



我要参与Linux内核社区

宋宝华 -- 在线讲堂20:40开始

今天的内容

- ✓ Linux内核的版本演进
- ✓ 内核源代码管理模式
- ✓ patch的属性与内容
- ✓ 与Maintainer交互

认识Linux内核版本

√ 主版本

Ø 1.0 2.0 2.2 2.4 2.6

Ø 2,3年更新

√ 稳定版

Ø 2.0.40 2.2.12 2.4.18 2.6.7

Ø 1,2月更新

√ 稳定版更新

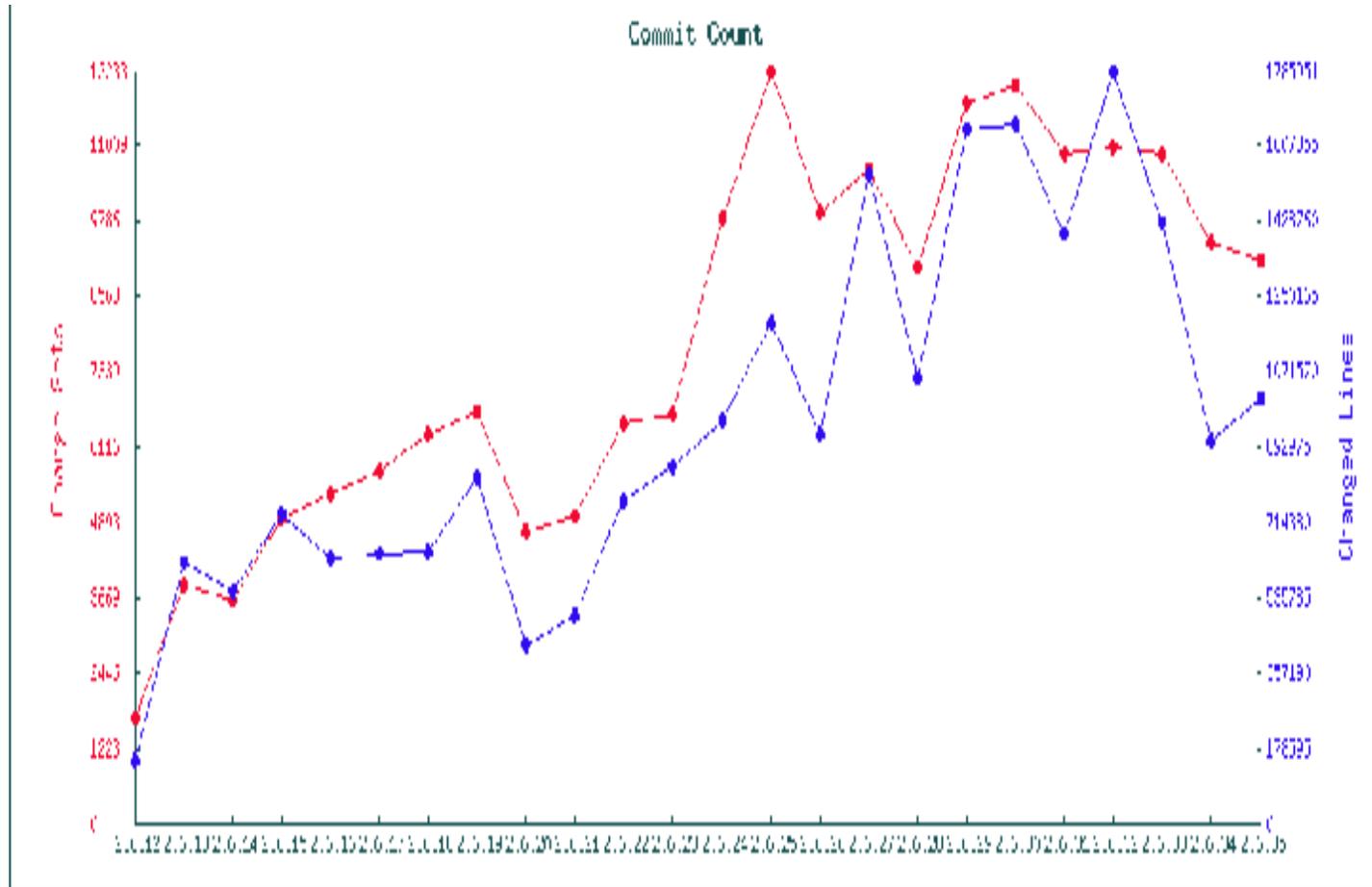
Ø 2.6.23.1 ~ 2.6.23.7

Ø 1,2周更新

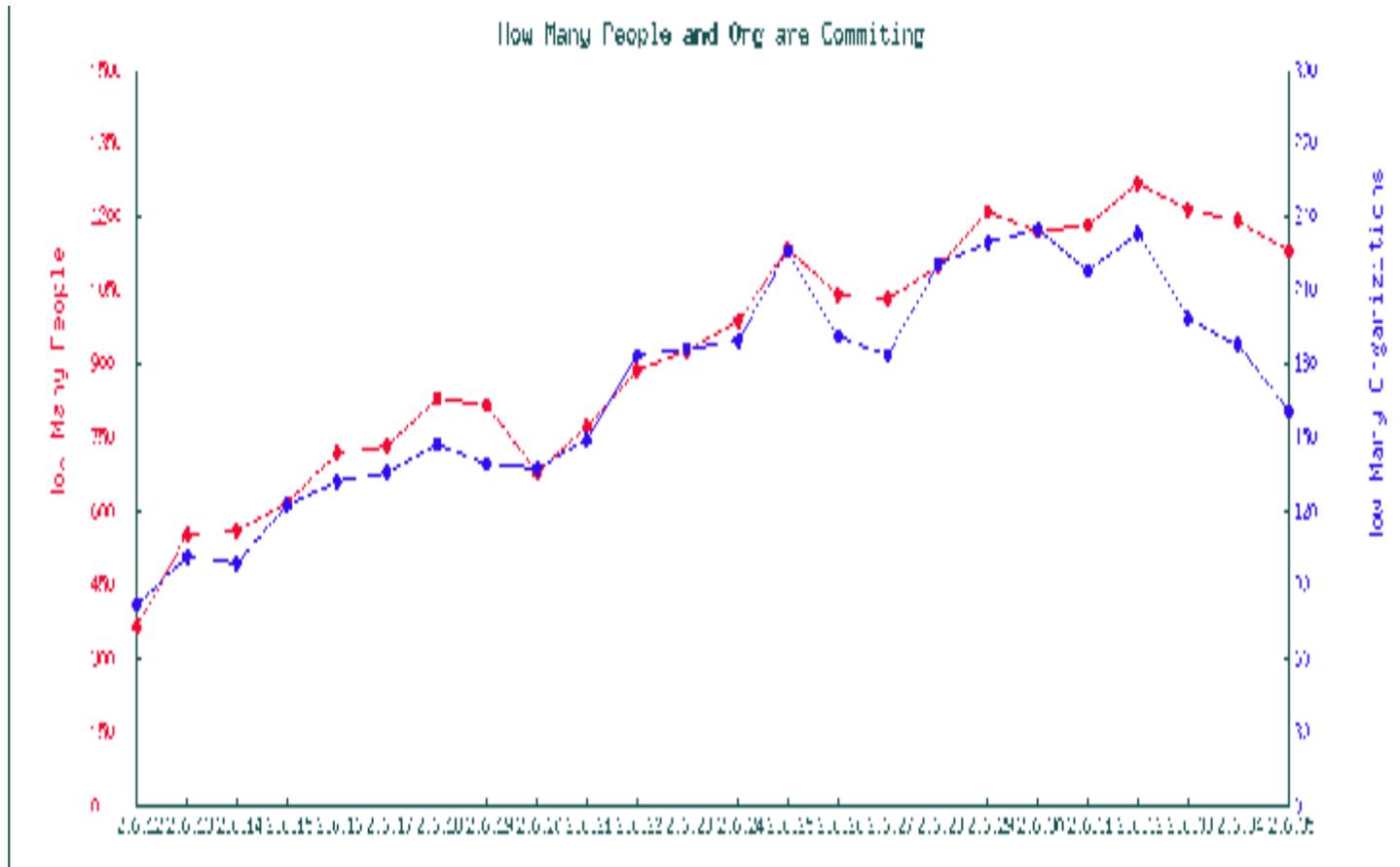
Linux内核的发展

版本	时间	特点
0.1	1991. 1 0	最初的原型
1.0	1994. 3	包含了386的官方支持，仅支持单CPU系统
1.2	1995. 3	第一个包含多平台（Alpha, Sparc, MIPS等）支持的官方版本
2.0	1996. 6	包含很多新的平台支持，最重要的是，它是第一个支持SMP（对称多处理器）体系的内核版本
2.2	1999. 1	极大提升SMP系统上Linux的性能，并支持更多的硬件
2.4	2001. 1	进一步地提升了SMP系统的扩展性，同时也集成了很多用于支持桌面系统的特性：USB, PC卡（PCMCIA）的支持，内置的即插即用等
2.6	2003. 1 2	无论是对于企业服务器还是对于嵌入式系统，Linux 2.6 都是一个巨大的进步。对高端的机器来说，新特性针对的是性能改进、可扩展性、吞吐率，以及对 SMP 机器 NUMA 的支持。对于嵌入式领域，添加了新的体系结构和处理器类型。包括对那些没有硬件控制的内存管理方案的 MMU-less 系统的支持。同样地，为了满足桌面用户群的需要，添加了一整套新的音频和多媒体驱动程序。

