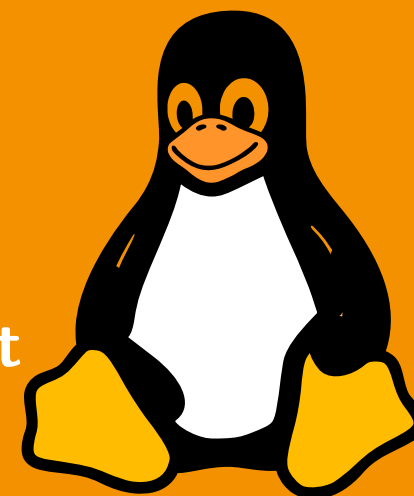




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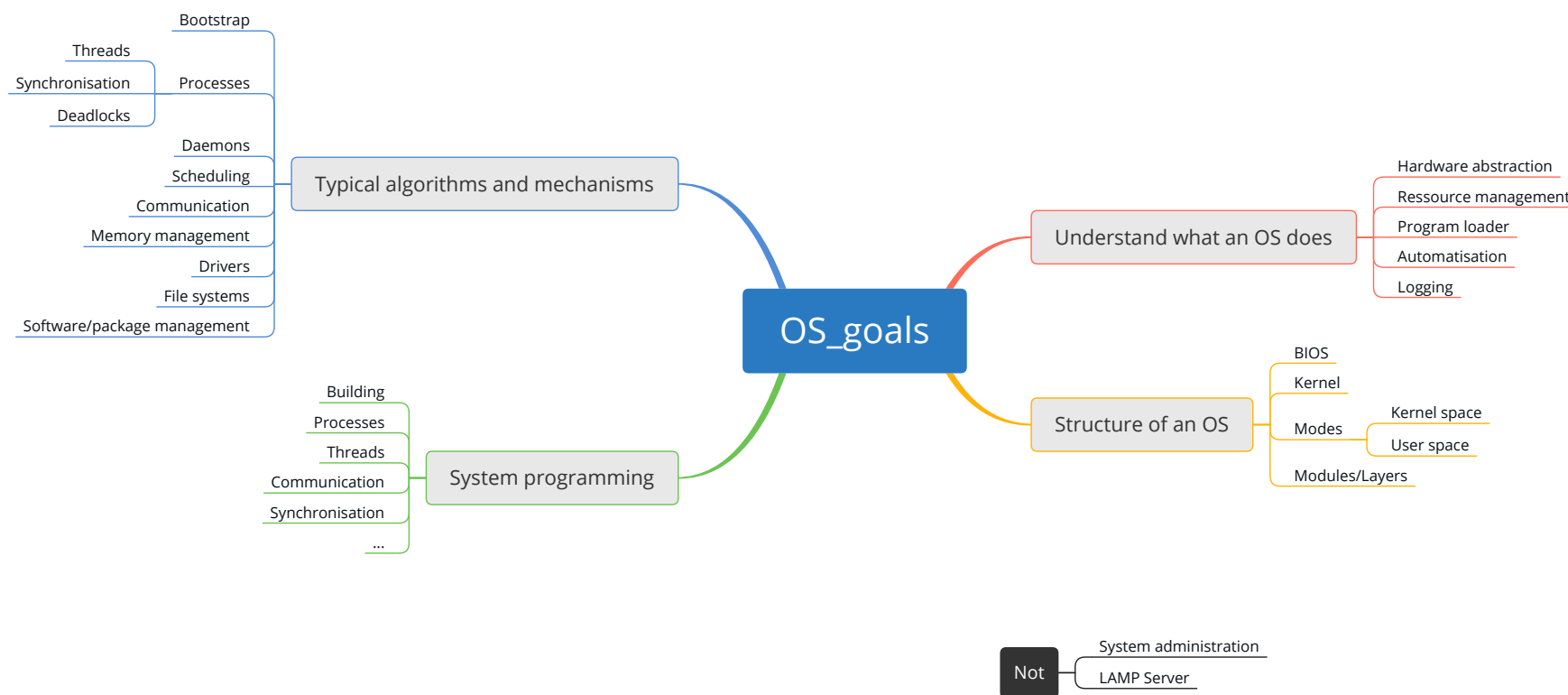
OS 3 – Software/package management



source: icons.png.com

The lecture is based on the work and the documents of Prof. Dr. Ludwig Frank

Goal



Goal

OS::Build

- Software management
- Create own packages
- Flatpak

Intro

How can I install software on my
system?

