



Introduction to Linux
























Brief History of Unix and Linux

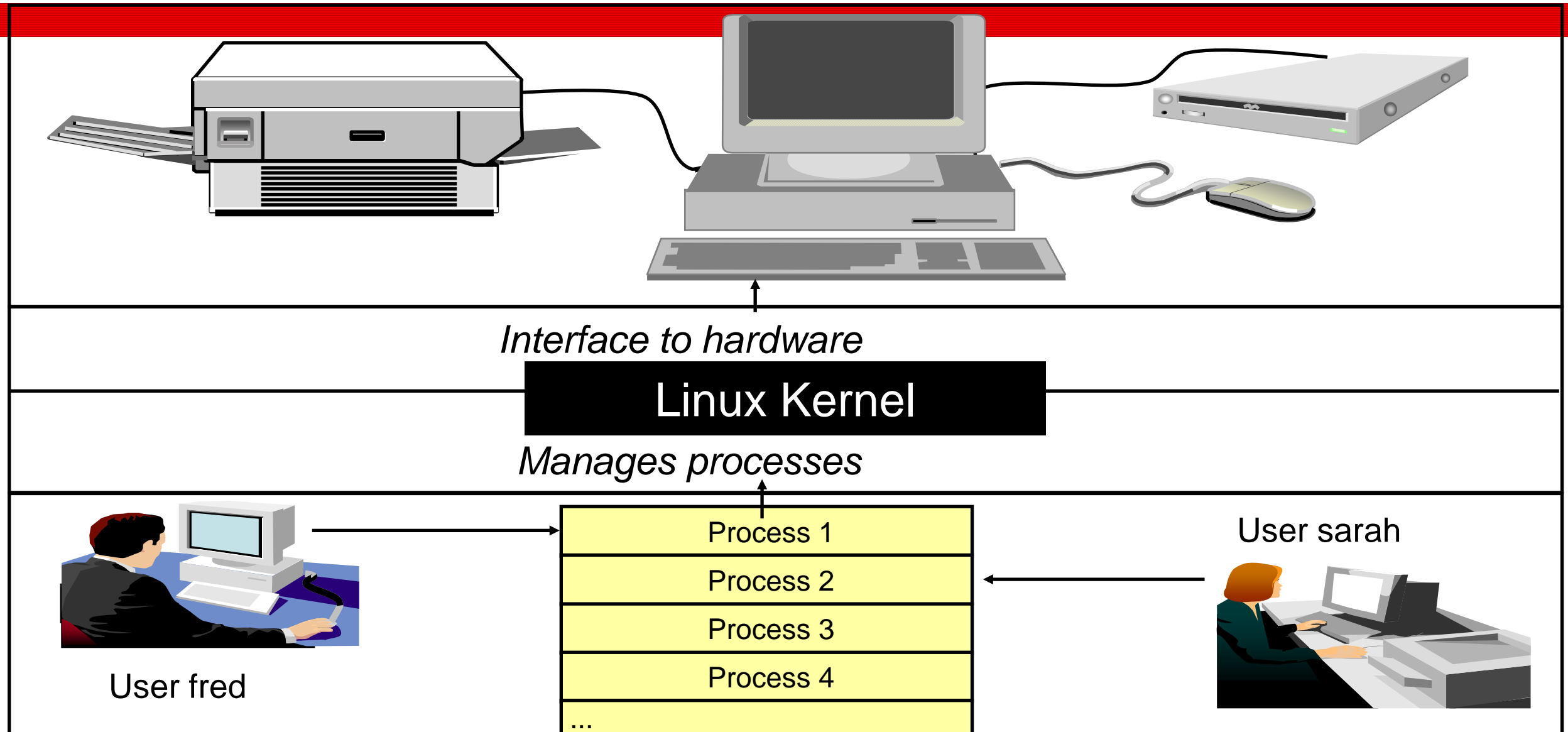
- 1950's
- Open Source
- Widely used in academic institution, government agencies, open-source communities
- Lots of Legal issue > Copyright > sharing idea
- Commercial variants - IBM , HP , Sun Microsystems
- Linux created in 1990s by Linus Torvalds
- Free Linux Kernel

Linux Distro



Beginner-friendly	Intermediate	Hard mode
		
 Ubuntu Based on Debian	 Garuda Linux Based on Arch	 Arch [Independent] – DIY
 Pop!_OS Based on Ubuntu	 EndeavourOS Based on Arch	 Gentoo [Independent] – DIY
 elementary OS Based on Ubuntu (LTS)	 Manjaro Based on Arch	 Slackware [Independent]
 Mint Based on Ubuntu	 MX Linux Based on Debian	 Linux From Scratch [Independent] – DIY
 Zorin Based on Ubuntu	 Fedora Based on Red Hat	 Qubes OS Based on Fedora – Security
 Solus [Independent]	 OpenSUSE [Independent]	 NixOS [Independent] – DIY