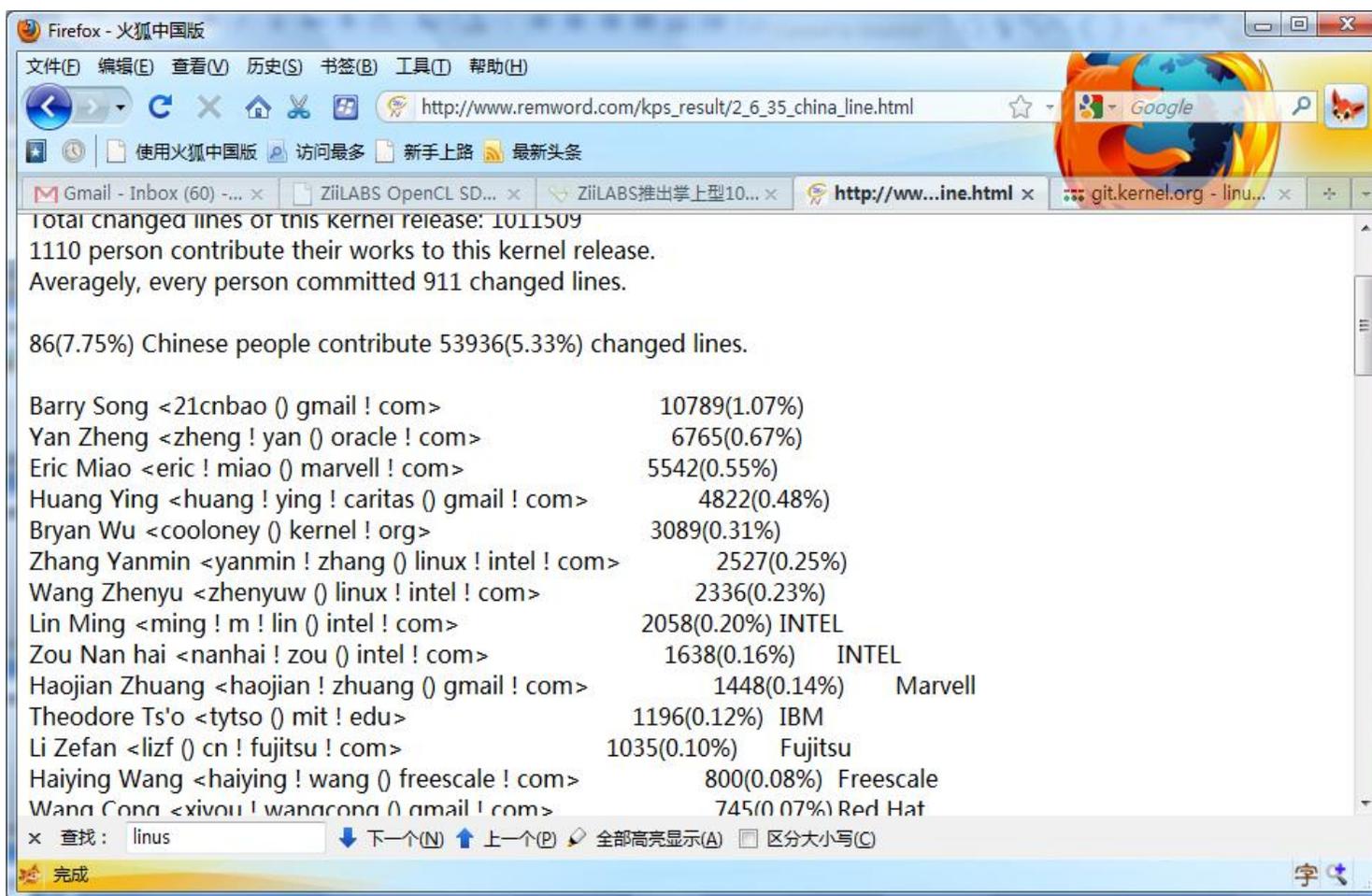
内核补丁变更情况



内核参与情况



华人在不断贡献内核



Firefox - 火狐中国版

文件(F) 编辑(E) 查看(V) 历史(S) 书签(B) 工具(T) 帮助(H)

http://www.remword.com/kps_result/2_6_35_china_line.html

使用火狐中国版 访问最多 新手上路 最新头条

Gmail - Inbox (60) ... x ZiiLABS OpenCL SD... x ZiiLABS推出掌上型10... x http://ww...ine.html x git.kernel.org - linu... x

Total changed lines of this kernel release: 1011509
1110 person contribute their works to this kernel release.
Averagely, every person committed 911 changed lines.

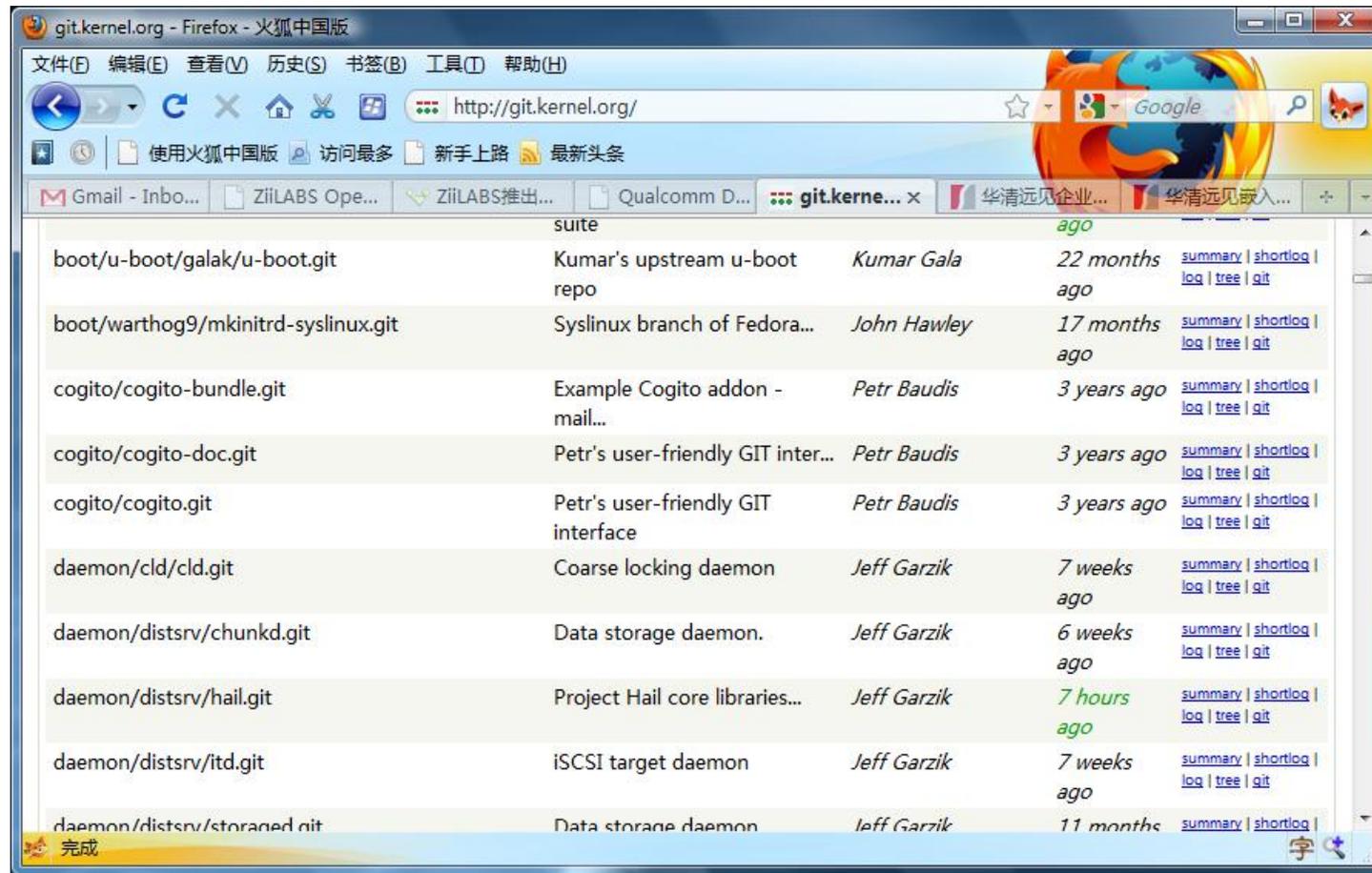
86(7.75%) Chinese people contribute 53936(5.33%) changed lines.

