1.1 Linux操作系统概述

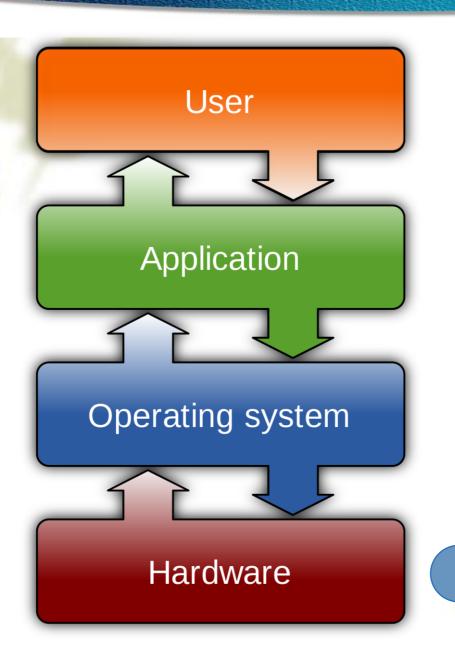


西安邮电大学

带着问题上路

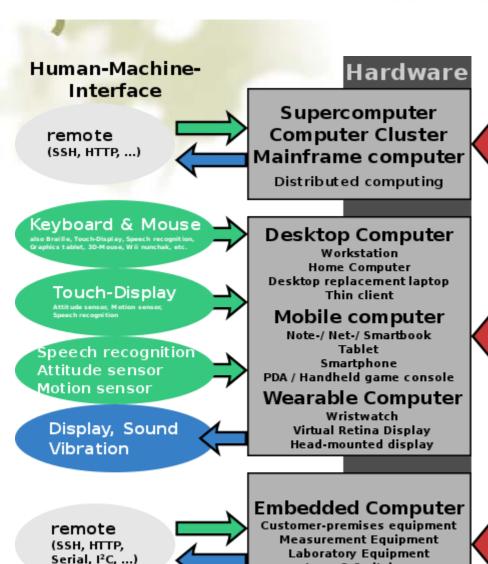
- 1. 什么是操作系统?
- 2. 为什么学Linux操作系统?
- 3. Linux系统整体结构是什么?
- 4. 其内核设计遵循什么理念?
- 5. 如何感知Linux内核

What's Operating System



An operating system (OS) is system software that manages computer hardware and software resources and provides common services for c omputer programs.

自由、开放、普世的Linux



Layer3-Switches other embedded systems

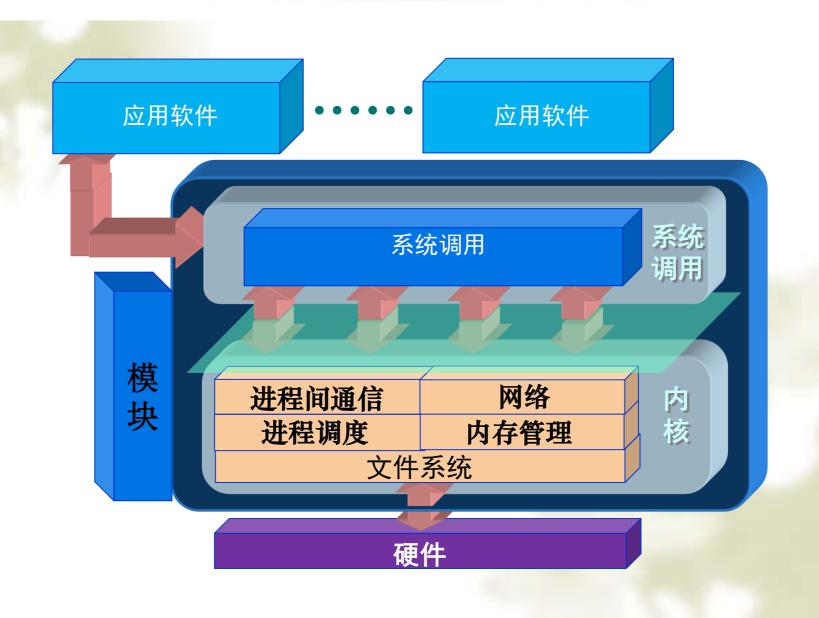
linux kernel High-performance computing (HPC) Real-time computing (RTC) Linux Process Scheduler **Linux Security Modules** Linux Network scheduler Network stack Netfilter Linux device drivers Linux file system drivers

