BSD Driver Harmony

EuroBSDcon 2022 - NetBSD DevSummit

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**Example Situations**

From NetBSD to OpenBSD and back again but not quite

- **emuxki(4), sound card**
  - Originally from NetBSD
  - Imported to OpenBSD
  - Some fixes made it back, other improvements did not

- **umb(4), 4G USB modems**
  - Originally from OpenBSD

- **Imported to NetBSD (easy)**
- **Imported to FreeBSD (tough!)**
  …95% of the code is the same

Many more possible examples:

- ACPI/ISA devices like **aps(4)** (accelerometer on ThinkPad laptops)
- **DVB cards (CX23885, i²c...)**
Not a New Topic
Reviving the discussion

• Mentioned at NetBSD’s Board last week

• Discussion between Bill Cromwell (NetBSD), George Neville-Neil (FreeBSD), Theo de Raadt (OpenBSD) in 2018

• Mentioned at the FreeBSD DevSummit 2022

• Perfect opportunity at BSD conferences
Bringing BSD Drivers Closer Together
Can we get there?

Improving collaboration between the major BSDs on driver development:
• FreeBSD, NetBSD, OpenBSD, more?

Introducing common idioms:
• e.g. listing supported devices, flags & quirks in `drivernam_boards.c`

Renaming values:
• Register names, flags…

Modifying APIs, names, etc:
• Compatibility issues:
  • e.g. `void attach()` vs `int attach()`
  • Third-party drivers (e.g. FreeBSD Ports)

Time-consuming task:
• Cross-foundation committee?
• Common website, compatibility matrix?
• Funding from each foundation?