

Ubuntu Kernel Factory



How we have Ubuntu kernels

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ubuntu

How we have Linux kernel



Preemptible

Linux for PowerPC

Netfilter

IPv4/IPv6

BTRFS Filesystem

Suspend to RAM

USB UHCI

ACPI

PCI

SELINUX



Linux Development Cycle



- Official release every 3-4 months

2010-02-24 10:52:17 -0800 Linux 2.6.33
2009-12-02 19:51:21 -0800 Linux 2.6.32
2009-09-09 15:13:59 -0700 Linux 2.6.31
2009-06-09 20:05:27 -0700 Linux 2.6.30

- First two RC for new feature
- Other RC for fixing issues

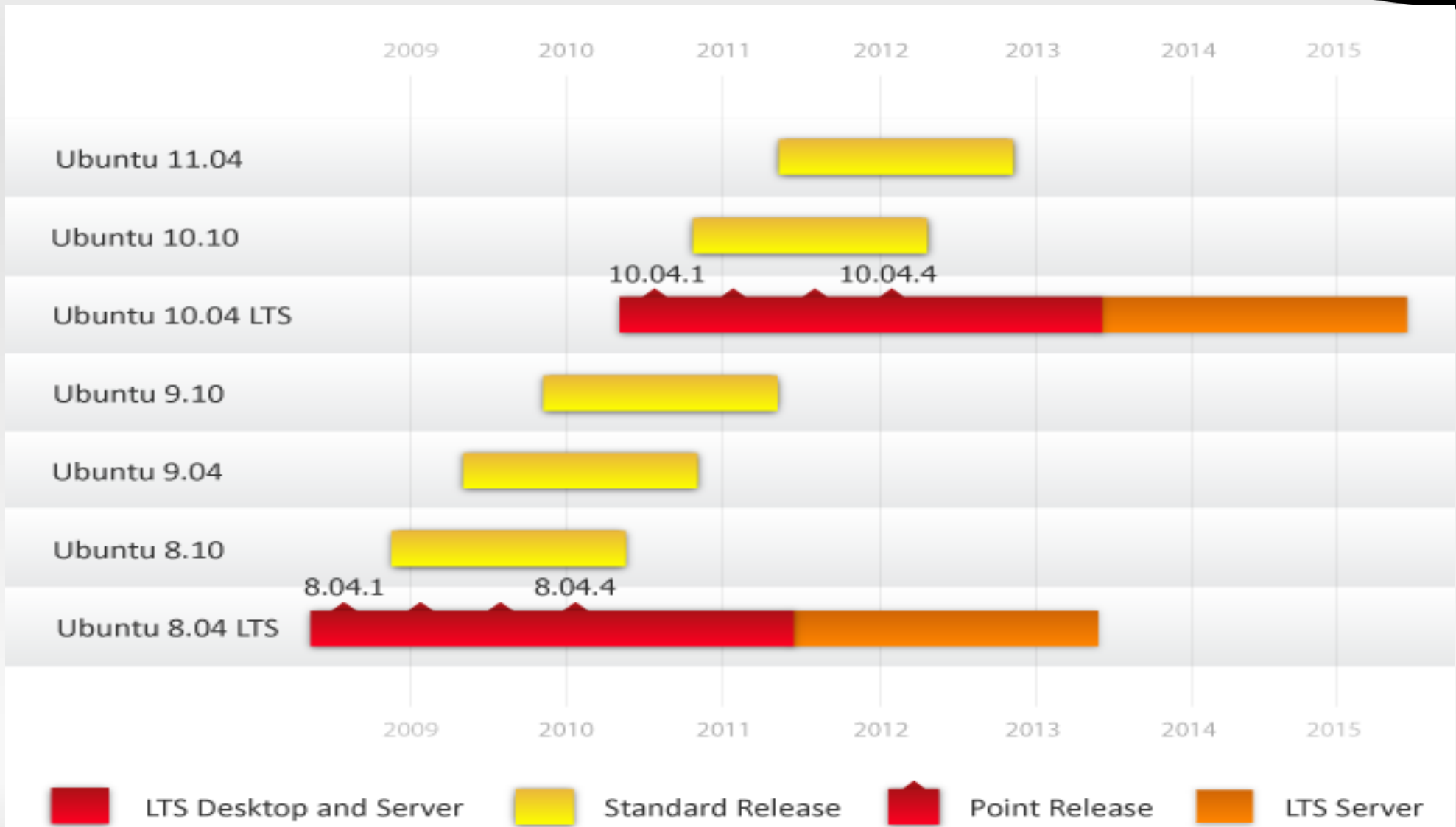
2010-02-24 10:52:17 -0800 Linux 2.6.33
2010-02-12 11:07:45 -0800 Linux 2.6.33-rc8
2010-02-06 14:17:12 -0800 Linux 2.6.33-rc7
2010-01-29 13:57:50 -0800 Linux 2.6.33-rc6
2010-01-21 15:31:35 -0800 Linux 2.6.33-rc5
2010-01-12 21:15:00 -0800 Linux 2.6.33-rc4
2010-01-05 16:02:46 -0800 Linux 2.6.33-rc3
2009-12-24 13:09:41 -0800 Linux 2.6.33-rc2
2009-12-17 17:14:40 -0800 Linux 2.6.33-rc1

