

# OpenBSD project status update

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# What's New?

## 5.9 release highlights:

- ▶ i386 kernel W^X
- ▶ `pledge(2)`
- ▶ 802.11n
- ▶ Xen domU
- ▶ UTF-8
- ▶ 32 *and* 64 bit EFI on amd64
- ▶ Network stack MP improvements
- ▶ New hardware support and driver updates

## pledge(2)

**453** out of 707 base system binaries were adapted to use pledge.

14 ports now use pledge(2): some decompression tools, mutt, some pdf tools, chromium/iridium, and the i3 window manager.

Various bugs exposed by pledge(2) were corrected.

## EFI for amd64

32 *and* 64 bit EFI support.

GPT is enabled by default.

Improved GPT support in fdisk(8) including full interactive editing.

Installing to a disk partitioned with a GPT is now supported.

efib(4) driver for EFI frame buffer.

## Driver updates

Initial support for Intel Bay Trail and Broadwell graphics.

New drivers for HID-over-i2c keyboards, mice and multitouch touchpads.

Initial support for hardware reduced ACPI added to acpi(4).

SDHC driver can be discovered and attached by ACPI.

Intel Skylake integrated NIC with i219 PHY support.

Access to IPMI has been provided to userspace programs.

## Networking stack improvements

Several Ethernet drivers are running Rx and Tx processing w/o taking the biglock.

BPF now runs w/o the biglock.

New `intr_barrier(9)`, `if_get(9)` and `if_put(9)` interfaces.

`etherip(4)` for tunnelling Ethernet frames across IP[46] networks using RFC 3378 EtherIP encapsulation.

`pair(4)` for creating paired virtual Ethernet interfaces.

`tap(4)` split up from `tun(4)`.

`pflow(4)` now supports IPv6 for transport.

Chacha20-Poly1305 support in IPsec and `iked(8)`.

# Upcoming Networking stack improvements

ART will be enabled shortly.

Work has been started on making pf(4) MP-safe.

More drivers will be converted.

## 802.11n

HT data rates up to 65 Mbit/s (802.11n MCS 0-7).

Supported in the `iwm(4)` and `iwn(4)` drivers.

802.11n mode is used by default if supported by the OpenBSD wireless driver and the access point. Operation in 802.11a, 802.11b, and 802.11g modes can be forced with the new `ifconfig(8)` mode subcommand.

## Userland changes

less(1) was forked and cleaned up substantially, incorporating changes from Garrett D'Amore's version.

Lazy binding updates in ld.so(1) are now performed using kbind(2).

Over 100 internal or obsolete interfaces have been deleted or are no longer exported by libc, reducing symbol conflicts and process size. libc now uses local references for most of its own functions.

Only C and UTF-8 locales are supported, huge improvements in UTF-8 support.

Steady improvements in OpenSSH, LibreSSL and documentation.

Anything missing?

Update [59.html](#)!