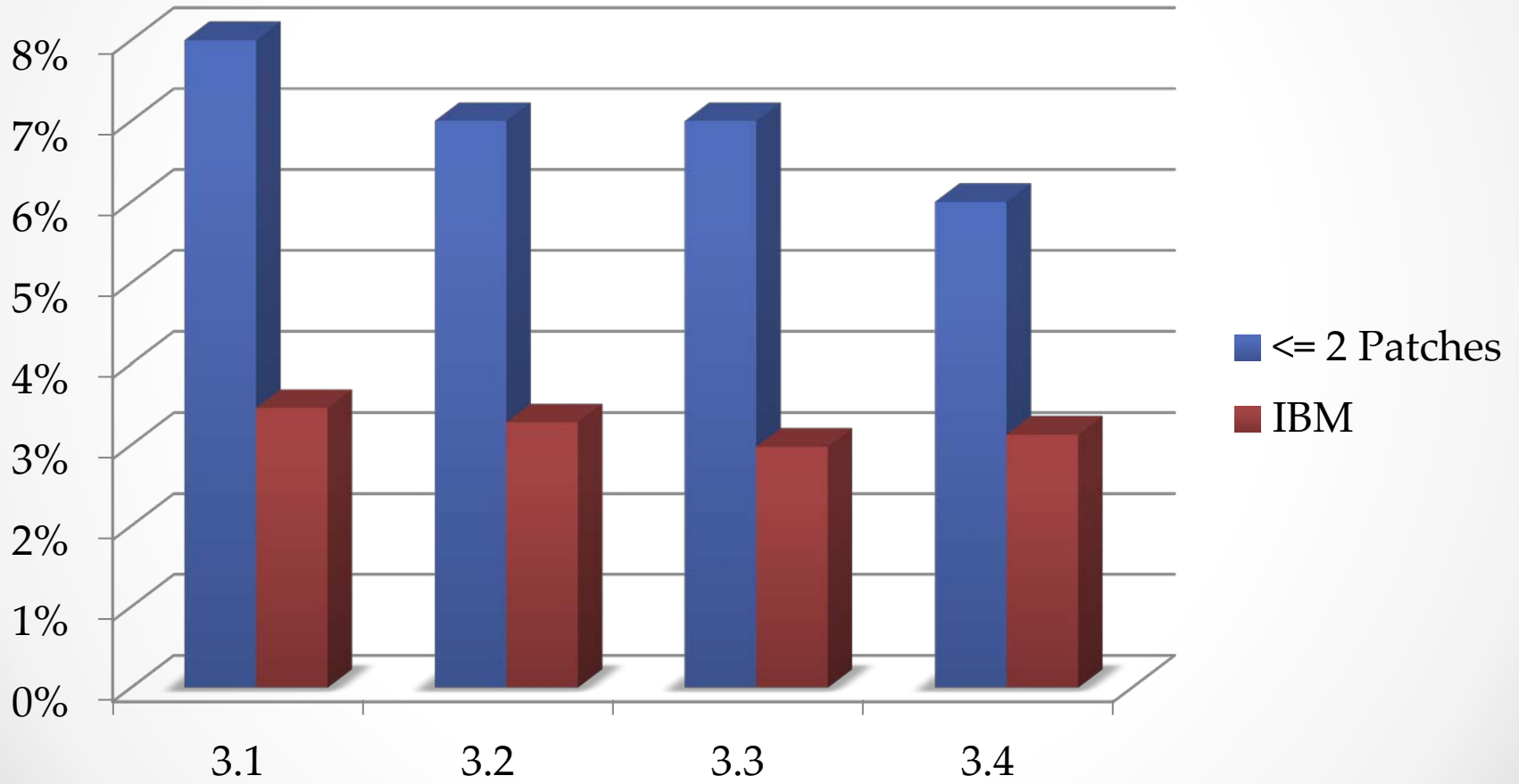


# New Join

## New Hands



# Long Tail





# More Secrets