Web server solution stacks (LAMP) Distributed Computing Routing daemons Software Development open-source Package management systems CAD, CAM & CAE Software Office Image Processing Desktop Publishing (DTP) Windowing Systems Desktop UI User II Shells) Touch UI **Wearable UI** Video processing software 3D computer graphics Computer animation Motion graphics Digital Audio Workstation DJ Mixing Software Video games Home cinema solutions

Debian software archives: 37,000

software packages

Linux系统整体结构



Unix/Linux设计理念

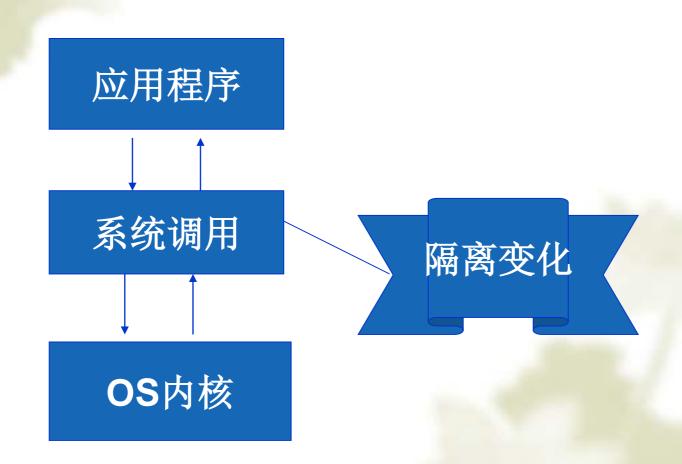
机制与策略分离

- ◆ 机制-提供什么样的功能
- ◆策略-如何使用这些功能

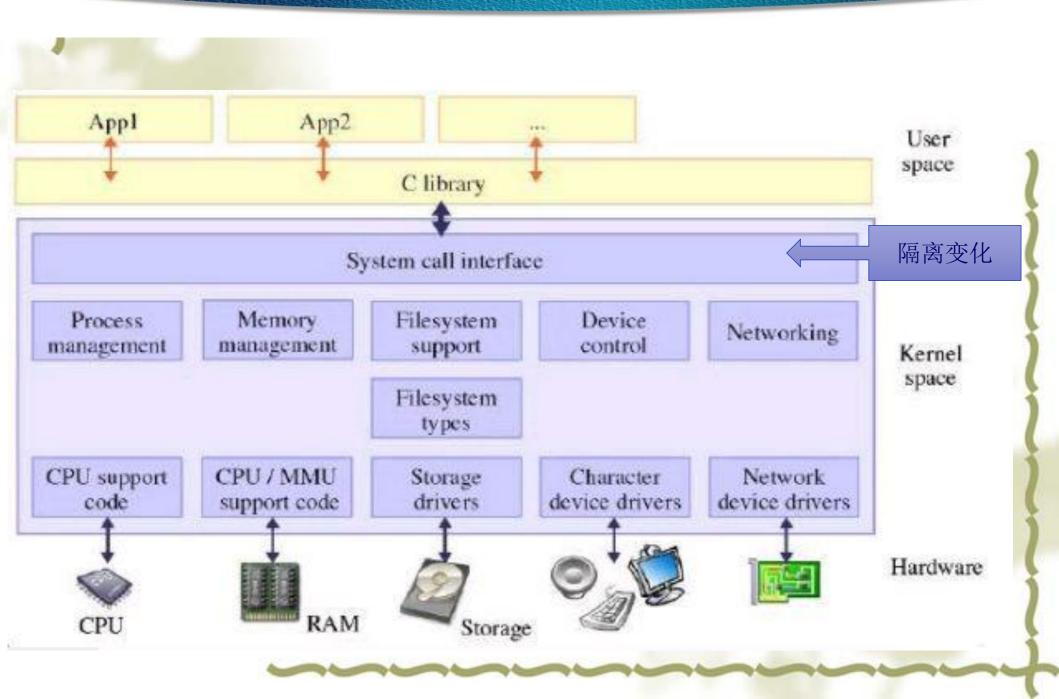
The separation of mechanism and policyis a design principle in computer science.