Release Cycle - Ubuntu



- Release every 6 months
 - Maverick Meerkat 10.10 from Oct 2010 to April 2012
 - Lucid Lynx 10.04 LTS from April 2010 to April 2013/2015
 - Karmic Koala 9.10 from Oct 2009 to April 2011
- LTS(Long Term Support) released every 2 yrs
- Non-LTS release maintained 18months
- LTS maintained 3y (Desktop) 5y (Server)

Release Cycle - Ubuntu

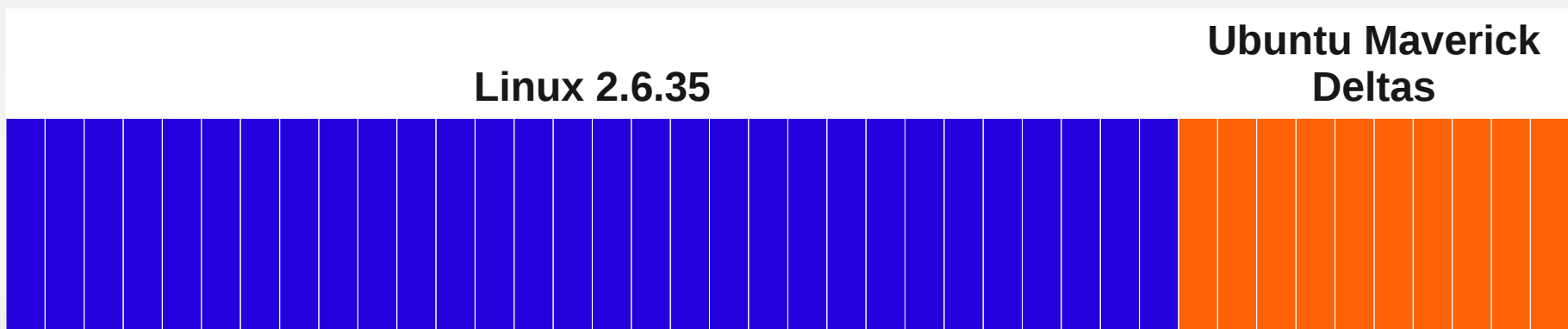


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Before Each Cycle



- Maintainer of each release
 - He/She is the king/queen for release
 - Sort out action items
 - Make sure we reach the goal
- Select a target version
- List deltas, configs and issues for UDS



Ubuntu Developer Summit



- Back-to-back meetings
- Schedules at <http://summit.ubuntu.com>
- Audio broadcast
- Make agreements about what's in next release
 - Ex: Backport LTS+1 kernel to LTS
 - Ex: Budget time for kernel booting < 2secs
- Work items on whiteboard

Whiteboard - Items



- <https://blueprints.launchpad.net/ubuntu/maverick>

Whiteboard

Status:

Review of the kernel configuration for Maverick. This will concentrate on confirming the policy for various option type, as well as new options. For major new options, discussion and confirmation of the selection of each.

