



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

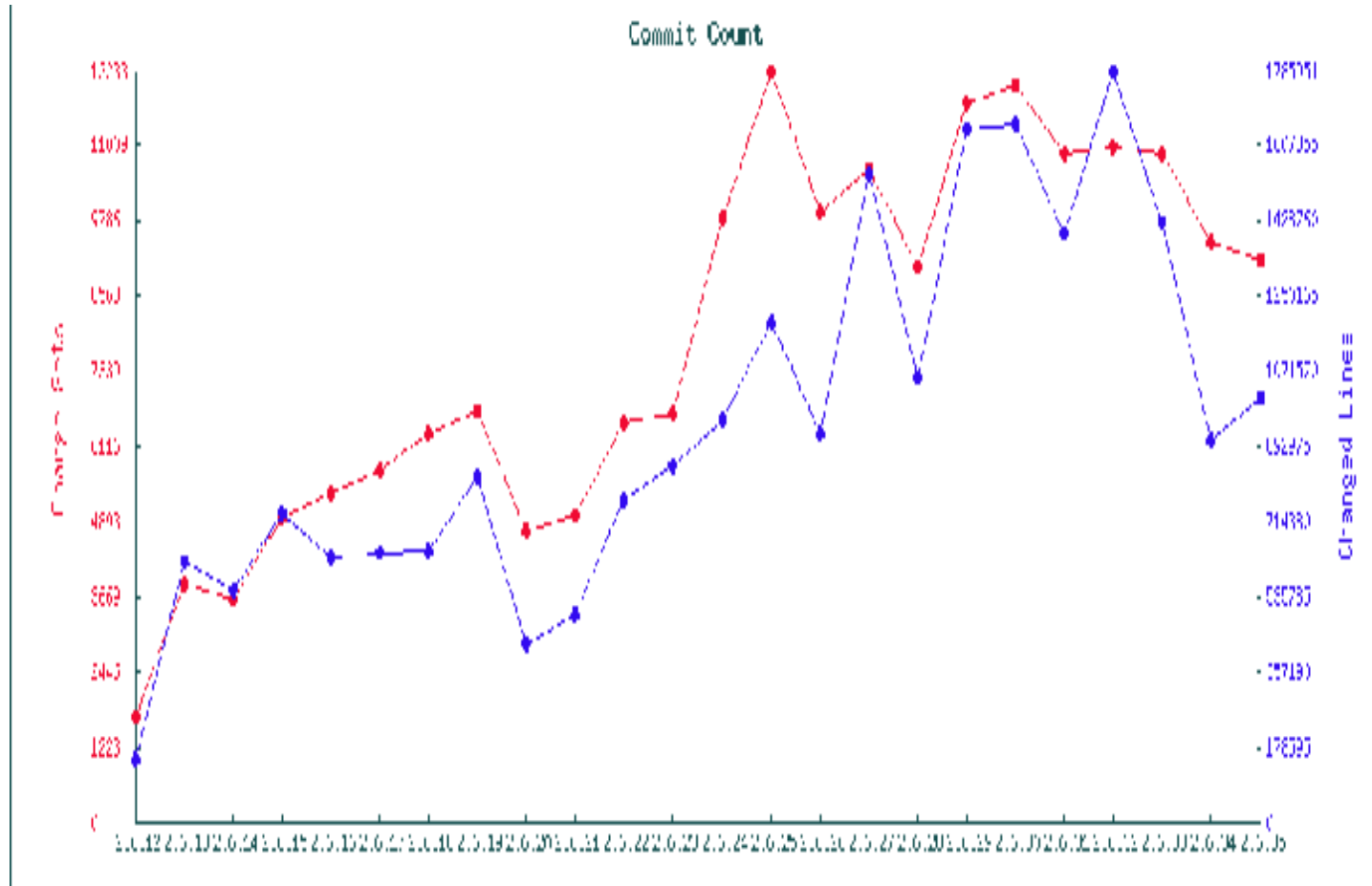
Ø 2.6.23.1 ~ 2.6.23.7

Ø 1,2周更新

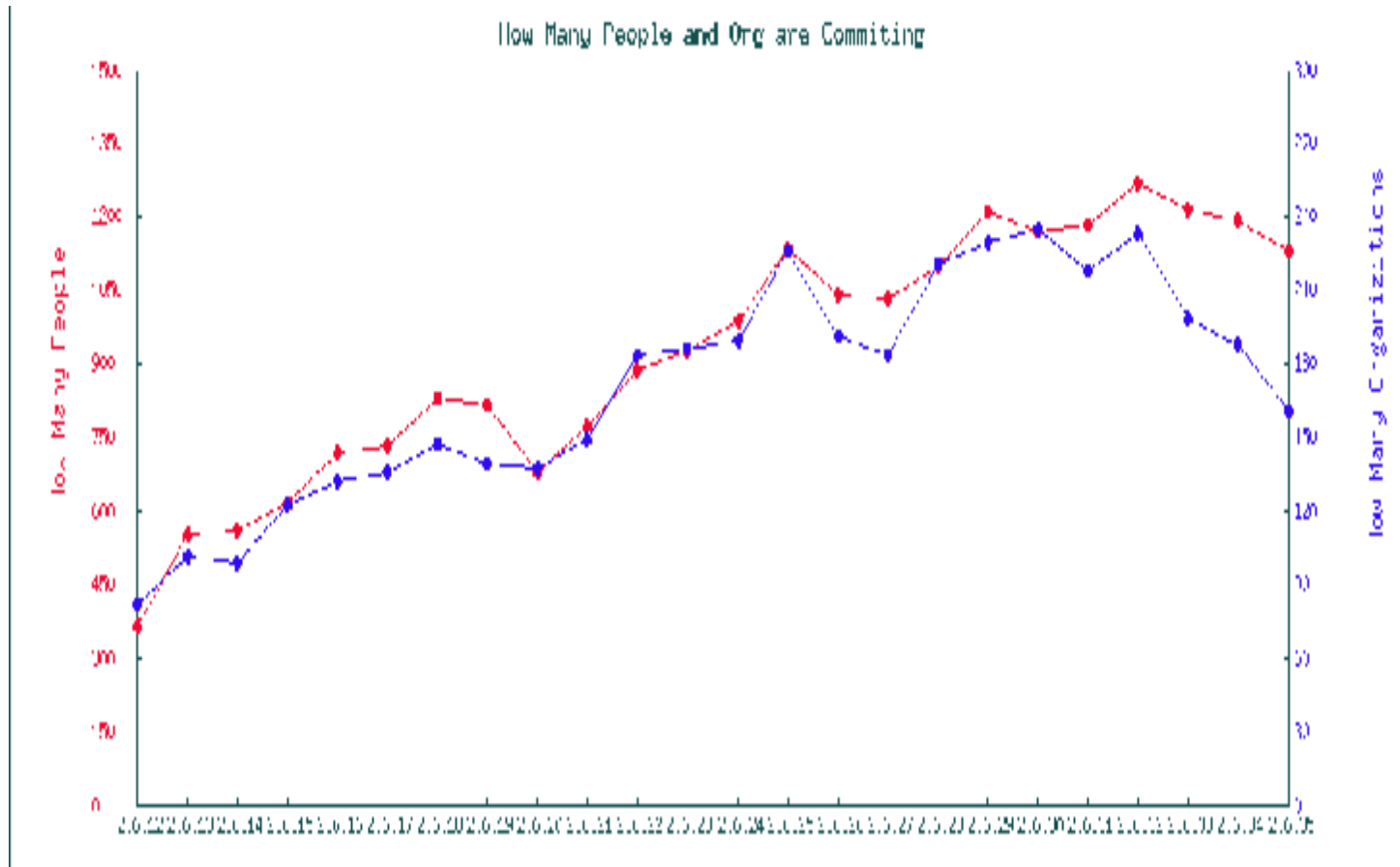
Linux内核的发展

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

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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.