Barry Song <21cnbao () gmail ! com>	10789(1.07%)
Yan Zheng <zhenq ! yan () oracle ! com>	6765(0.67%)
Eric Miao <eric ! miao () marvell ! com>	5542(0.55%)
Huang Ying <huang ! ying ! caritas () gmail ! com>	4822(0.48%)
Bryan Wu <cooloney () kernel ! org>	3089(0.31%)
Zhang Yanmin <yanmin ! zhang () linux ! intel ! com>	2527(0.25%)
Wang Zhenyu <zhenyuw () linux ! intel ! com>	2336(0.23%)
Lin Ming <ming ! m ! lin () intel ! com>	2058(0.20%) INTEL
Zou Nan hai <nanhai ! zou () intel ! com>	1638(0.16%) INTEL
Haojian Zhuang <haojian ! zhuang () gmail ! com>	1448(0.14%) Marvell
Theodore Ts'o <tytso () mit ! edu>	1196(0.12%) IBM
Li Zefan <lizf () cn ! fujitsu ! com>	1035(0.10%) Fujitsu
Haiying Wang <haiying ! wang () freescale ! com>	800(0.08%) Freescale
Wang Cong <xivou ! wangcong () gmail ! com>	745(0.07%) Red Hat

x 查找: linux ↓ 下一个(N) ↑ 上一个(B) 全部高亮显示(A) 区分大小写(C)

完成

git.kernel.org



Linus's Kernel Tree



git.kernel.org - linux/kernel/git/torvalds/linux-2.6.git/summary - Firefox - 火狐中国版

文件(F) 编辑(E) 查看(V) 历史(S) 书签(B) 工具(T) 帮助(H)

http://git.kernel.org/?p=linux/kernel/git/torvalds/linux-2.6.git;a=summary

description Linus' kernel tree
owner Linus Torvalds
last change Wed, 7 Jul 2010 00:32:07 +0000
URL git://git.kernel.org/pub/scm/linux/kernel/git/torvalds/linux-2.6.git
http://git.kernel.org/pub/scm/linux/kernel/git/torvalds/linux-2.6.git
https://git.kernel.org/pub/scm/linux/kernel/git/torvalds/linux-2.6.git

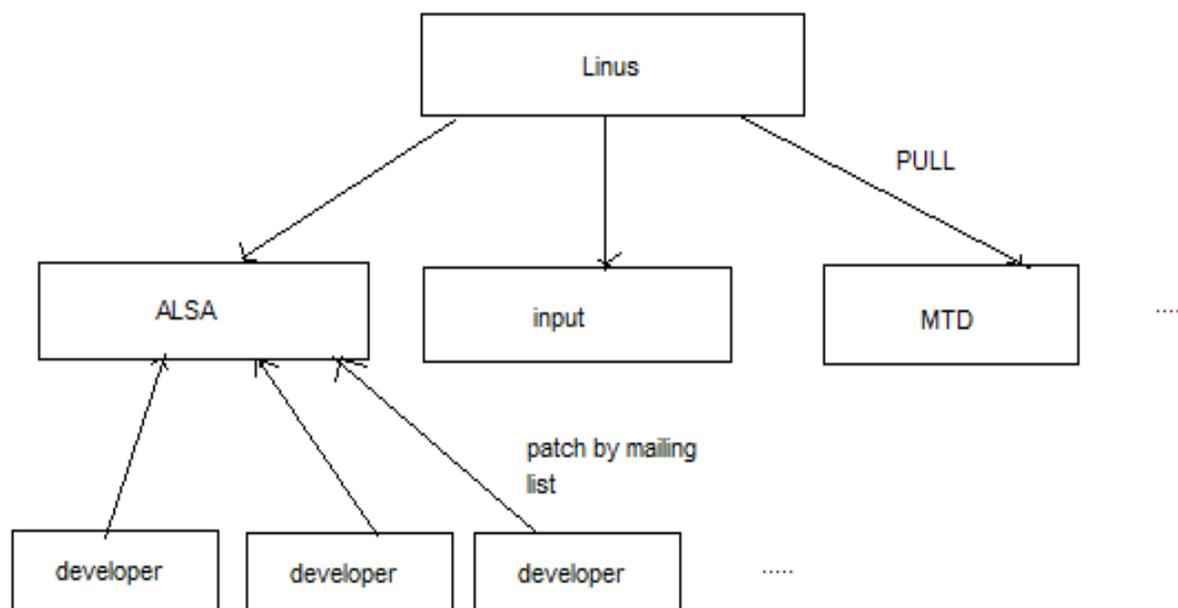
shortlog

13 hours ago	Artem Bityutskiy	VFS: introduce <code>s_dirty</code> accessors master	commit commitdiff tree snapshot
13 hours ago	Linus Torvalds	Merge branch 'x86-fixes-for-linus' of git://git./linux...	commit commitdiff tree snapshot
13 hours ago	Linus Torvalds	Merge branch 'for-linus' of git://git./linux/kernel...	commit commitdiff tree snapshot
13 hours ago	Linus Torvalds	Merge branch 'urgent' of git://git./linux/kernel/git...	commit commitdiff tree snapshot
13 hours ago	Linus Torvalds	Merge branch 'upstream' of git://ftp.linux-mips.org...	commit commitdiff tree snapshot
13 hours ago	Michal Marek	kbuild: Fix path to scripts/setlocalversion	commit commitdiff tree snapshot
45 hours ago	Sage Weil	ceph: fix crush device 'out' threshold to 1.0, not 0.1	commit commitdiff tree snapshot
45 hours ago	Jesper Nilsson	MIPS: Return after handling coprocessor 2 exception	commit commitdiff tree snapshot
45 hours ago	Waldemar Brodkorb	MIPS: BCM47xx: Add NVRAM support devices	commit commitdiff tree snapshot