Intro

**What are the challenges with
software/package management?**

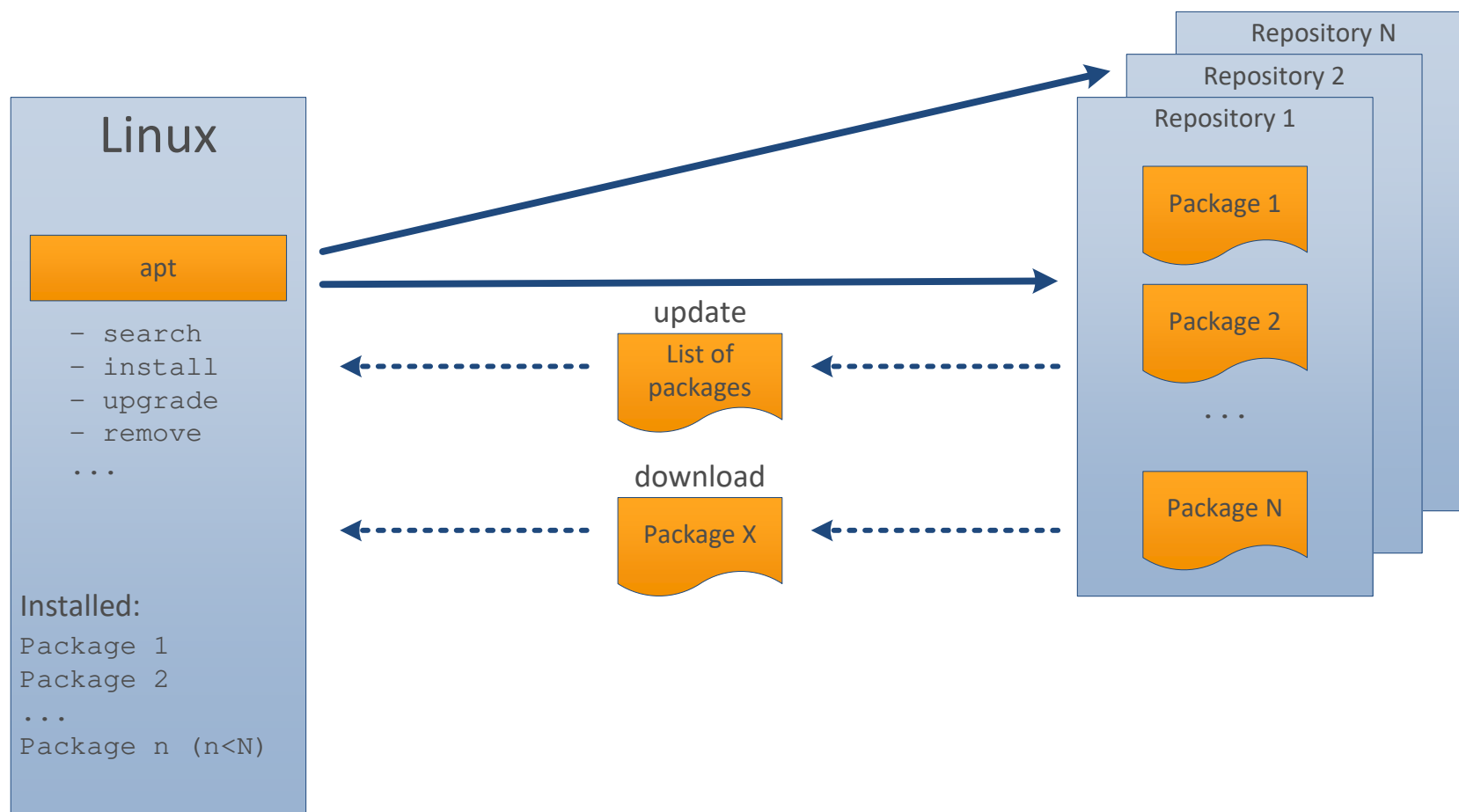
Intro

Local vs. centralised package management?

apt vs. dpkg



apt - advanced packaging tool



apt - commands

cmd	Description
<code>apt search</code>	Searches for packages in the package repositories.
<code>apt list</code>	Lists packages with criteria (installed, upgradable).
<code>apt show</code>	Shows information about packages.
<code>apt depends</code>	Shows dependencies of packages.
<code>apt install</code>	Installs packages from the repository.
<code>apt remove</code>	Removes installed packages.
<code>apt update</code>	Updates the list of available packages.
<code>apt upgrade</code>	Upgrades installed packages to the newest version.
<code>apt contains</code>	Find out in which package a file is contained.