--from Wikipedia

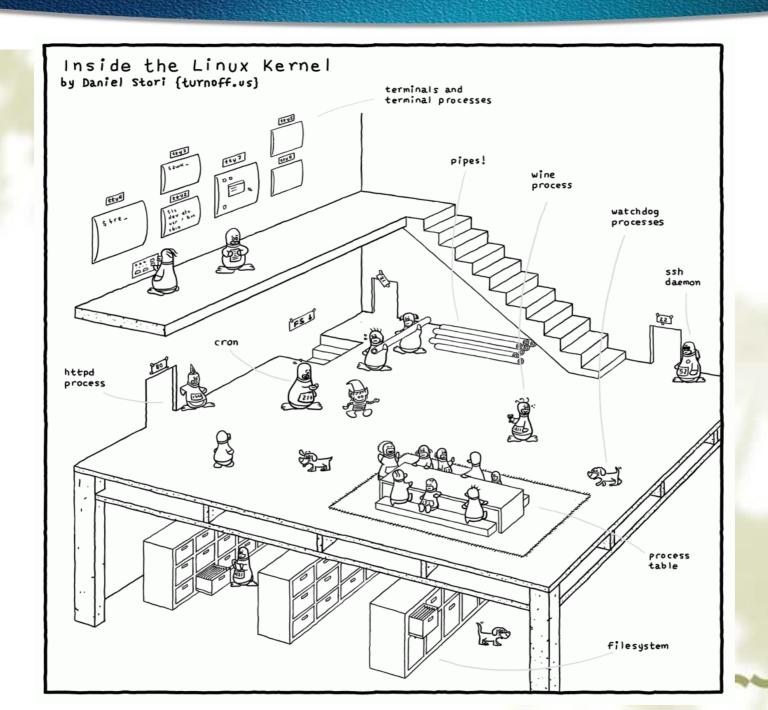
隔离变化-系统调用机制



隔离变化-系统调用机制



漫画趣解 Linux 内核构造



教材和参考文献

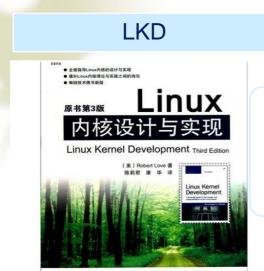
教材:

陈莉君 Linux操作系统原理与应用 清华大学出版社 2012年1月 参考文献

内核文档: https://www.kernel.org/doc/html/latest/

- 1. Andrew S. Tanenbaum Distributed Operating Systems 机械工业 出版社 2006
- 2. 陈向群等译 现代操作系统 机械工业出版社 2009年7月
- 3. 陈莉君等译 深入理解Linux 内核 中国电力出版社 2007年6月
- 4. 陈莉君等译 Linux内核设计与实现 机械工业出版社 2009年11 月

Linux内核经典书籍比较

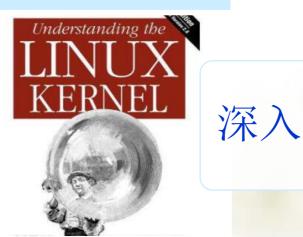


入門



實戰





谢谢大家!



THANK YOU