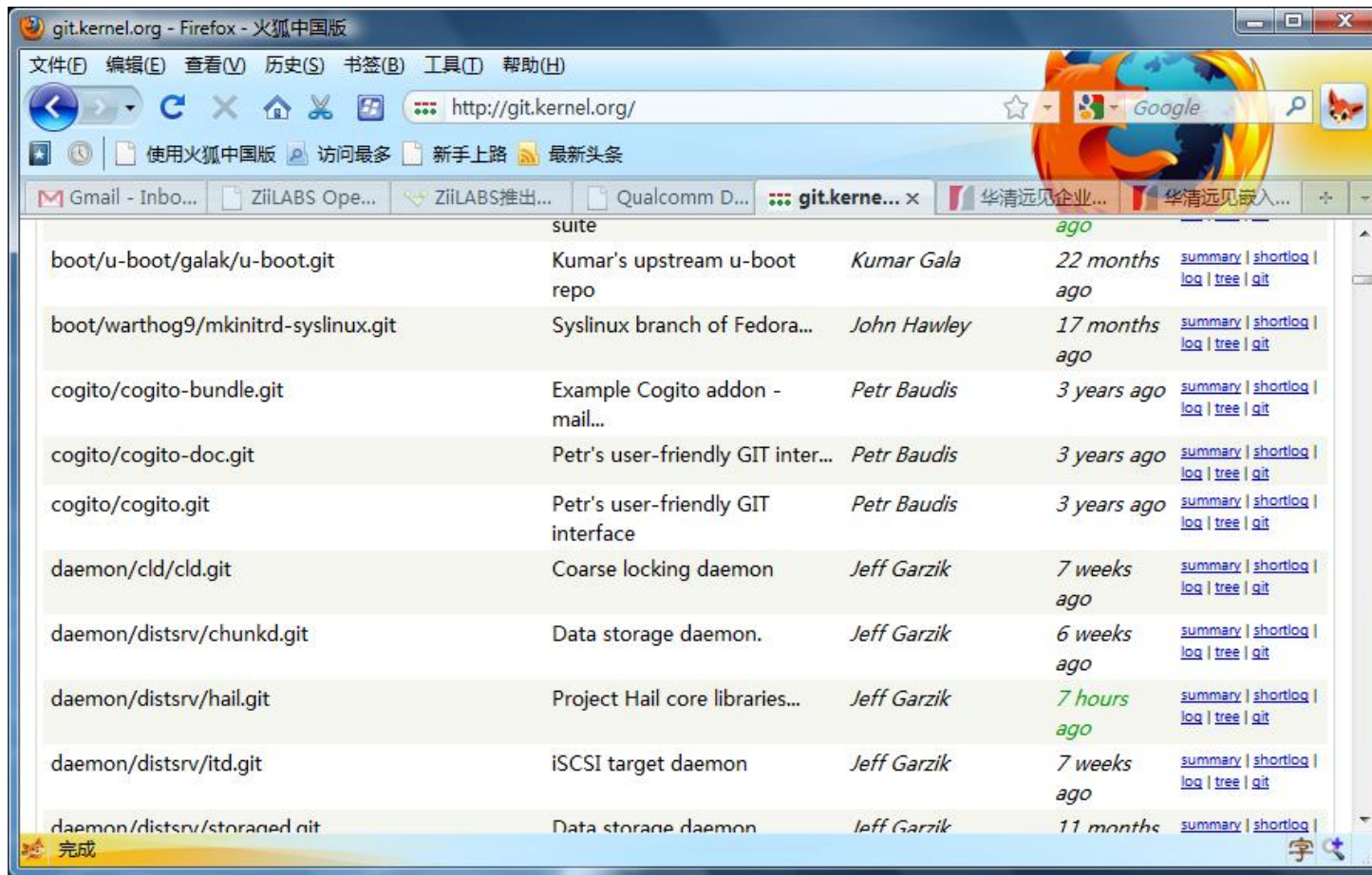
86(7.75%) Chinese people contribute 53936(5.33%) changed lines.

