libata: past, present and future

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ATA/ATAPI support

- ATAPI
- PATA + C/H/S, READ/WRITE MULTIPLE
- NCQ
- FUA
- SCSI SAT
- CompactFlash (CFA)

Hardware support

- Most on-motherboard chipsets (mostly AHCI)

- PCI drivers work on all PCI platforms (big endian, little endian, 32-bit, 64-bit, whatever)

- Cell, ARM, embedded...

- "SATA II" - 3.0Gbps, NCQ, ...

- eSATA

Software features

- Conversion to new EH almost complete

- Hotplug, "warm plug"

- Improved diagnostics

- Suspend/resume

- HDIO_xxx compatibility ioctl support

- Bug fixes, bug fixes, bug fixes

Accomplishments

- Fedora 7 test 1 disabled IDE driver, using libata for PATA as well as SATA

- 60+ host controller drivers

- Engineering support from controller vendors, hard drive vendors, integrators, large users

- ATA community seems to be coming together to one big happy family: Alan, Bart, Mark, ...

- Close to completion?

libata future

- New init model: like SCSI/netdev/etc.

- Refine error handling / probe / reset

- Sysfs

- Port multiplier

- Powersave

- Host-protected area (HPA)

- Block layer updates (next slide)

Block layer future

- NV cache

- Synchronization between request queues ("request queue group")

- Centralization of timeouts, error handling infrastructure

- Move ATA block devs from SCSI to block layer

- Make SCSI block devs, transports more generic?

- Barriers suck currently

- I/O rate guarantees

- Better error information back to filesystem?