Work items for maverick-alpha-1:

[amitk] add omap-mainline flavour to master branch:DONE

Work items for maverick-alpha-2:

[chasedouglas] investigate if we should enable CONFIG_KSYM_TRACER:DONE

Work Items ubuntu-10.10-beta:

[leannogasawara] Fix up configs based on UDS review:DONE

[leannogasawara] Final kernel content and configuration report to ubuntu-devel:INPROGRESS

[leannogasawara] Check if studio is using preempt (see spec for more info):DONE

[apw] Investigate if we can enable perf for arm:DONE

[apw] Investigate whether we even can make a 64 bit kernel for 32bit:TODO

[apw] Investigate updating to debian 3.0:TODO

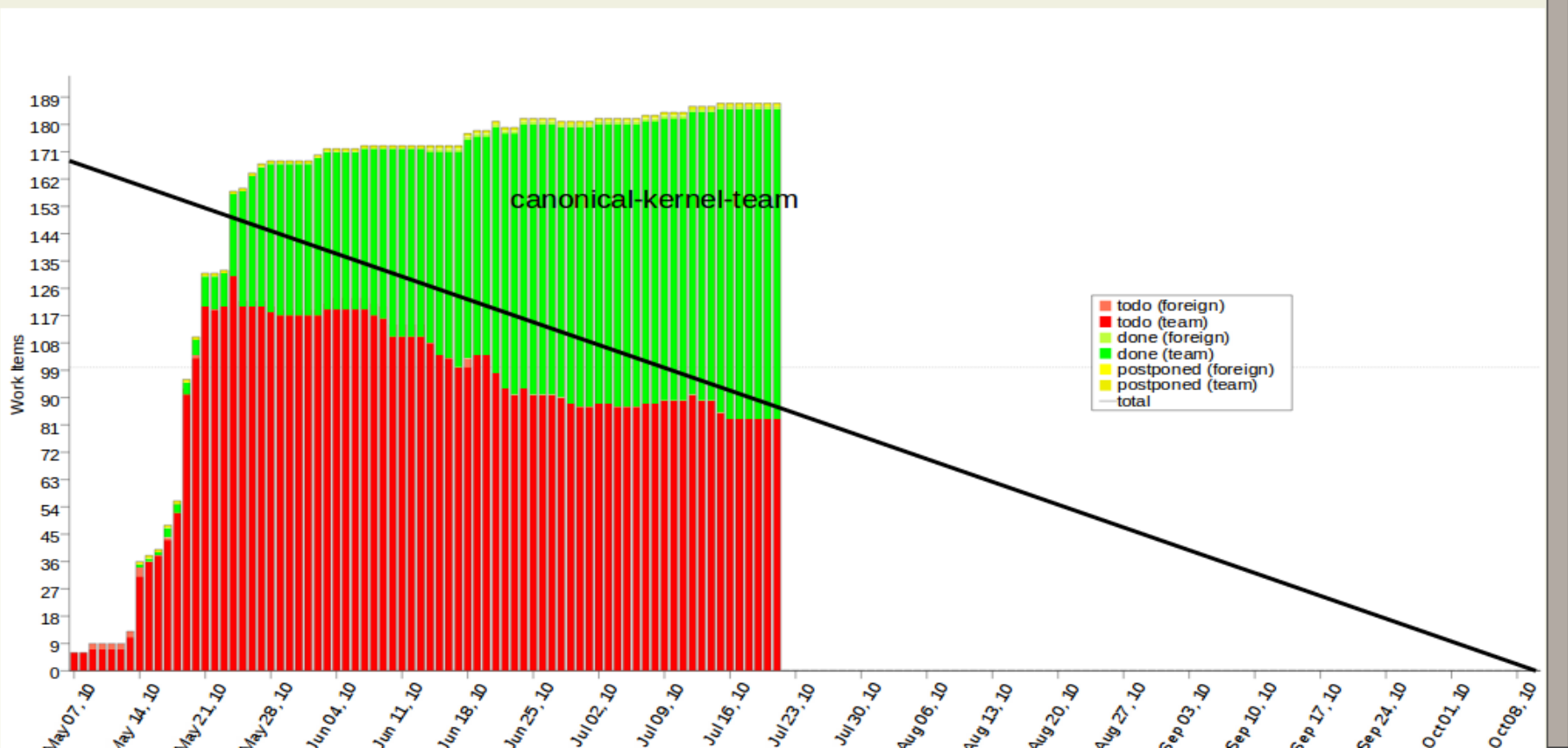
[manjo] investigate memory stick options and produce proposal:TODO

