

MPSAFE TTY

Ed Schouten, ed@FreeBSD.org

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What was MPSAFE TTY?

- ▶ MPSAFE TTY was a project to rewrite our kernel's TTY layer.
- ▶ Better support for hotplugging TTYs (safely destroying them).
- ▶ UNIX98-like pseudo-terminal driver.
- ▶ Improved buffering mechanism, unbuffered copying to userspace.
- ▶ Making TTYs conditionally MPSAFE.
- ▶ Project for my bachelor thesis.

Timeline

- ▶ January 2009: internship at Snow B.V. started.
- ▶ February 2009: started writing code.
- ▶ May 2009: visited BSDCan and the DevSummit.
- ▶ June 2009: started submitting HEADSUP messages to the lists.
- ▶ August 2009: integrated the MPSAFE TTY code.
- ▶ After that: fixed bugs, added a hooks layer, fixed drivers, etc.

Reception

- ▶ Integration went quite smooth. Most reported issues were quickly resolved, not just by me.
- ▶ Other developers also ported drivers to the new TTY layer. Many positive reactions to the new API.
- ▶ Not many people seem to miss the drivers that haven't been ported yet (though we haven't released).

The damage

- ▶ cy
- ▶ digi
- ▶ ng_h4
- ▶ rc (ISA-only)
- ▶ rp (partially fixed)
- ▶ ppp and sl (also needed IFF_NEEDSGIANT)
- ▶ sio (replaced by uart)
- ▶ ubser (replaced by HPS-USB)

The todo list

- ▶ Our utmp implementation needs some love (UT_LINESIZE, UT_HOSTSIZE).
- ▶ Sysmouse and consolectl should be turned into regular device nodes (not TTYs).
- ▶ Syscons still has some small locking issues.

Questions?