The NetBSD Project

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What is NetBSD?

- A free and complete BSD operating system
- Derived from BSD 4.4-Lite and the Net/2 release
- Runs on multiple hardware platforms
- Distributed with full source
- “Supported” by volunteers

NetBSD's Goals

- Provide a free, complete, stable BSD system
- Improve where necessary
- Port it to popular platforms
- Avoid encumbering licenses

Summary:

Provide a free system that professionals and hobbyists can use however they wish.

User-land Improvements

- Shared libraries!!!
- 70% compliant with POSIX.2
- Flexible name resolution including YP, BIND, and hosts file
- POSIX threads
- Many, many bugs fixed
- Filled in missing commands
- Keeping software current

Kernel Improvements

- Many more architectures supported
  - Existing ports enhanced
- Machine dependencies isolated
- 95% Compliant w/POSIX.1
- Many kernel subsystems enhanced
- Many, many bugs fixed

Kernel Improvements: (partial list)

- tty subsystem enhanced
- Flexible exec modules - support a.out and ECOFF. Easy to add others.
- Loadable Kernel Modules
- System V semaphores, message queues, Shared memory rewrite.

Yet More Kernel Improvements

- Multicast support
- Filesystems: MS-DOS, Amiga DOS
- Machine-independent SCSI subsystem
  - Now used by most ports
- Diskless boot support
- Shared core dump format
- The list goes on, and on, and on.....

Working ports

- i386/i486/Pentium
- Amiga
- Decstation
- HP 9000/300
- Macintosh (some models)
- pc532 (ns32k board)
- Sparc (sun4c)
- Sun3

Ports in Progress

- Sparc (sun4m)
- VAX

Want a port? Support one.

- Needed:
  - One machine to start, usually a second later.
  - Technical reference material
  - A person with a lot of dedication, patience, and a large chunk of time
- We can provide people but rarely the rest.
- We like to keep one machine for port maintenance.

Compatibility with other Systems

- BSDI binary compatibility
- SunOS binary compatibility
- Ultrix binary compatibility
- SVR4 binary compatibility
- Nearly 4.4 BSD source-code compatible
- POSIX

It's easy to port software to NetBSD

4.4 BSD Lite Integration

- Goal: Integrate and roll forward NetBSD improvements
- Status:
  - Most difficult changes integrated and tested
  - All kernel changes except filesystems
  - Any required user-land/lib changes
  - Ports modified appropriately
- Bugs pushed back to CSRG

Future work on NetBSD

- Finish 4.4-Lite integration
- Support more platforms
- Continue POSIX compliance work
- Performance enhancements
- Improve RFC support
- Fufill user demands as best we can
- Anything else we think of....

Releases

- NetBSD 0.8 - April 1993
- NetBSD 0.9 - August 1993
- NetBSD-current - track our work daily
- NetBSD something - soon
  - A multi-architecture release
    - one set of sources
    - binaries for multiple platforms
    - CD-ROM

Who does the work?

- A “cast of thousands” of contributors including:
  - CSRG, for Net/2, 4.4-Lite, and for “BSD” in general
  - The NetBSD core team
  - Users who have sent in bug reports, fixes, and enhancements
  - The “NetBSD-current” alpha-testers
- We’re **NOT** going away any time soon...

Special thanks to:

- UC Berkeley’s lawyers who fought AT&T/USL/Novell to an acceptable settlement
  - Long live BSD!!!

For your reference:

- How to obtain NetBSD
  - anonymous FTP to ftp.netbsd.org:pub/NetBSD
- NetBSD mailing lists:
  - mail majordomo@sun-lamp.cs.berkeley.edu for a list
- And if you have questions or comments:
  - netbsd-comments@sun-lamp.cs.berkeley.edu
  - Ask us now, or later privately

Also:

- NetBSD-current: updated nightly
  - ftp.netbsd.org:pub/NetBSD/NetBSD-current
- SUP of NetBSD-current sources possible
  - Directions
  - SUP binaries
  - SUP source
  - Can be found in ftp.netbsd.org:pub/sup