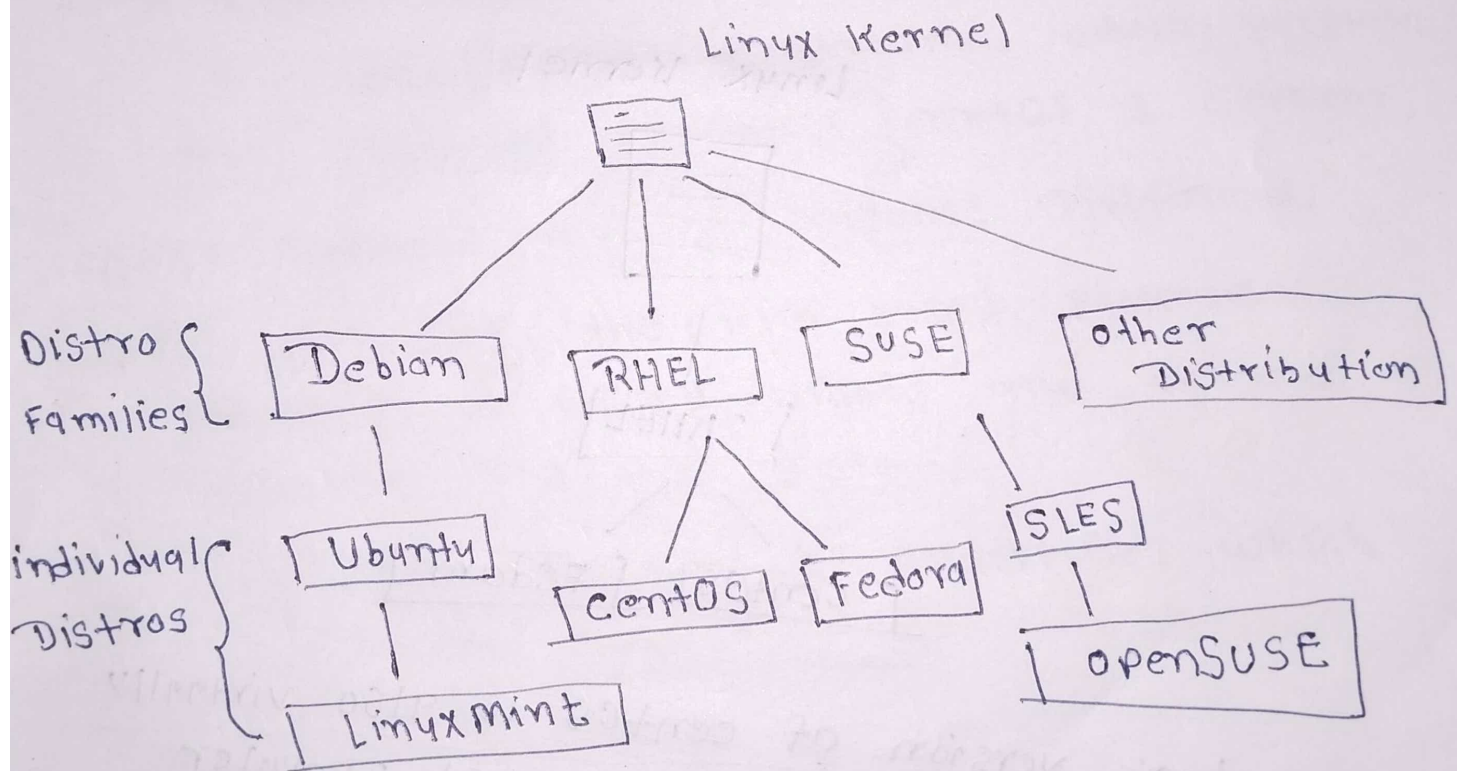


Linux

Chapter 1 :- The Linux Foundation

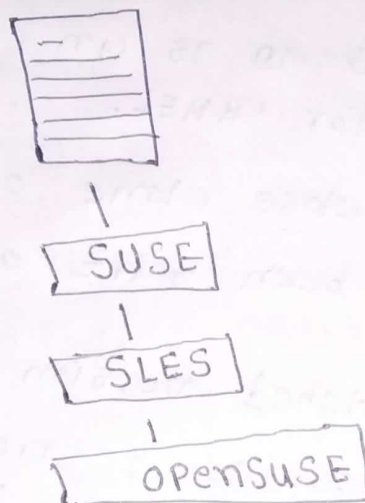
- The families and representative distribution we are using.
- Red Hat Family system (including CentOS and Fedora)
- SUSE family system (including openSUSE)
- Debian Family system (including Ubuntu and Linux mint)
- The Linux Kernel Distribution Families and individual Distributions.



- The SUSE Family.

→ The relationship between SUSE (SUSE Linux enterprise Server, or ~~else~~ SLES) and openSUSE is similar to the one described between RHEL, CentOS and Fedora.

Linux Kernel



The SUSE Family

→ We use openSUSE as the reference distribution for the SUSE family as it is available to end users at no cost.

→ Because the two products are ~~avai~~ extremely similar, the material that covers openSUSE can typically be applied to SLES with few problems.

• Key Facts About the SUSE Family,

→ SUSE Linux Enterprise Server (SLES) is
Upstream for openSUSE.

→ Kernel version 5.14 is used in openSUSE
Leap 15.4.

→ It uses RPM-based zypper Package manager
to install update and remove package in
the system,

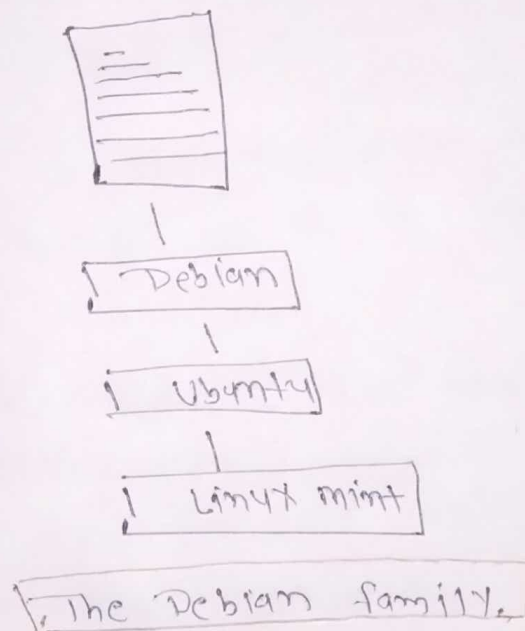
→ It includes the yast (yet another setup tool)
application for system administration SI
purposes.

→ SLES is widely used in retail and many
other sectors,

• The Debian Family.

- The Debian distribution is upstream for several other distribution including Ubuntu.
- In turn, Ubuntu is upstream for Linux mint and number of other distribution.
- It is commonly used on both servers and desktop computers
- Debian is Pure open source community Project (not owned by any corporation) and has a strong focus on stability.
- Debian Provides by far the largest and most complete software repository to its users of any Linux distributions.

Linux Kernel



- Ubuntu aims at providing a good compromise between long term stability and ease of use.
- Since Ubuntu gets most of its Package from Debian's stable branch.

It also has access to a very large software repository.

→ For those reasons, we will use Ubuntu LTS (Long Term support) as the reference to Debian family distribution for this course.

• Key Facts About Debian Family.

→ The Debian family is upstream for Ubuntu, and Ubuntu is upstream for Linux mint and others.

→ Kernel version 5.8 is used in Ubuntu 20.04 LTS.

→ It uses DPKG-Based APT Package manager (using apt, apt-get, apt-cache etc) to install, update and remove package in the system.

