



CE Linux Forum

Update on CELF Projects

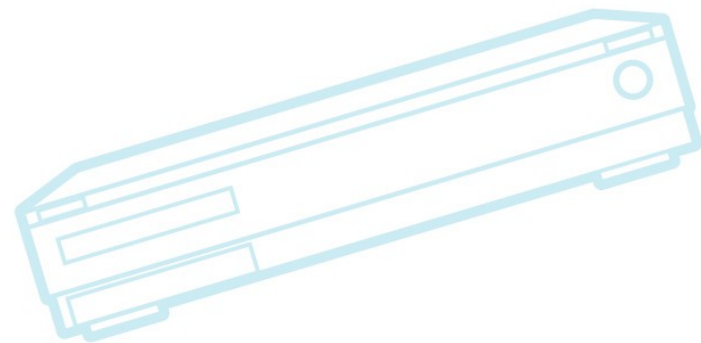
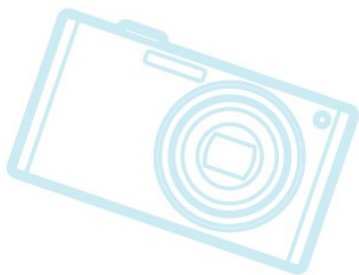
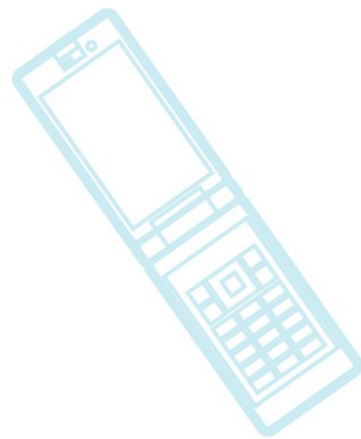
Tim Bird - CELF AG Chair



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Overview

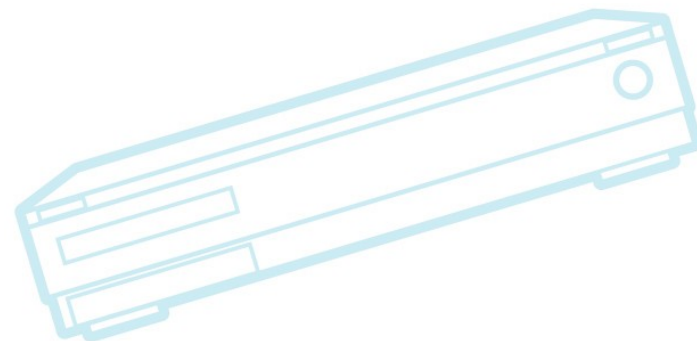
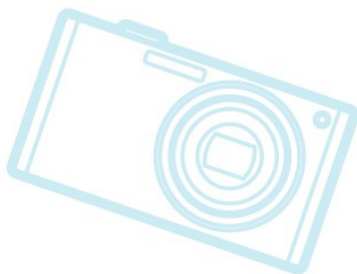
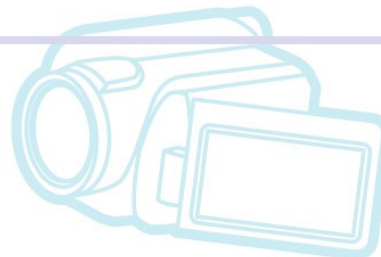
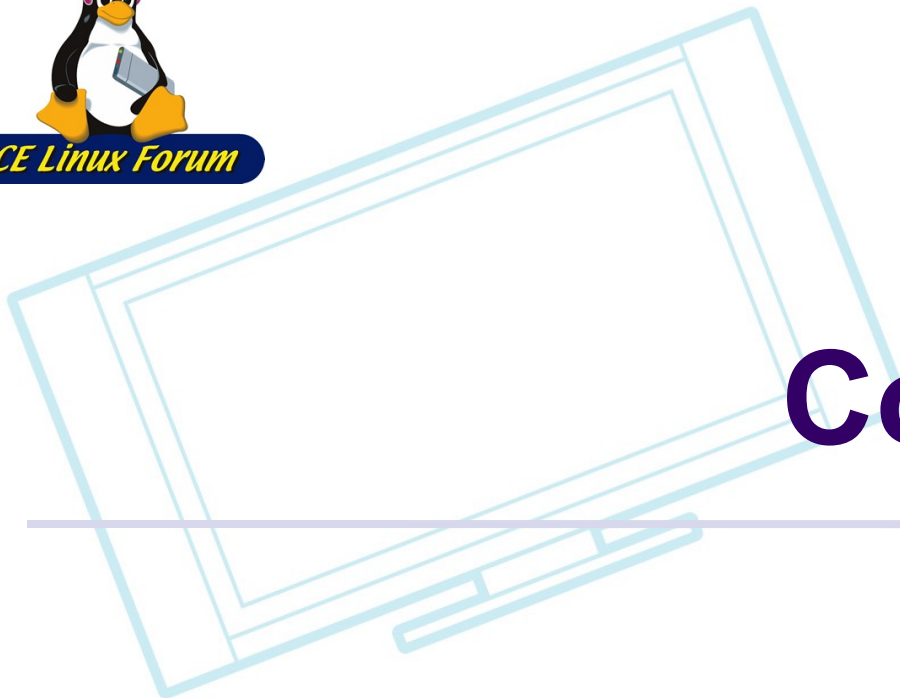
- CELF Contract Work
- Miscellaneous projects
- Conferences