Burn down chart



- <https://wiki.ubuntu.com/ReleaseTeam/FeatureStatus>

Burndown for canonical-kernel-team



Rebase



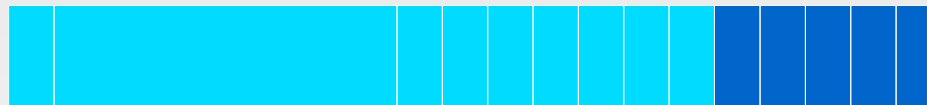
Linux 2.6.34



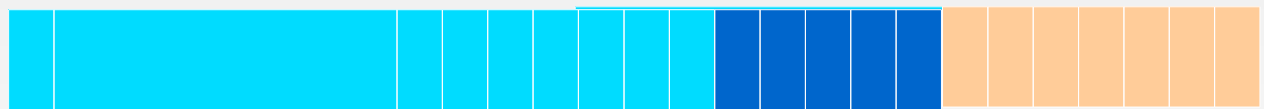
Linux 2.6.34 + Ubuntu deltas
(Before rebase)



Linux 2.6.35



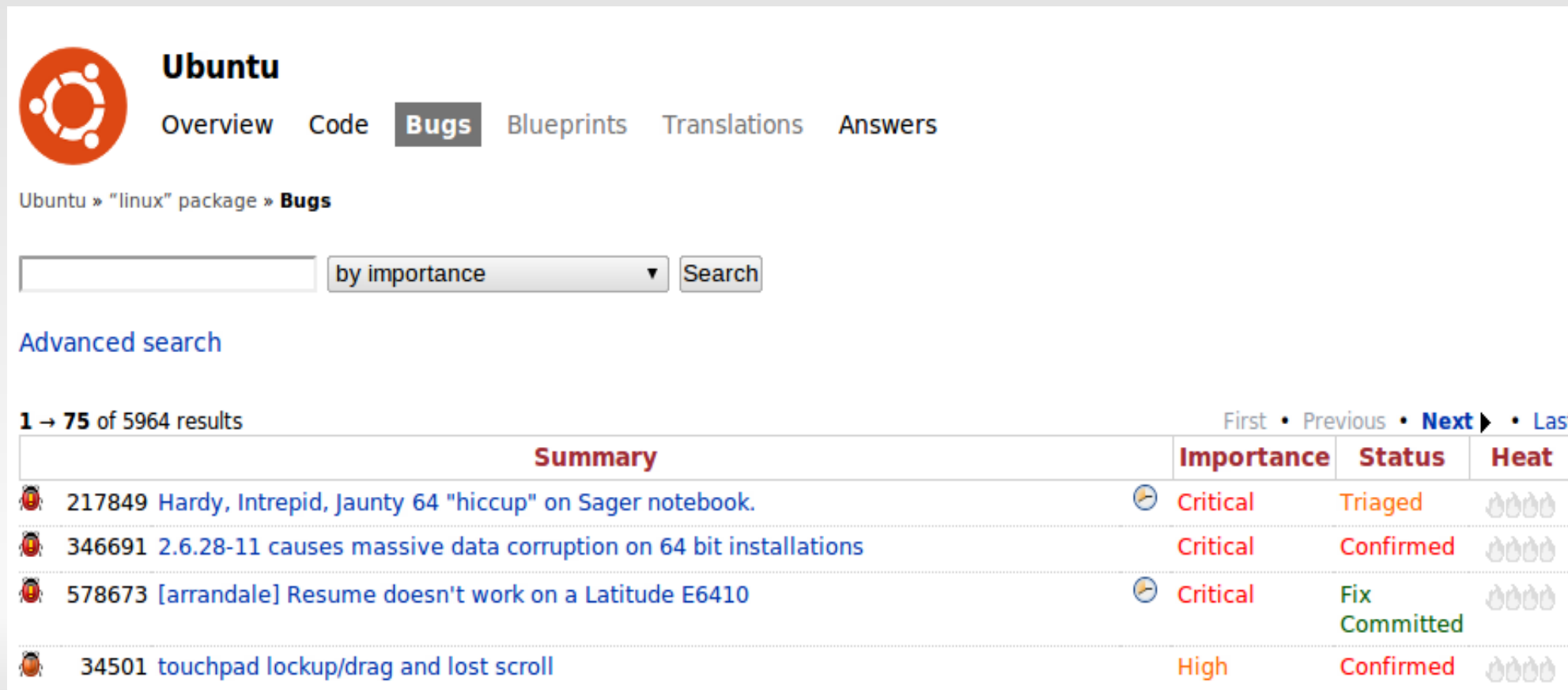
Linux 2.6.35 + Ubuntu deltas
(After rebase)