× 查找: 下一个(N) 上一个(P) 全部高亮显示(A) 区分大小写(C)

完成

社区内核开发模式



1个patch的信息

git.kernel.org - linux/kernel/git/torvalds/linux-2.6.git/commit - Firefox - 火狐中国版

文件(F) 编辑(E) 查看(V) 历史(S) 书签(B) 工具(T) 帮助(H)

http://git.kernel.org/?p=linux/kernel/git/torvalds/linux-2.6.git;a=commit;h=f065f41f48

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Gmail - Inbox (60) - 21cnbao@g... x http://www.remw...china_line.html x git.kernel.org - linux/kernel/g... x

/pub/scm / linux/kernel/git/torvalds/linux-2.6.git / commit git

[summary](#) | [shortlog](#) | [log](#) | [commit](#) | [commitdiff](#) | [tree](#)
(parent: [4365a56](#)) | [patch](#)

commit 2 search: re

timecompare: fix half-Y2K38 problem in timecompare_update while calculating offset

author [Barry Song <21cnbao@gmail.com>](#)
Wed, 16 Dec 2009 00:45:34 +0000 (16:45 -0800)

committer [Linus Torvalds <torvalds@linux-foundation.org>](#)
Wed, 16 Dec 2009 15:19:57 +0000 (07:19 -0800)

commit [f065f41f48569122b5bcddb1ba2354f7cc29fdc](#)
tree [68606305bfb3aba16437017e0599ccae11e6f6db](#) [tree](#) | [snapshot](#)
parent [4365a5676fa3aa1d5ae6c90c22a0044f09ba584e](#) [commit](#) | [diff](#)

[timecompare: fix half-Y2K38 problem in timecompare_update while calculating offset](#)

ktime will overflow from 03:14:07 UTC on Tuesday, 19 January 2038, ktime_add() in timecompare_update() will overflow a half earlier. As a result, wrong offset will be gotten, then cause some strange problems.

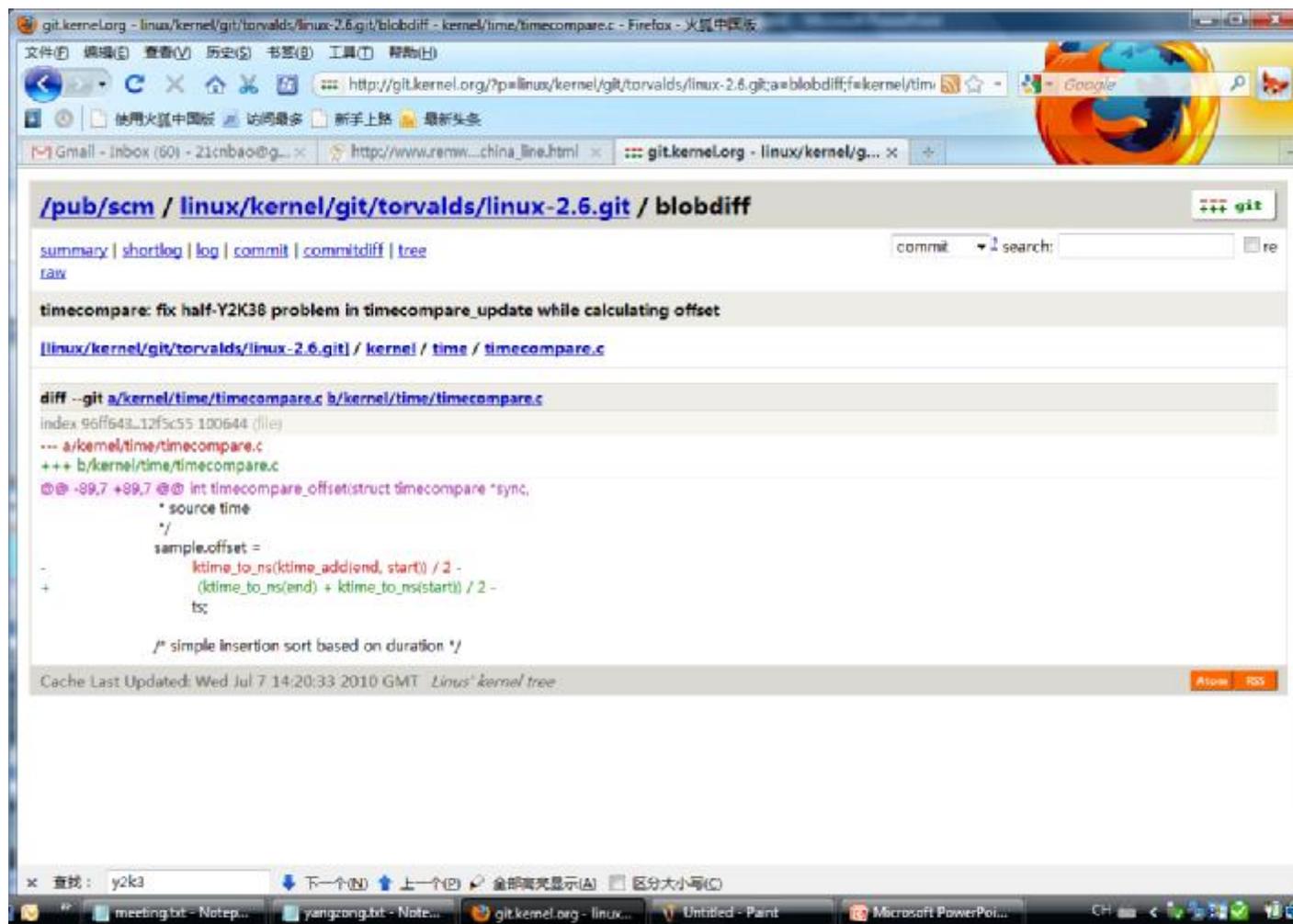
Signed-off-by: [Barry Song <21cnbao@gmail.com>](#)
Cc: [Thomas Gleixner <tglx@linutronix.de>](#)
Cc: [Ingo Molnar <mingo@elte.hu>](#)
Cc: [Patrick Ohly <patrick.ohly@intel.com>](#)
Cc: [David S. Miller <davem@davemloft.net>](#)
Cc: [John Stultz <johnstul@us.ibm.com>](#)
Signed-off-by: [Andrew Morton <akpm@linux-foundation.org>](#)
Signed-off-by: [Linus Torvalds <torvalds@linux-foundation.org>](#)