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Contract Work

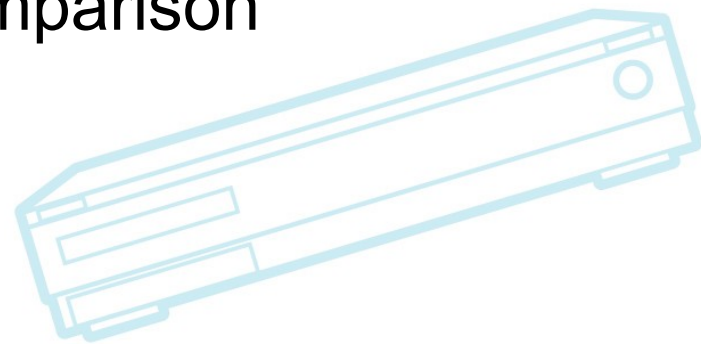
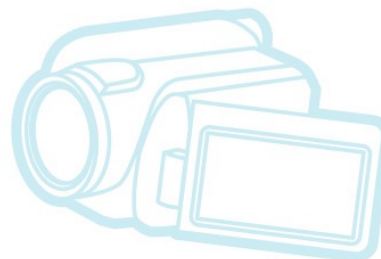
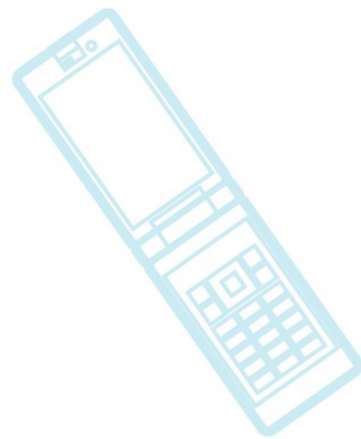




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CELF Contract Work

- Linux-tiny
- smem
- Mem_notify
- SquashFS
- SMACK on TV analysis
- Flash filesystem testing and comparison
- DirectFB mainlining
- Matt Mackall – maintainer work

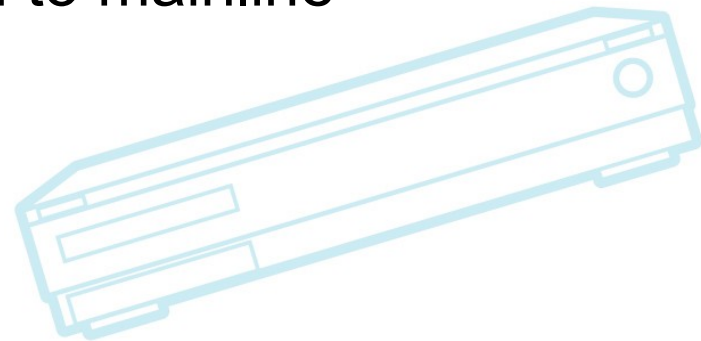
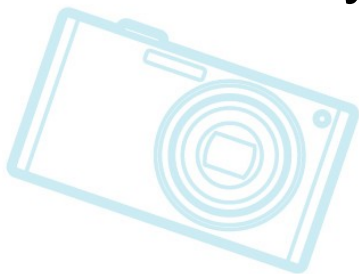