Barry Song <21cnbao () gmail ! com>	10789(1.07%)
Yan Zheng <zhen g ! 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

× 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

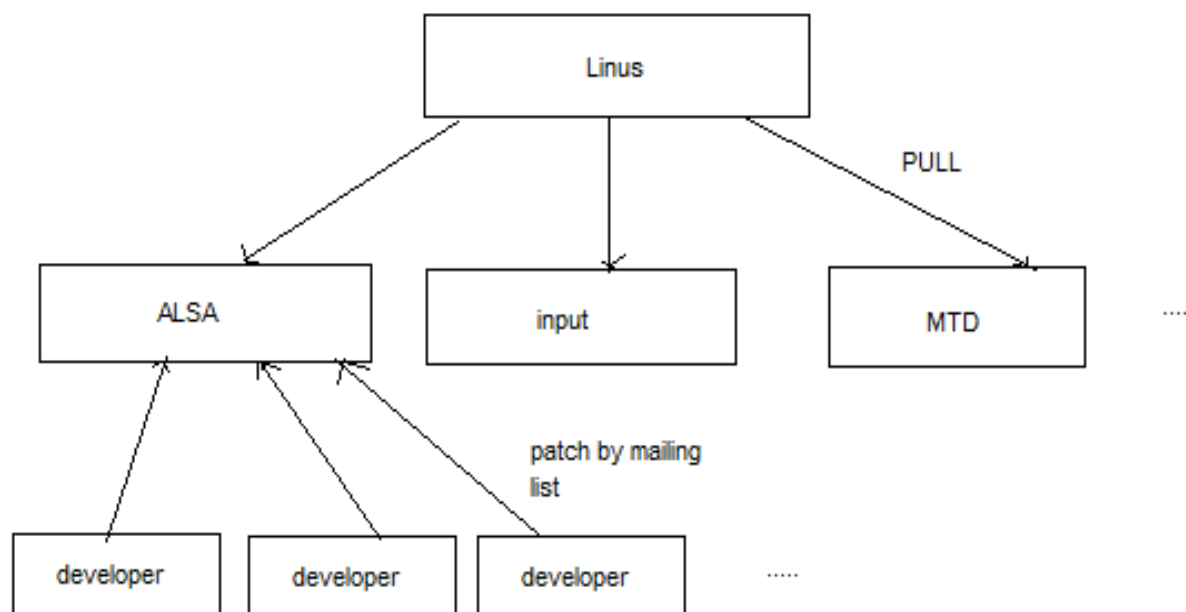
shortlog

13 hours ago	Artem Bityutskiy	VFS: introduce s_dirty 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...

