

# FreeBSD USB stack update

Devsummit, EuroBSDcon

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# New features

- USB 3.0 stream support has been added to FreeBSD 10-current and API's are created for LibUSB v2.0, but not tested too much yet. Currently number of streams have been limited to 8 streams. Due to the design of FreeBSD's USB stack, adding streams support was trivial and did not require many lines of code change.
- TTY (USB serial port devices) no longer block at detach, if the device is opened when detached.
- usbdump has been extended to support more advanced filtering.
- More intelligent auto-quirk detection of USB memory sticks.
- Minor maintainance and bugfixing.

# USB device driver support

- There now exist a book on how to write a USB device driver for FreeBSD, see [FreeBSD device drivers](#)
- USB Audio v2.0 support has been added, but not tested extensively.
- According to `/etc/devd/usb.conf` which is responsible for auto-loading drivers, around 2200 USB devices using vendor specific classes are supported. In addition there is also a large number of supported USB class compatible devices which are not listed in this file.
- [Webcamd](#) has been updated to version 3.7.0.4 and support some more thousands of USB DVB-C/T/S/S2, USB input and webcam devices running all in userspace via [CUSE4BSD](#).

# USB controller driver support

- The DWC OTG driver has become HOST mode support, which is used in devices like the **RaspBerryPI**.
- Some issues have been seen in the BUSDMA and cache-alignment of DMA buffers on ARM platforms. This is not directly a USB stack problem. Developers are working on resolving these issues.

- DragonFlyBSD has ported the FreeBSD's USB stack to its platform (2012)  
**Major USB update arrives**
- RTEMS has ported the FreeBSD's USB stack to its platform  
**RTEMS**
- A handful of other companies has also ported the FreeBSD's USB stack to their OS of preference, including **Bitfrost A/S** where I've been working for some years now.
- Looking forward to receive patches back for improvements and/or comments.

# Plans for the future

- Maintain existing USB code
- Keep track of usb.org