Linux operating system



Administration Tasks

Graphical User Interface (GUI)

- Graphical
- Navigation menus, blades, icons
- Preset, templates
- Ease of Use
- Lack of security : http
- Lots of configuration : https or UI

Command Line Interface (CLI)

- Faster to create multiple objects
- Scripting and programming
- Universal format
- Conform to modern Infrastructure as Code
- Repeating processes
- Remote login : ssh

SHELLS

Bourne shell

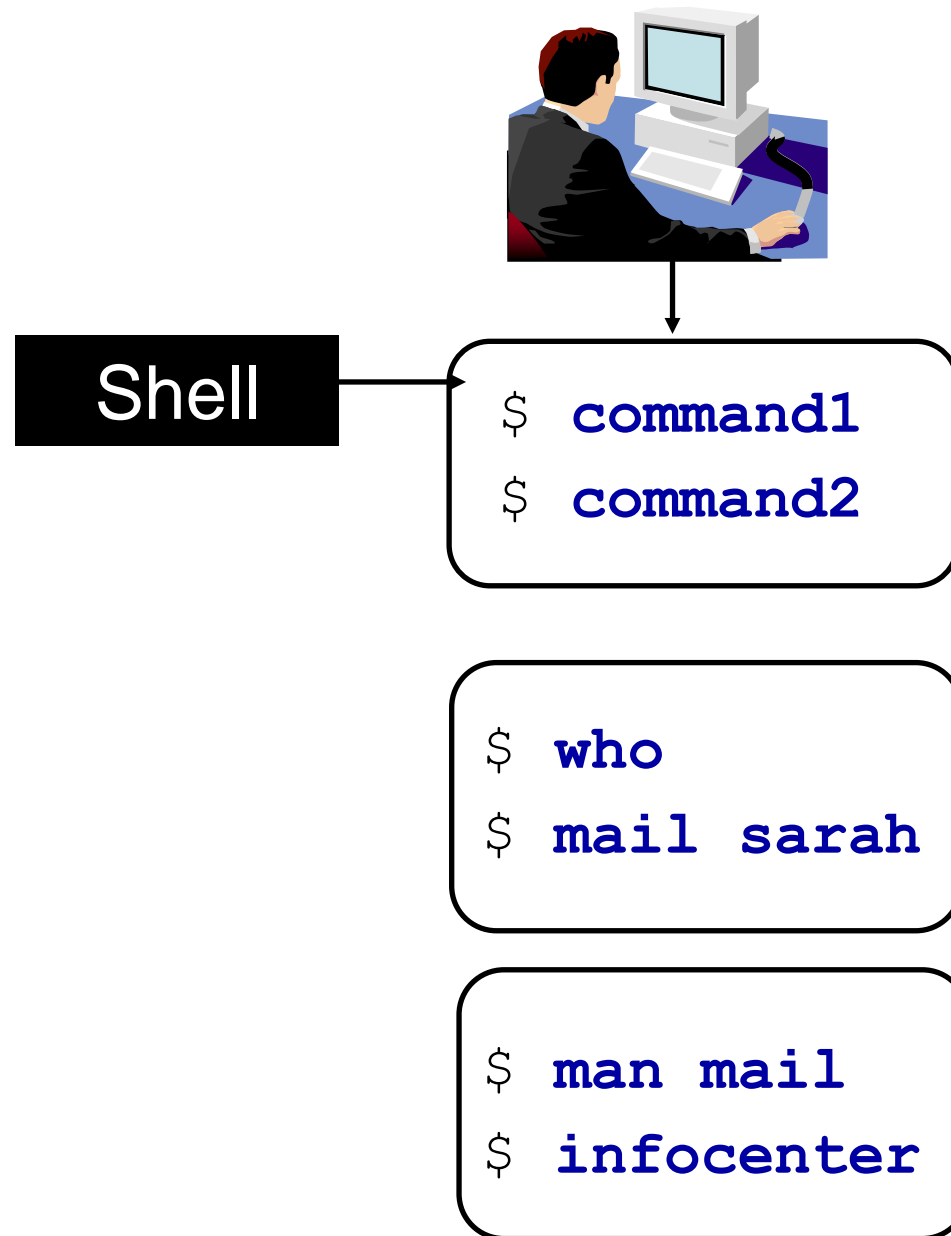
Korn shell

C Shell

BASH

TCSH

ZSH



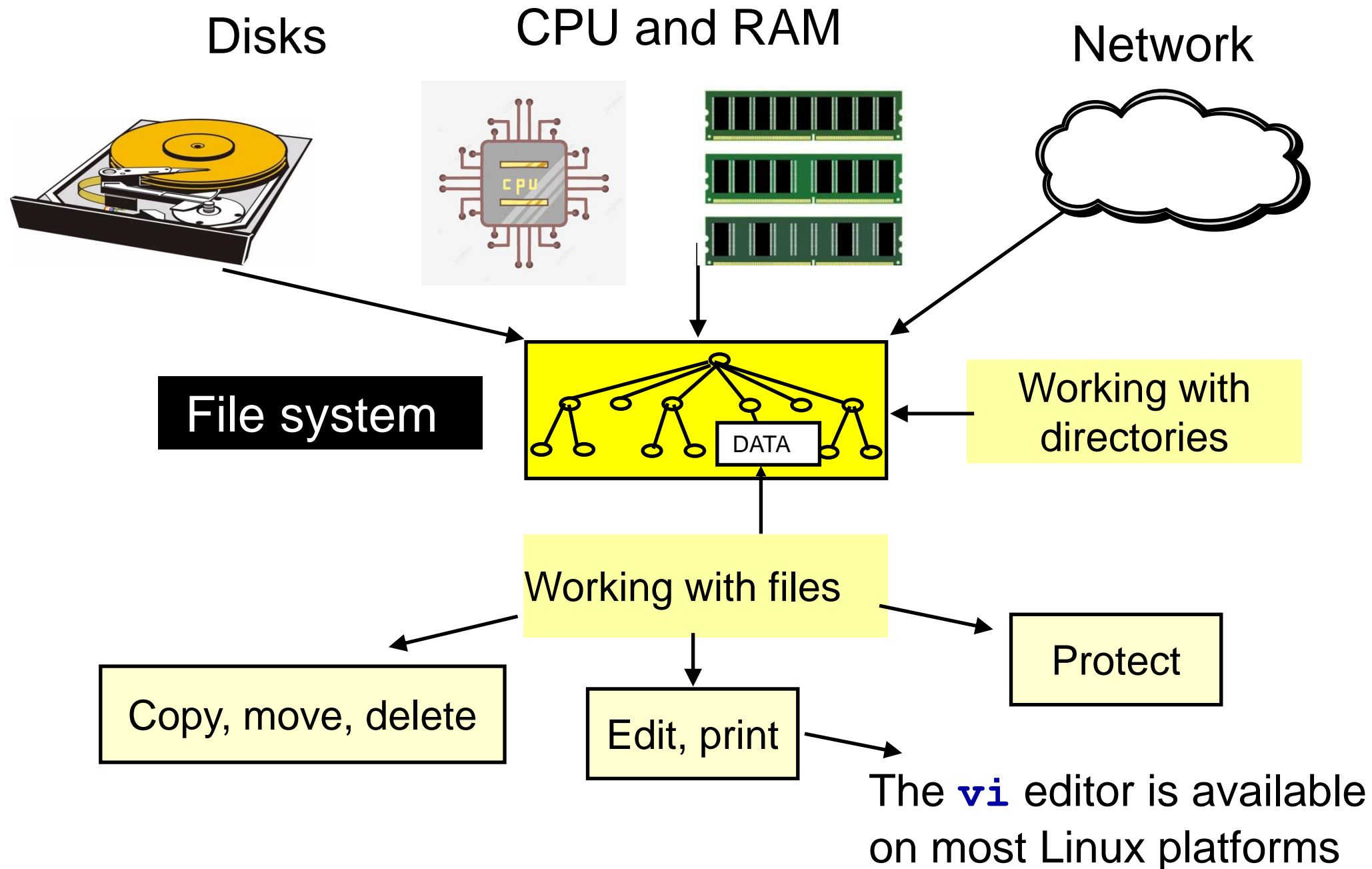
Log in to Linux

Working with the
Shell

Communicate
with others

Getting help

Working on an Linux system



Command format

- Commands have the following format:

\$ **command** **option(s)** **argument(s)**

```
$ ls  
$ ls -l  
$ ls /dev  
$ ls -l /dev
```


Command format examples

Wrong:

1. Separation:

```
$ mail - f newmail
```

```
$ who-u
```

2. Order:

```
$ mail newmail -f
```

```
$ team01 mail
```

```
$ -u who
```

3. Multiple options:

```
$ who -m-u
```

```
$ who -m u
```

4. Multiple arguments:

```
$ mail team01team02
```

Right:

1. Separation:

```
$ mail -f newmail
```

```
$ who -u
```

2. Order:

```
$ mail -f newmail
```

```
$ mail team01
```

```
$ who -u
```

3. Multiple options:

```
$ who -m -u
```

```
$ who -mu
```

4. Multiple arguments:

```
$ mail team01 team02
```

There are exceptions!

Keyboard tips

<Ctrl+a>	Place cursor at start of line
<Ctrl+e>	Place cursor at end of line
<Ctrl+c>	Terminates the current command and returns to the shell
<Ctrl+d>	End of transmission or End of file
<Ctrl+u>	Erases the entire line
<Ctrl+w>	Erase last word
<Ctrl+r>	Search and re-run previous command