[kernel/time/timecompare.c](#) [diff](#) | [blob](#) | [history](#)

查找: y2k3 下一个(N) 上一个(P) 全部高亮显示(A) 区分大小写(C)

meeting.txt - Notep... yangzong.txt - Note... git.kernel.org - linux... Untitled - Paint Microsoft PowerPoi...

1个patch的内容

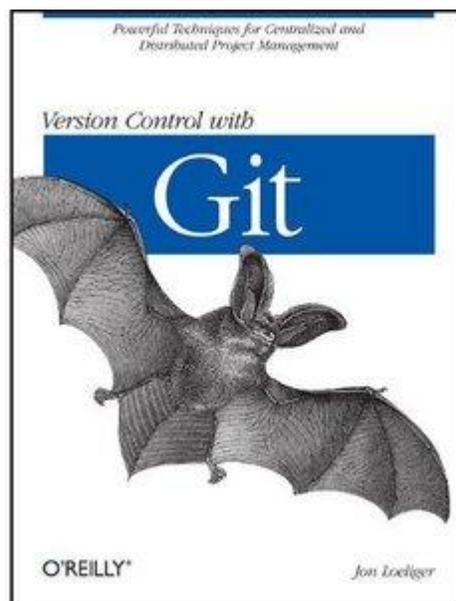


```
diff --git a/kernel/time/timecompare.c b/kernel/time/timecompare.c
index 96ff649..12f5c55 100644 (file)
--- a/kernel/time/timecompare.c
+++ b/kernel/time/timecompare.c
@@ -99,7 @@ int timecompare_offset(struct timecompare *sync,
     * source time
     */
     sample.offset =
-       ktime_to_ns(ktime_add(end, start)) / 2 -
+       (ktime_to_ns(end) + ktime_to_ns(start)) / 2 -
         tsc;

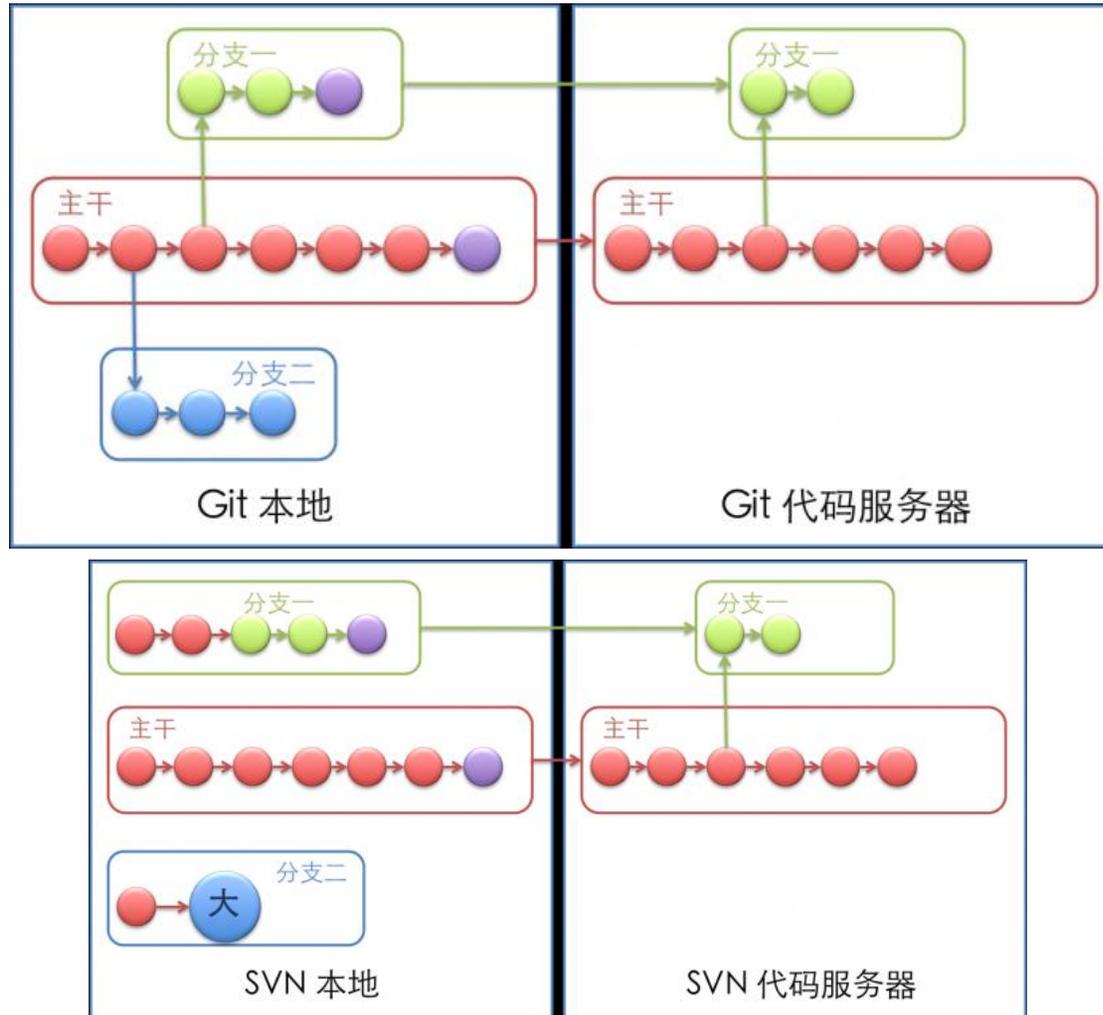
     /* simple insertion sort based on duration */
```