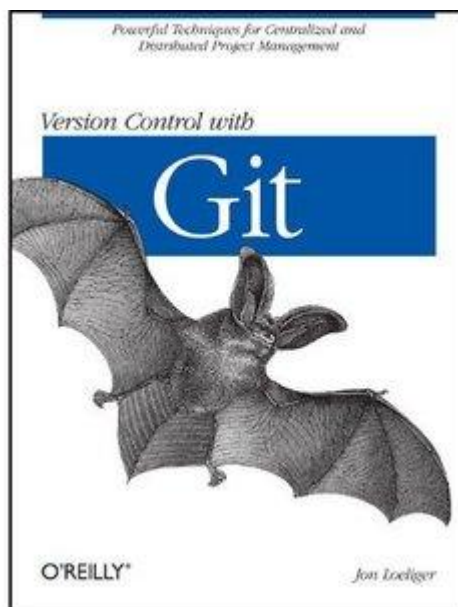
1个patch的内容

```
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;

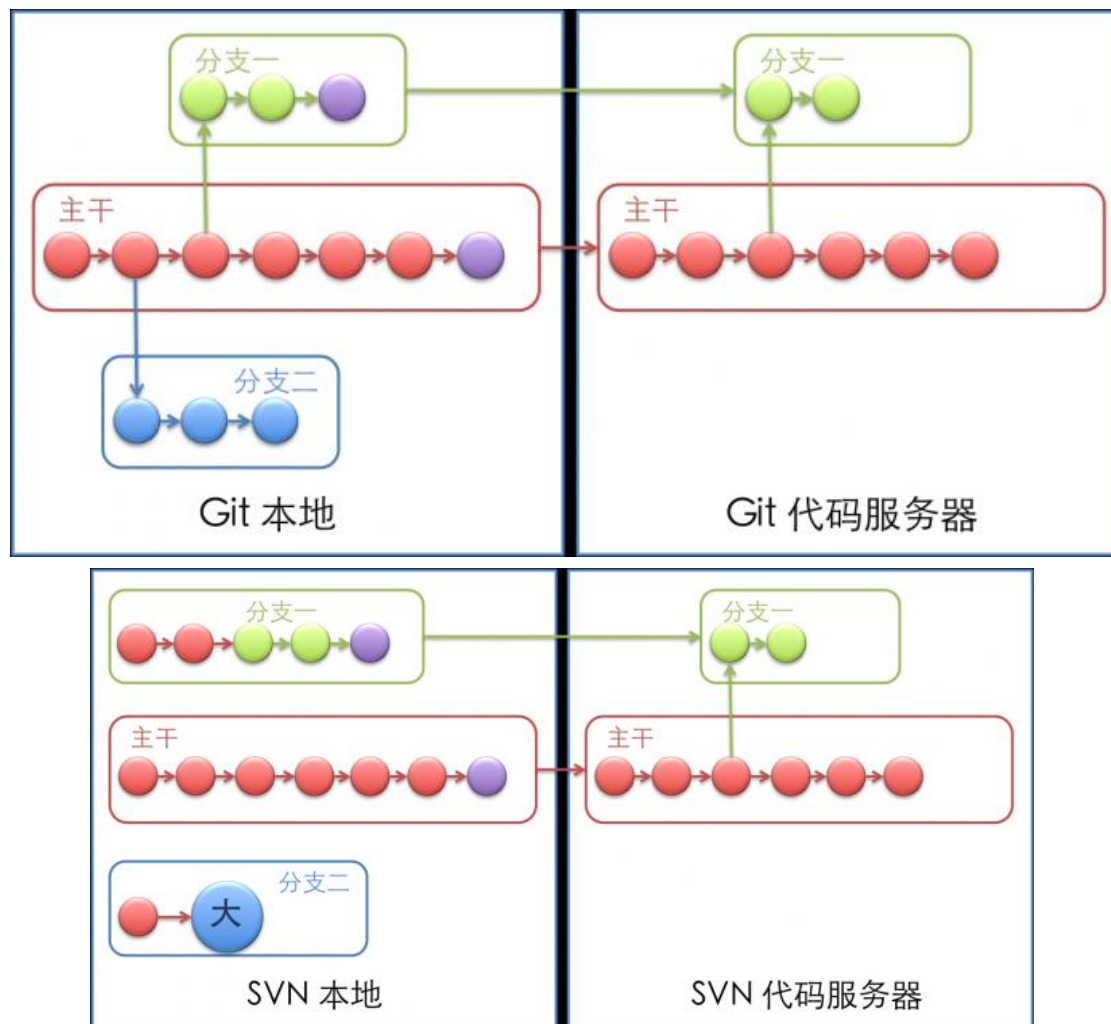
     /* simple insertion sort based on duration */
```