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Linux-tiny

- CELF contracted with Free-Electrons
- 8 patches mainlined in Fall 2008 by Thomas Petazzoni
- Some went into 2.6.27 and some into 2.6.28
- Not very many easy patches left
 - Size reduction of remaining patches is not very big
 - Makes it very hard to push them to mainline





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smem

- Provides information about system memory usage
- Reports *Proportional Set Size* (PSS), which accounts better for shared pages, and doesn't lie, like RSS
- Supports visualization (charts)
- Written by Matt Mackall
- Presented at ELC 2009 – is in good shape
- See <http://www.selenic.com/smem>



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Mem_notify

- Addition to cgroup system to support notification to user-space on low memory condition
- Patches submitted to LKML but not really noticed by community
- Some feedback was addressed, and new patch was submitted just last week



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SquashFS

- Compressed, read-only FS
- Mainlined in 2.6.29
 - Was out-of-tree for years
 - CELF contracted author specifically to mainline it
- CELF also contracted for some additional work on user-space utilities (mksquashfs)
- Very good article at:
 - <http://www.linux-mag.com/cache/7357/1.html>



SMACK on TV Analysis

- Smack
 - Simple Mandatory Access Control Kernel (SMACK)
 - Mainlined in 2.6.25 kernel
 - See <http://lwn.net/Articles/292291>
 - Seems good for embedded (low overhead)
 - CELF started project to evaluate TV use case
- Project status:
 - White paper completed this week
 - Should show up on elinux wiki very soon



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Flash filesystem testing and comparison

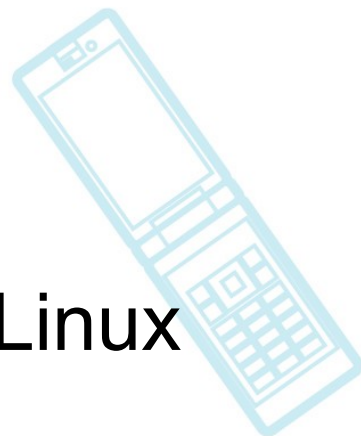
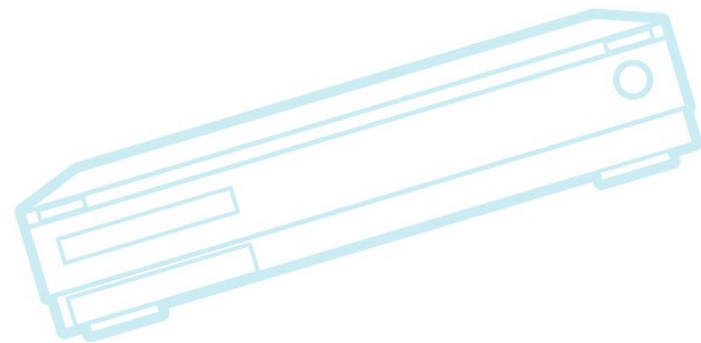
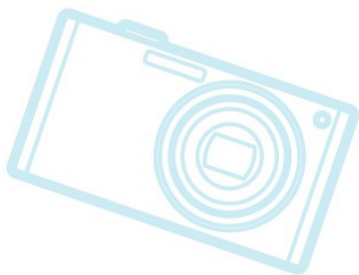
- Testing of different flash filesystems
 - Read/write/boot performance
- Contracted with Free Electrons
 - Preliminary results presented at ELC 2009
 - See <http://tree.celinuxforum.org/CelfPubWiki/ELC2009Presentat>
- Work is continuing on automation of the tests