git版本控制

- } Git最大的优势在于两点：易于本地增加分支和分布式的特性。



git vs SVN



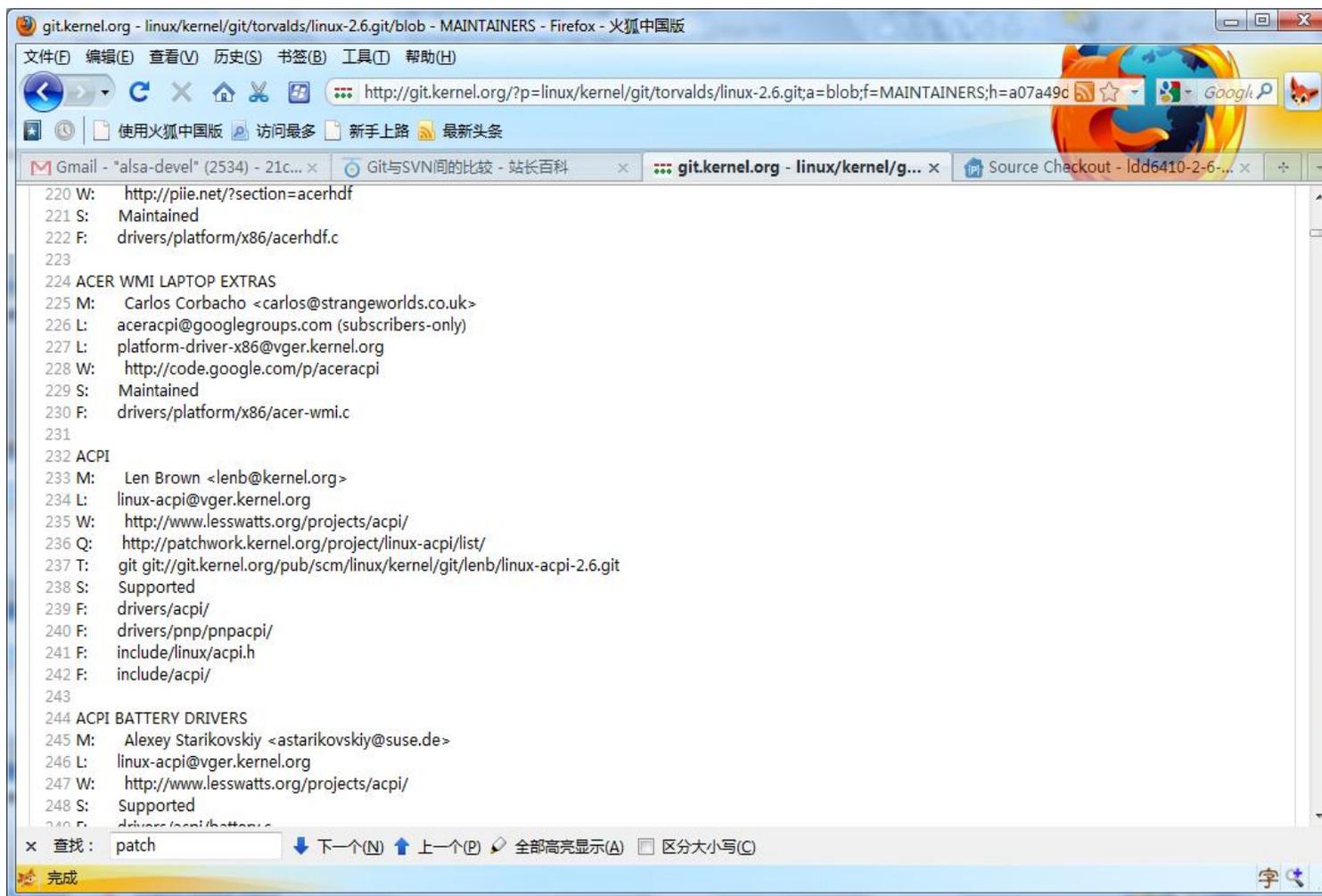
与Maintainer交互



- ✓ 订阅邮件列表
- ✓ 修订 patch



邮件列表和maintainer

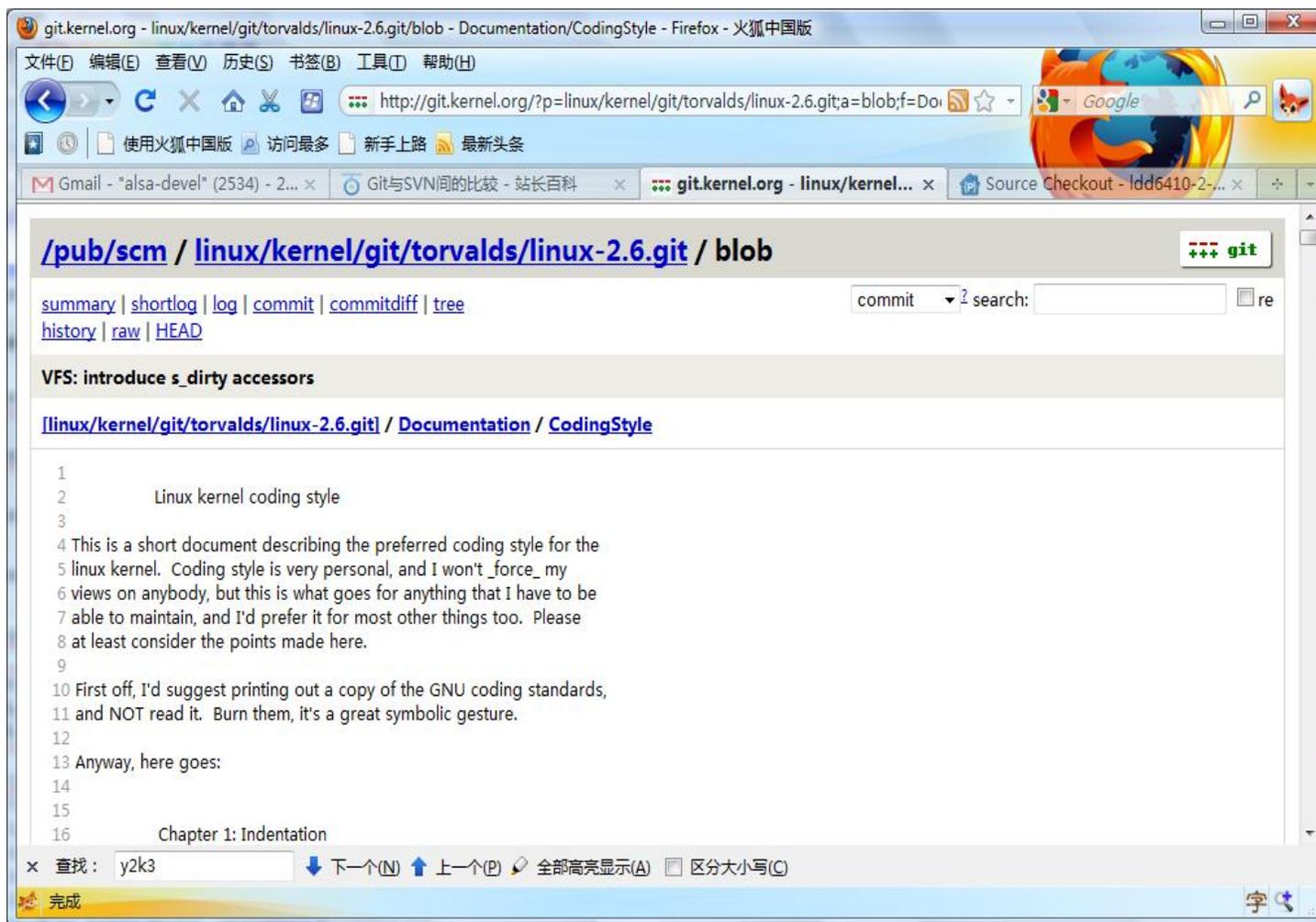


```
220 W: http://piie.net/?section=acerhdf
221 S: Maintained
222 F: drivers/platform/x86/acerhdf.c
223
224 ACER WMI LAPTOP EXTRAS
225 M: Carlos Corbacho <carlos@strangeworlds.co.uk>
226 L: aceracpi@googlegroups.com (subscribers-only)
227 L: platform-driver-x86@vger.kernel.org
228 W: http://code.google.com/p/aceracpi
229 S: Maintained
230 F: drivers/platform/x86/acer-wmi.c
231
232 ACPI
233 M: Len Brown <lenb@kernel.org>
234 L: linux-acpi@vger.kernel.org