Bugs



- How many bugs of Ubuntu kernel?
 - <https://bugs.launchpad.net/ubuntu/+source/linux>



The screenshot shows the Ubuntu bug tracker interface. At the top left is the Ubuntu logo and the word "Ubuntu". Below it are navigation tabs: "Overview", "Code", "Bugs" (highlighted), "Blueprints", "Translations", and "Answers". A breadcrumb trail reads "Ubuntu » 'linux' package » Bugs". Below this is a search bar with a dropdown menu set to "by importance" and a "Search" button. A link for "Advanced search" is also present. The results section shows "1 → 75 of 5964 results" and navigation links: "First", "Previous", "Next", and "Last". A table of bug results is displayed with columns for "Summary", "Importance", "Status", and "Heat".

	Summary	Importance	Status	Heat
	217849 Hardy, Intrepid, Jaunty 64 "hiccup" on Sager notebook.	Critical	Triaged	
	346691 2.6.28-11 causes massive data corruption on 64 bit installations	Critical	Confirmed	
	578673 [arrandale] Resume doesn't work on a Latitude E6410	Critical	Fix Committed	
	34501 touchpad lockup/drag and lost scroll	High	Confirmed	

Bugs



- <http://qa.ubuntu.com/reports/jfo/kernel-Top50.html>

Ubuntu Kernel Top 50 Bug List - Aug 11 2010 5:06 UTC

Summary of Bugs

Invalid	Won't Fix	Fix Released	Fix Committed	In Progress	Triaged	Confirmed	Incomplete	New
1	2	1	1	10	24	5	13	4

57 Open Bugs

Bug	Importance	Status	Milestone	Nomination	Summary	Assignee	Comments
578673	Critical	Fix Committed			[arrandale] Resume doesn't work on a Latitude E6410	manjo	
545096	High	Triaged	Lucid		[lucid][R500 X1400] intermitent screen corruption (pink world) - regression from - 20 to -21 kernel	apw	regression-potential
555943	High	Triaged			[lucid] [M92 LP] blank screen on Mobility Radeon HD 4300 with KMS enabled	manjo	
556253	High	Triaged			[2.6.32-19 regression] Does not check lid status any more, external screen powered off	canonical-kernel-team	regression-potential
556856	High	Triaged	Lucid		[lucid] [nouveau] blank screen on Dell Precision M4500 [10de:0cbc]	raof	
558657	High	Triaged	lucid-updates	Lucid	mouse usage causes Xorg CPU usage to spike, and mouse pointer becomes less responsive		
563156	High	Triaged			[ATI Graphics][Lucid] laptop runs hot, shorter battery life, fan always on	canonical-kernel-team	regression-potential
566379	High	Triaged	Lucid		[i855] X doesn't start with kernel 2.6.32-21 unless passing i915.modeset=1		
578909	High	Triaged			acer_wmi blocks wlan rkill status to disabled on Acer Aspire 4820TG	manjo	
579585	High	Triaged			btrfs security issues (information disclosure, insufficient permission checking)	stefan-bader-canonical	
245779	High	Triaged	Hardy		Server 8.04 LTS: soft lockup - CPU#1 stuck for 11s! [bond1:3795] - bond - bond0	stefan-bader-	



■ Kernel Oops

1 → 75 of 743 results First • Previous • **Next** ▶ • Last

	Summary	Importance	Status	Heat
	228746 USB stops working after a while	High	Incomplete	🐛🐛🐛🐛
	302522 ubuntu 8.10 crashes after about 5 minutes	High	Incomplete	🐛🐛🐛🐛
	383124 WARNING: at /build/build/linux-2.6.30/drivers/net/wireless/iwlwifi/iwl-tx.c:1127 iwl_tx_cmd_complete 0x133/0x140 iwlcore	High	Triaged	🐛🐛🐛🐛
	495322 Kernel Oops - unable to handle kernel paging request at ff0e0300 ; EIP is at __ticket_spin_lock+0x8/0x20	High	Triaged	🐛🐛🐛🐛
	535315 WARNING: at /build/build/linux-2.6.32/net/sched/sch_generic.c:261 dev_watchdog+0x262/0x270()	High	Confirmed	🐛🐛🐛🐛

■ Regressions - It worked before...

Lucid beta 1 fails to boot on my Apple iMac 27" (Core i5 model).