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DirectFB mainlining

- DirectFB 'Fusion' needs support in Linux kernel
- Contracted with Dennis Kropp to mainline this functionality





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Matt Mackall

- Is now in MAINTAINERS file as an embedded Linux maintainer
 - Joining David Woodhouse and Paul Gortmaker
- CELF pays for Matt to do miscellaneous development and advocacy for embedded Linux kernel work
- This is a valuable contribution to the community



Miscellaneous Projects

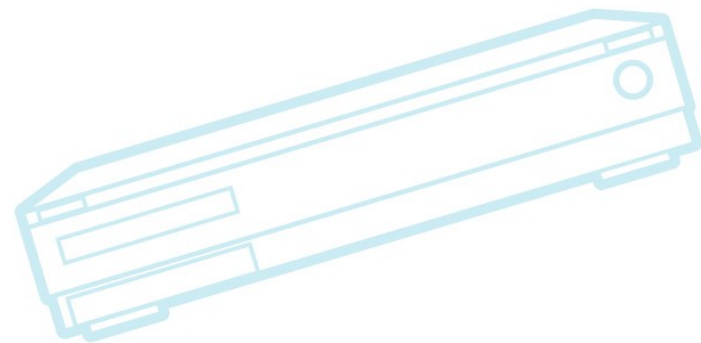
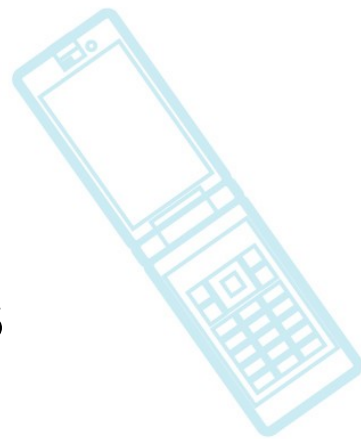
- Device Trees for ARM
 - Device Trees is a mechanism to pass info from bootloader to kernel
 - Supported in X86 and PPC
 - If all platforms supported it, it could allow more uniform device drivers
 - Also, allows for a single binary to run on multiple platforms
 - Is a currently a hot topic
- Open Source DLNA support
 - CELF held DLNA summit 2
 - November 2008 in the Netherlands
 - CELF provided DLNA hardware and specs to OSS developers



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eLinux Wiki

- Site for embedded Linux developers
 - <http://elinux.org/>
- Very good for some technical areas
- Needs work in some areas
- Promotion
 - Contests
 - Elinux.org working BOF at ELC

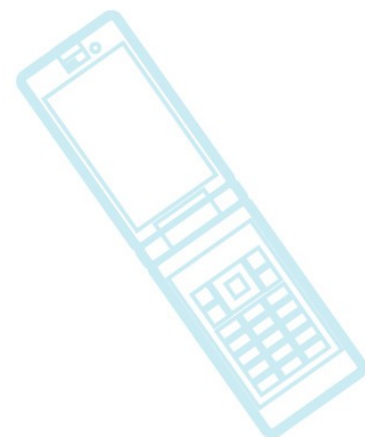




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Conferences

- Past
 - ELC Europe 2008
 - ELC 2009
 - Videos should be available soon
- Future
 - ELC Europe 2009
 - Japan Linux Symposium
 - ELC 2010
- See <http://www.embeddedlinuxconference.com/>