235 W: http://www.lesswatts.org/projects/acpi/
236 Q: http://patchwork.kernel.org/project/linux-acpi/list/
237 T: git://git.kernel.org/pub/scm/linux/kernel/git/lenb/linux-acpi-2.6.git
238 S: Supported
239 F: drivers/acpi/
240 F: drivers/pnp/pnpacpi/
241 F: include/linux/acpi.h
242 F: include/acpi/
243
244 ACPI BATTERY DRIVERS
245 M: Alexey Starikovskiy <astarikovskiy@suse.de>
246 L: linux-acpi@vger.kernel.org
247 W: http://www.lesswatts.org/projects/acpi/
248 S: Supported
249 F: drivers/acpi/battery
```

× 查找: patch ↓ 下一个(N) ↑ 上一个(P) 全部高亮显示(A) 区分大小写(C)

完成

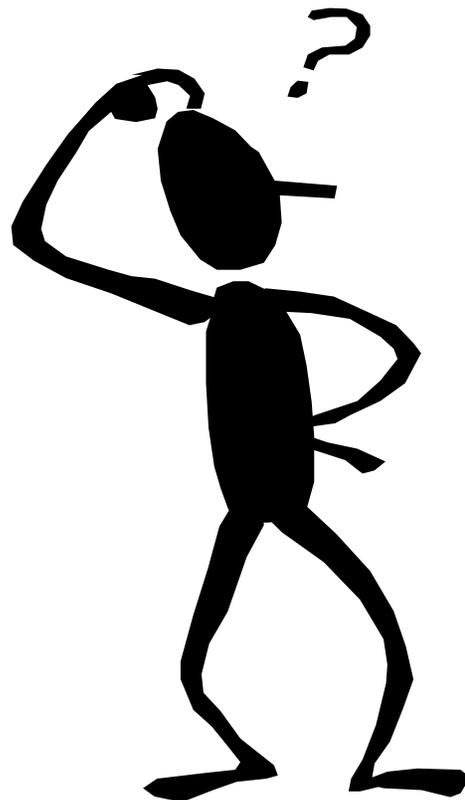
Patch的风格



Patch的原则



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谢谢!