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



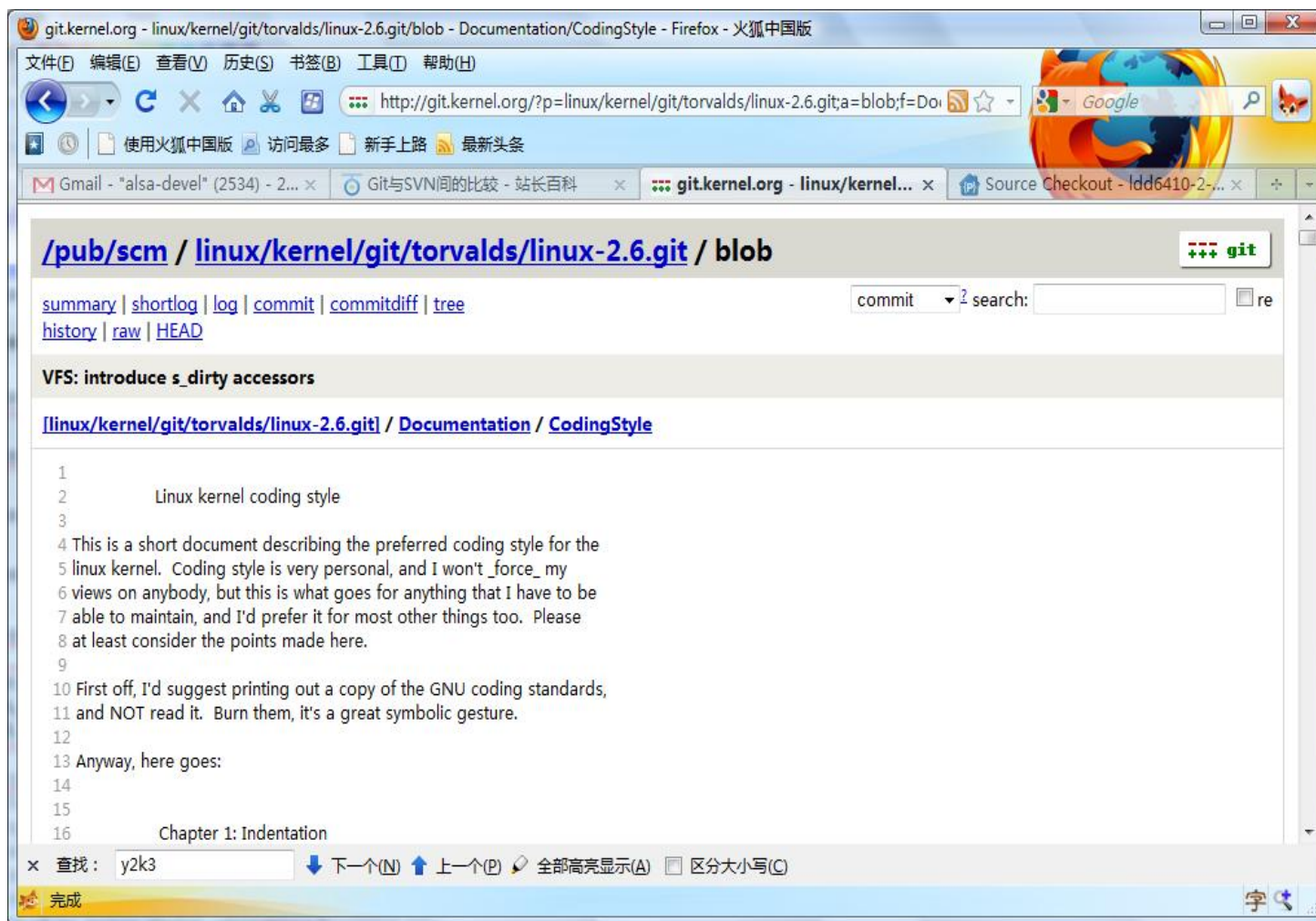
- ✓ 订阅邮件列表
- ✓ 修订 patch

邮件列表和maintainer

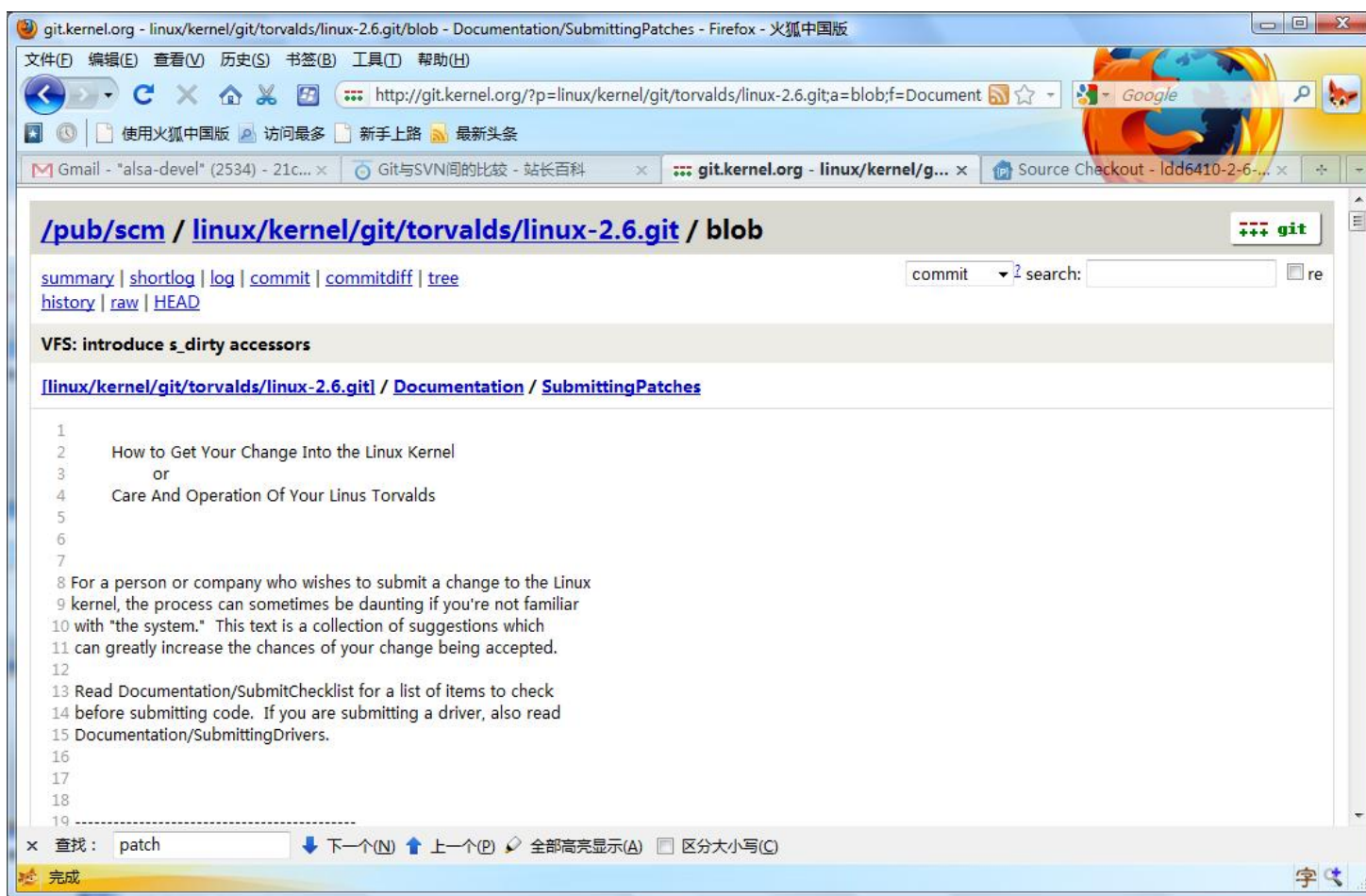
A screenshot of a Firefox browser window displaying the MAINTAINERS file from the Linux kernel source code. The browser's address bar shows the URL: http://git.kernel.org/?p=linux/kernel/git/torvalds/linux-2.6.git;a=blob;f=MAINTAINERS;h=a07a49c. The page content is a list of maintainers for various kernel