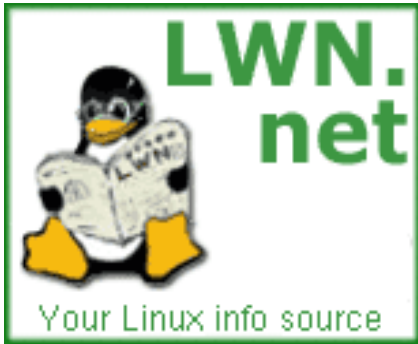


paravirt\_ops/IA64 status update

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# IA64 paravirt\_ops/xen merged!



## The 2.6.28 merge window closes

[Kernel] Posted Oct 24, 2008 8:40 UTC (Fri) by corbet

Linus has released [2.6.28-rc1](#) and closed the merge window for this development cycle. Changes merged since [the previous summary](#) include [IA64 Xen support](#), ultrawideband radio (UWB) support with wireless USB support on top of it, [range timers](#), and some extensive changes to the block driver API. Also, this kernel has been named "Killer Bat of Doom."

[Comments \(22 posted\)](#)

# Current status and future plan

Items		status
minimal domU	pv_ops	done(2.6.27)
	Xen/domU	done(2.6.28)
domU 2 <sup>nd</sup> Phase	more .S paravirtualization	patch posted
	save/restore	patch posted
	binary patch	now coding
	balloon expansion	skip to dom0(?)
	free unused pages	
	irq balance	
	spin lock	
dom0	ioremap	investigation needed catch up with x86
	pci device scanning	
	DMA API	
	kexec/kdump	
	PMU/PMD/PMC(xenoprof)	
	mca	
	and more?	

	done
	work in progress
	not started yet

# DomU 2<sup>nd</sup> phase: more optimization

- More .S paravirtualization
  - Implemented and posted. Now under review.
- Binary patching
  - W.I.P.
  - Calling convention would be moot.
    - Non-banked static registers(current xen-like)
      - try this first.
    - Banked Static registers(PAL-like)
    - Stacked registers(C function call-like)
  - The basic framework code will be reused from the previous experimental patches.

# DomU 2<sup>nd</sup> phase: more functionality

- save/restore:
  - Implemented and posted. Now under review.
- Balloon expansion: wait for the x86 implementation and skip to dom0.
  - There is a race between balloon expansion and live migration.
    - The log dirty mode interface probably needs to be revised.
  - Modifications to both the Xen Linux kernel and the tools stack are necessary.
  - X86 hasn't fully implemented it yet either.
    - Currently only the kernel part.

# DomU 2<sup>nd</sup> phase: more functionality(cont.)

- Skip to dom0: The following are not critical.
  - Freeing unused page
    - Only several hundreds K bytes wastage.
  - Irq balance
    - Work around to disable irqbalanced.
  - Spin lock
    - Does ticket spin lock harm?
    - Does anyone complain?
    - Anyway this can be addressed independently.

# Dom0 support

- Catching up with x86
  - Wait for stabilizing x86 dom0 work
  - Event channel has been heavily cleaned up.
    - More portability work
  - First catch up on the addition to Xen common code.
    - Backend drivers
    - privcmd

# Dom0 support(cont.)

- Needs investigation at first.
- `ioremap()`
- PCI device scanning
- DMA API
  - The ia64 implementation was changed for VT-d support
  - Share codes with x86?
- `kexec/kdump`
- How to coexist ia64 machine vector?

Questions?

# Thank you

- <http://wiki.xensource.com/xenwiki/XenIA64/UpstreamMerge>