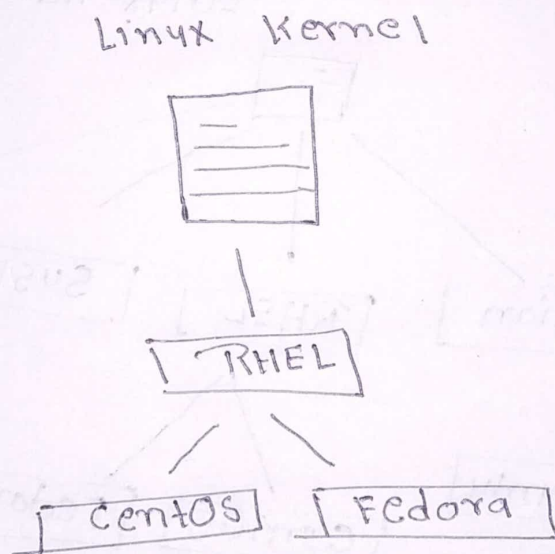
→ Ubuntu has been widely used for cloud deployments.

→ while Ubuntu is built on top of Debian and GNOME-based under the hood it offers visually from the interface on standard Debian as well as other distribution.

• The Red Hat family

→ Red Hat Enterprise Linux (RHEL) heads the family that includes CentOS, CentOS stream, Fedora and Oracle Linux.

→ Fedora has a close relationship with RHEL and contains significantly more software than Red Hat's Enterprise. one reason for this is that diverse community involved in building Fedora, with many contributors who do not work for Red Hat family. Furthermore, it is used as a testing platform for future RHEL releases.



→ The basic version of CentOS is also virtually identical to RHEL, the most popular Linux distribution in Enterprise environments. However CentOS has no scheduled update after 2021.

The replacement is CentOS 8 Stream. The difference between the two versions is CentOS Stream gets updates before RHEL, while CentOS gets them after.

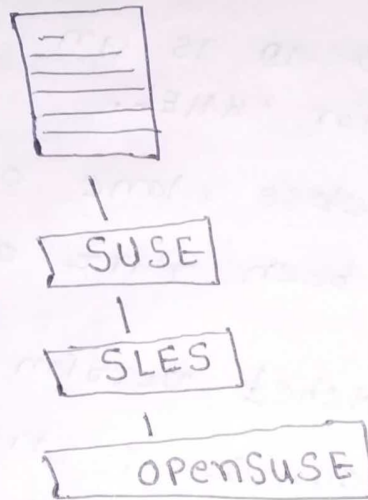
★ Key Facts about the Red Hat Family.

- Some of the key facts about the Red Hat distribution family are.
 - Fedora serves ~~as~~ as an upstream testing platform for RHEL.
 - CentOS is a close clone of RHEL, in fact CentOS has been part of Red Hat since 2014.
 - A heavily patched version 4.18 kernel is used in RHEL/CentOS 8 Stream, while version 5.14 is used in RHEL/CentOS 9 Stream.
 - It supports multiple hardware platforms.
 - It uses dnf, the RPM-based package manager to install, update, and remove packages in the system.
 - RHEL is widely used by enterprises which host their own system.

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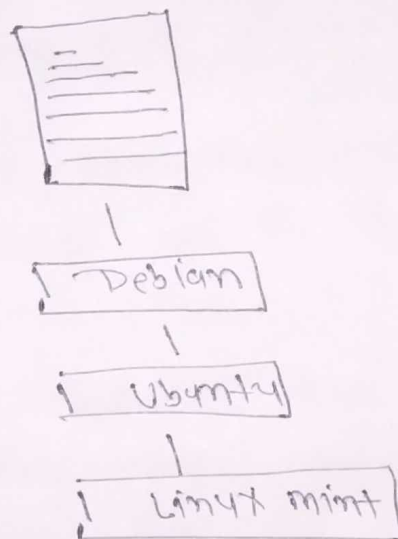
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