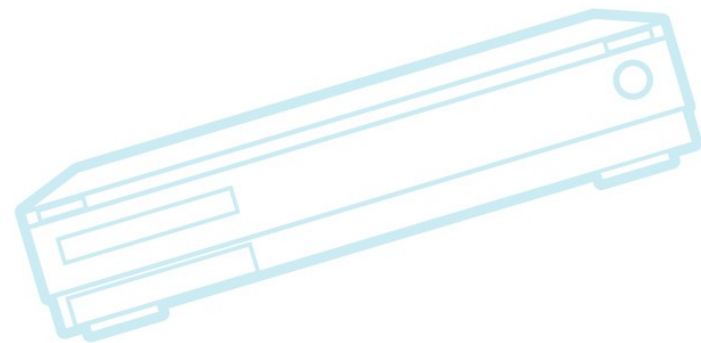
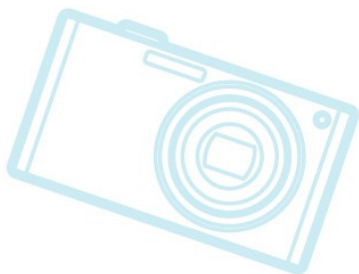
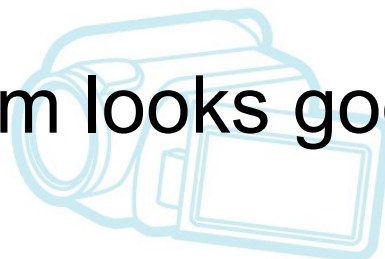
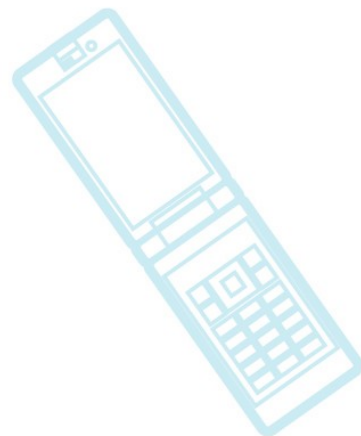




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ELC Europe 2009

- Grenoble, France
- October 15, 16
- Speakers notified – program looks good!





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Japan Linux Symposium

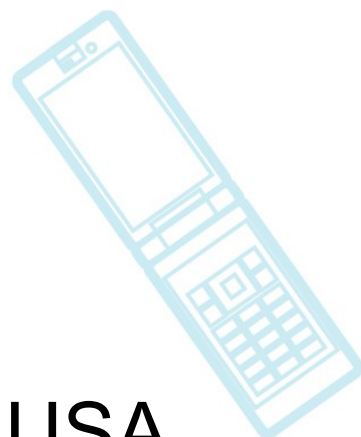
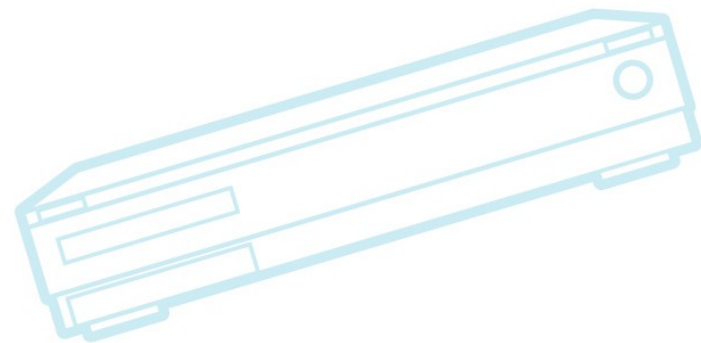
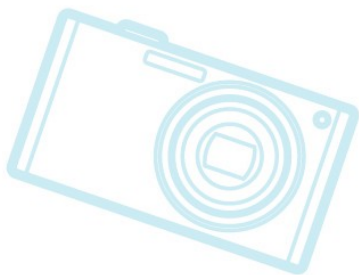
- Tokyo, Japan
- October 21-23
- Linus Torvalds is speaking
- Kernel Summit scheduled for October 19-20
- Status:
 - Speakers notified – program shaping up



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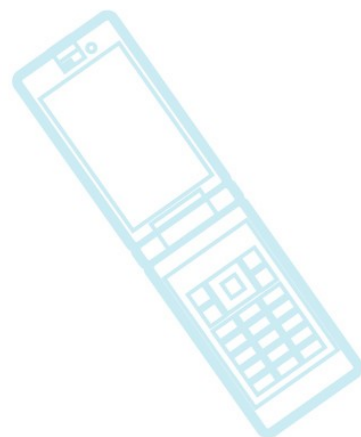
ELC 2010

- **Current plan:**
 - April 12-14 in San Francisco, CA, USA
 - Co-Located with Linux Foundation Collaboration Summit
 - Call for presentations should go out shortly





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Questions?