components, including acerhdf, acer-wmi, acpi, and acpi battery drivers. The list includes maintainer names, email addresses, and links to their respective projects or code repositories. The browser's search bar at the bottom contains the word 'patch' and the search button is labeled '完成' (Done).

```
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
```

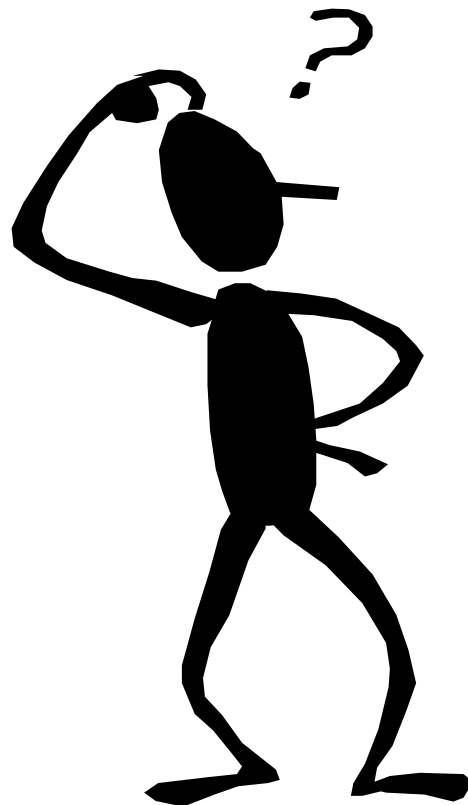

Patch的风格



Patch的原则



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谢谢!