ECE437/CS481

INTRODUCTION TO OS
LINUX HISTORY

Chapter 18

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Brief history of Linux

❑ Linux is named after Linus Torvalds (a computer science undergraduate student at University of Helsinki), who wrote the first version of Linux kernel in 1991.

❑ At the time, he was a Computer Science undergraduate student at the University of Helsinki, Finland, and wanted a hobby project which he intended to release as a free OS.

❑ Linus retains control of the Linux kernel to this day through a small company.
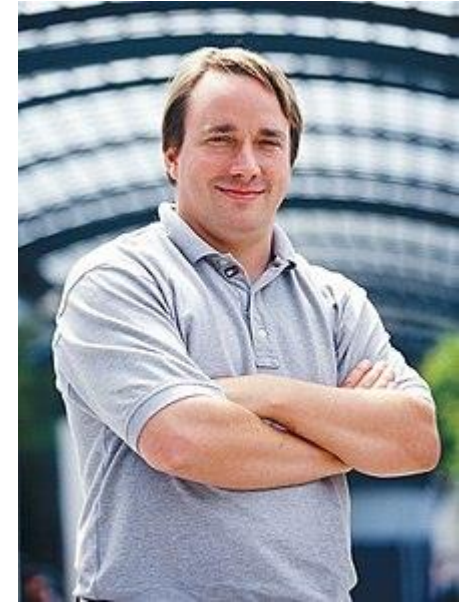
Brief history of Linux

❏ Linux is released under the GPL, the Free Software Foundation's General Public License.

❏ This is sometimes called the "copyleft" (as opposed to "copyright").

❏ When you install Red Hat, Mandrake, Caldera, Yellow Dog, Yggdrasil, Debian, Ubuntu, or Slackware, you are installing a distribution ("distro") of Linux.
  ✓ You're paying only for the package, since Linus makes no money from the use of his kernel at all.

Physical Server Essential

$225.00 USD per year

- ✅ Ubuntu 14.04 LTS Extended Security Maintenance (ESM)
- ✅ Kernel live patch service to avoid reboots
- ✅ Landscape on-prem systems management
- ✅ Certified Windows drivers for KVM guests
- ✅ FIPS 140-2 Level 1 certified crypto modules

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Physical Server Standard

$750.00 USD per year

- ✅ 24x5 Phone and ticket support with 4-24 hour response times dependant on severity level 1-4
- ✅ Ubuntu 14.04 LTS Extended Security Maintenance (ESM)
- ✅ Kernel live patch service to avoid reboots
- ✅ Landscape on-prem systems management
- ✅ Certified Windows drivers for KVM guests
- ✅ FIPS 140-2 Level 1 certified crypto modules
- ✅ OpenStack, Kubernetes and KVM/LXD support
- ✅ IP Legal Assurance program
- ✅ Ceph/Swift usable storage support included (48 TB)

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Physical Server Advanced

$1,500.00 USD per year

- ✅ 24x7 Phone and ticket support with 1-12 hour response times dependant on severity level 1-4
- ✅ Ubuntu 14.04 LTS Extended Security Maintenance (ESM)
- ✅ Kernel live patch service to avoid reboots
- ✅ Landscape on-prem systems management
- ✅ Certified Windows drivers for KVM guests
- ✅ FIPS 140-2 Level 1 certified crypto modules
- ✅ OpenStack, Kubernetes and KVM/LXD support
- ✅ IP Legal Assurance program
- ✅ Ceph/Swift usable storage support included (48 TB)

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Brief history of Linux

❑ Externally (i.e., at the interface or API level), Linux is bit-for-bit compatible with Unix (and the POSIX standard).

✓ Portable Operating System Interface (POSIX) is a family of standards specified by the IEEE Computer Society for maintaining compatibility among operating systems (e.g., all the Unix-like operating systems)
✓ POSIX defines the APIs, command line shells, and utility interfaces

❑ Internally, it is a fresh ("clean room") construction not bound by the Unix copyright.

Brief history of Linux

❑ GNU/Linux is a multi-user, multi-program OS, and supports multi-processor architecture

➢ Several users can log in locally and/or remotely to the Linux workstation/server and work concurrently.

➢ Allows for running multiple programs using preemptive multi-programming

➢ The Linux kernel currently supports running multiple concurrent CPU's on any given system

❑ Components of a full Linux system

system-management programs	user processes	user utility programs	compilers
system shared libraries			
Linux kernel			
loadable kernel modules			