I am happily running Karmic (had to download backport Alsa to get sound working), but Lucid beta 1 fails to boot. You initially see the new purple Ubuntu loader, then it goes black - CD continues to whirl and after it sounds like it is loading in the background it resets and restarts.

Suspect problem with video - I can get it to boot if I select option F6 and "selectnomodes" (I think thats what it was called) - it boots fine (I am running it now).

Question: Would this stop me upgrading from Karmic?



- Stable release update
 - <https://wiki.ubuntu.com/StableReleaseUpdates>
 - Almost no new feature
 - It is RELEASED!!!
 - Changes as small as possible
 - Prevent risk of regressions
 - High impact bugs
 - CVE, loss of user data.. etc.



<http://people.canonical.com/~ubuntu-security/cve/pkg/linux.html>

linux

CVE	Dapper	Hardy	Jaunty	Karmic	Lucid	Maverick
CVE-2008-7256	pending	pending	not-affected	not-affected	not-affected	not-affected
CVE-2010-0419	not-affected	not-affected	released	released	needs-triage	needs-triage
CVE-2010-1173	pending	pending	pending	pending	pending	not-affected
CVE-2010-1436	not-affected	pending	pending	pending	pending	released
CVE-2010-1437	pending	pending	pending	pending	pending	not-affected
CVE-2010-1451	pending	pending	pending	pending	released	not-affected
CVE-2010-1636	not-affected	not-affected	not-affected	pending	released	released
CVE-2010-1641	not-affected	pending	pending	pending	pending	not-affected
CVE-2010-1643	pending	pending	not-affected	not-affected	not-affected	not-affected
CVE-2010-2071	not-affected	not-affected	not-affected	pending	pending	not-affected
CVE-2010-2492	not-affected	pending	pending	pending	pending	needed

Stable trees



[Karmic] Update to 2.6.31.8 Stable Kernel

Ubuntu » "linux" package » Bugs » **Bug #496816**

This bug affects 1 person. Does this bug affect you?

Affects	Status	Importance	Assigned to	Milestone
linux (Ubuntu)	Invalid	Undecided	Unassigned	Target to milestone
Karmic	Fix Released	Medium	Leann Ogasawara	Target to milestone

Also affects project Also affects distribution Nominate for release

Bug Description

SRU Justification/Impact: The upstream process for stable tree updates is quite similar in scope to the Ubuntu SRU process, e.g., each patch has to demonstrably fix a bug, and each patch is vetted by upstream by originating either directly from Linus' tree or in a minimally backported form of that patch. The 2.6.31.8 upstream stable patch set is now available. It should be included in the Ubuntu kernel as well.

TEST CASE: TBD

<http://kernel.org/pub/linux/kernel/v2.6/ChangeLog-2.6.31.8>

<http://kernel.org/pub/linux/kernel/v2.6/patch-2.6.31.8.bz2>

The 2.6.31.8 Upstream Stable Kernel brings in the following 91 patches:

- * ext4: Fix memory leak fix when mounting an ext4 filesystem
- * ext4: Avoid null pointer dereference when decoding EROFS w/o a journal
- * jbd2: Fail to load a journal if it is too short
- * jbd2: round commit timer up to avoid uncommitted transaction
- * ext4: fix journal ref count in move_extent_par_page
- * ext4: Fix bugs in mballocc's stream allocation mode
- * ext4: Avoid group preallocation for closed files
- * jbd2: Annotate transaction start also for jbd2_journal_restart()
- * ext4: Fix possible deadlock between ext4_truncate() and ext4_get_blocks()

Upstream



- What is upstream?
 - Linus's linux
- Why upstream?
 - Benefit every Linux user
 - Reduce the effort of maintaining
- When upstream?
 - Everyday – especially after delta review
- What happened after upstream?
 - Remove from Ubuntu delta

Where to find us



- Wiki
 - <https://wiki.ubuntu.com/Kernel>
- IRC
 - #ubuntu-kernel @ irc.freenode.net
- Mailing list
 - kernel-team@lists.ubuntu.com
 - <https://lists.ubuntu.com/mailman/listinfo/kernel-team>

Ubuntu Hardware Summit



- What is UHS?
 - Topics include how Canonical works with ODMs, Cloud proposition, boot time, hardware enablement, debugging, multitouch, networking...
- Who will attend
 - Various members of Canonical, and You.
- Sep-24th from 9am at Victoria Grand Hotel
- <http://www.ubuntu.com/uhs2010>



Q and A