FreeBSD is not a Linux Distro

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Overview

- What is FreeBSD?

- A Brief History of BSD

- Features

- Futures

Who am I?

- Network Protocol and Security Practitioner

- Twenty year veteran of BSDs and Operating Systems

- Co-author of The Design and Implementation of the FreeBSD Operating System

- Member of FreeBSD's Elected Core Team

- Director of the FreeBSD Foundation

- ACM Queue's Kode Vicious

What is FreeBSD?

- Complete Operating System

- Tools and Source

- More than 24,000 3rd Party Open Source Packages

- Complete Documentation

- An Open Source Community

Who uses FreeBSD?

- NetApp
- Dell/EMC/Isilon
- Dell/KACE
- Panasas
- Apple
- Limelight Networks
- Swisscom
- Sentex
- Microsoft

- WhatsApp
- Juniper Networks
- Verisign
- Perseus Telecom
- Sony
- XipLink
- McAfee
- NYI
- Yahoo

Why use FreeBSD?

- Innovation

- Great Tools

- Mature release model

- Excellent Documentation in many Languages
    - https://www.freebsd.org/doc/zh_CN/books/handbook/

- Business Friendly License

- Open Community

FreeBSD 使用手册

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The FreeBSD Documentation Project

FreeBSD 中文计划

修订: 46749

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法律通告
1999 年 2 月 由 .
2005 年 12 月 由 .

摘要

欢迎使用 FreeBSD! 本手册适用于安装 FreeBSD 10.3-RELEASE 和 FreeBSD 11.0-RELEASE 以及它们的日常使用。 这个手册目前由很多人 持续地 维护。 其中的内容需要不断地更新。 如果您有兴趣参加这个项目， 请发邮件到 FreeBSD 文档计划邮件列表。 此文档最新的英文原始版本可以从 FreeBSD 网站 上获得 (本手册的较早期版本可以在 http://docs.FreeBSD.org/doc/ 找到)。 由 FreeBSD 中文计划 维护的最新译本可以在 FreeBSD 中文计划 快照网站 获得, 这一译本会持续地向主站同步。 此外， 您也可以从 FreeBSD FTP 服务器 及其众多 镜像站点 取得这份文档的各种其它格式， 以及压缩形式的版本。 如果您希望得到一份印刷版本的手册， 可以从 FreeBSD Mall 购买。 除此之外， 您还可以 在手册中搜索内容。

[章节模式 / 完整模式]

目录

BSD History: 30+ years in 3 minutes

- Chaos reigned
- MULTICS
- UNIX(BellLabs)
- Berkeley Tools Tapes
- ex/vi
- Pascal Compiler
- Tools for UNIX

- CSRG, DARPA and the Internet
- Removal of last bits of AT&T Code
- Rewrite of all non open source code
- AT&T Lawsuit
- BSD is Free

Flavors and Branch Dates

- NetBSD Broad platforms support (1993)
- FreeBSD Rock Solid Performance (1993)
- OpenBSD Security (1996)
- PC-BSD Desktop (2006) (now TrueOS)

The FreeBSD Philosophy

- Use our code
- Produce a whole system ready for development
- Don't Sue Us

Produce a Whole System

- Operating System
- Drivers
- Compilers and associated Tools
- Debugging Tools
- Editors
- Packaging System
- Ready for Coding when Install is Done

Key Features and Innovations

- UFS2
- ZFS
- DTrace
- VNet
- Jails
- LLVM/Clang/LLDB
- Capsicum
- MAC and Audit Frameworks
- netmap/VALE
- Linuxulator

Filesystems

- UFS
  - Traditional Unix Filesystem
  - High Performance
  - Snapshots
  - Journaled Soft Updates
- ZFS
  - Zetabyte Filesystem
  - Volume Manager
  - RAID
  - Fully up to date in FreeBSD
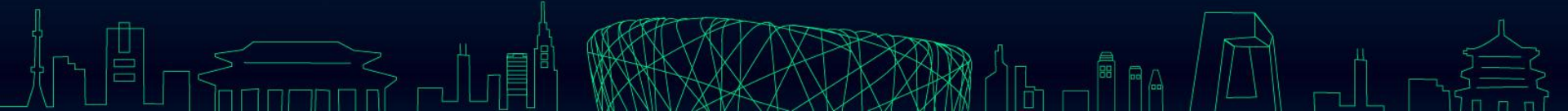
Security Features

- Jails
  - Light weight VM
- MAC and Audit Frameworks
- Capsicum
  - Capabilities for UNIX
  - Sandboxing

Innovative Compiler Technology

- LLVM/Clang

- LLD

- LLDB

- Complete replacement for gcc/g++

- Moving compilers into the 21st Century

DTrace

- Complete system transparency

- See inside any call or return

- System Calls

- Disk, NFS, Networking subsystems

- DTraceToolkit

Networking

- Pluggable TCP Stacks
  - BBR (latest from Google)
  - RACK
  - CUBIC
  - NewReno
- IPFWandPF   Dummynet
- netmap
- VALE
- VXLAN

Virtualization

- Ready to use images
  - VMWare
  - Virtual Box
  - qemu
- bhyve
  - Native hypervisor
  - Runs Linux, Windows and FreeBSD images
  - Also used on Mac OS (xhyve)
  - BSD Licensed

More New Features

- Scaling
  - More Cores
  - Queues
  - NUMA
- ARM64
- MPTCP
- DCTCP
- BBR (the latest in TCP congestion control)
- SecureBoot/UEFI

How the Project Works

- Democratically Elected Core Team

- Mentorship for Commit Bit

- Hats

- We have no dictator

Becoming a Committer

- Join the mailing lists
- Clone or Checkout the code
  - svn.freebsd.org
  - github/freebsd
- Submit Patches
  - reviews.freebsd.org
- Get a mentor
- Get proposed to core@
- Granted a commit bit (all commits ReviewedBy)
- Be freed from mentorship
- Find a mentee

The BSD License

OSC源创会
年终盛典 2016

GPLv2

BSD License vs. GPLv2

- 226 words
- Open
- Unrestrictive
- Not viral

- 2968 words
- Restricts what you can do with your own code
- Viral

Learn more about FreeBSD

- Website: www.freebsd.org

- FreeBSD Foundation: www.freebsdfoundation.org

- Mailing Lists

- Forums

- FreeBSD Handbook

- IRC

BSD Meetup

- BSD & Cloud @ Beijing / BSD 和云 聚会 @ 北京

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