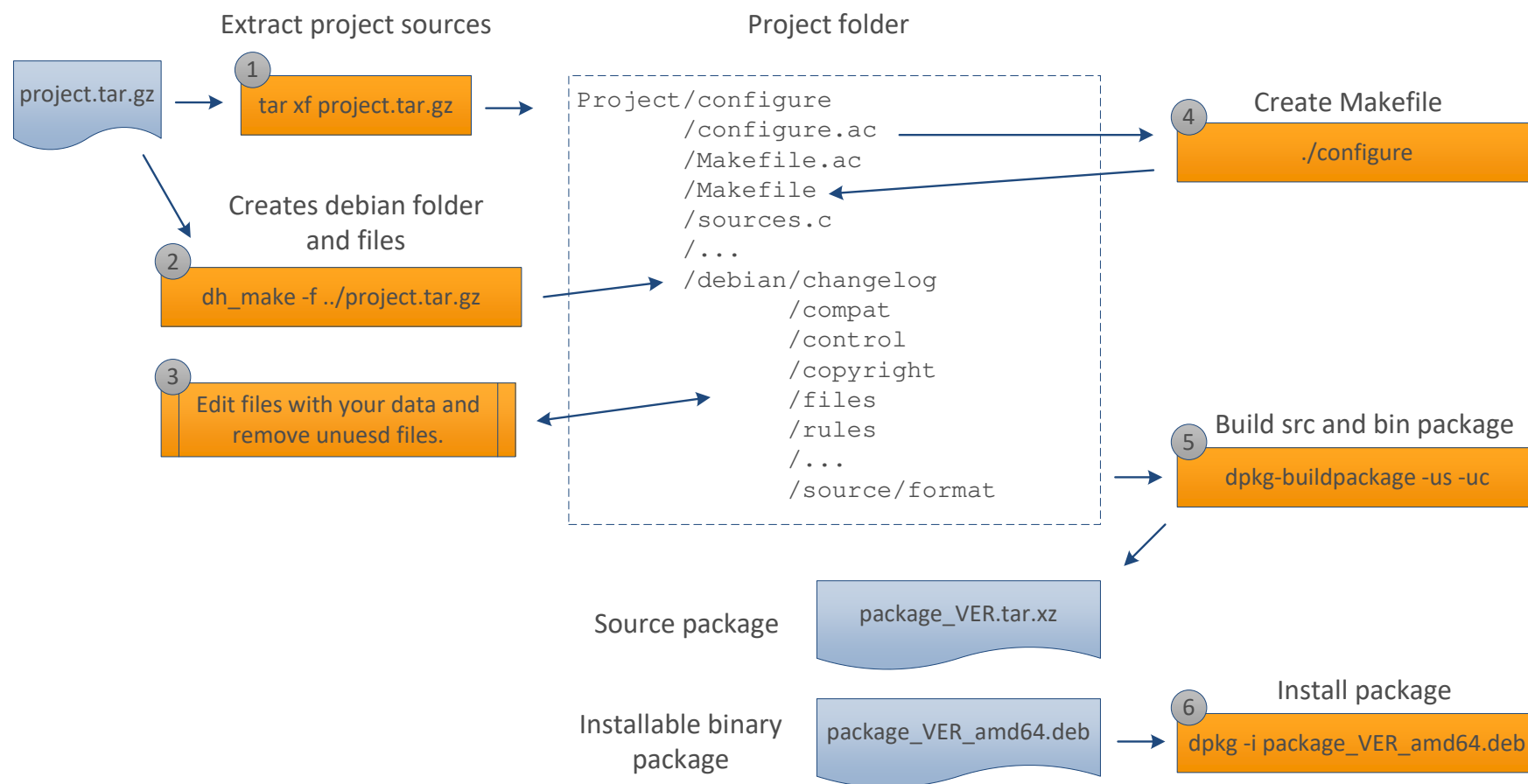


dpkg - package manager for Debian

cmd	Description
<code>dpkg -S</code>	Searches for files in packages
<code>dpkg -l</code>	Lists installed packages.
<code>dpkg -i</code>	Installs packages from file.
<code>dpkg -r</code>	Removes installed packages.
<code>dpkg -L</code>	Lists files in installed packages.
<code>dpkg --info</code>	Shows information about packages.
<code>dpkg --contents</code>	Lists files contained in packages.
<code>dpkg-reconfigure</code>	Reconfigures (repairs) installed packages.
<code>dpkg-buildpackage</code>	Builds debian packages.



Build package overview



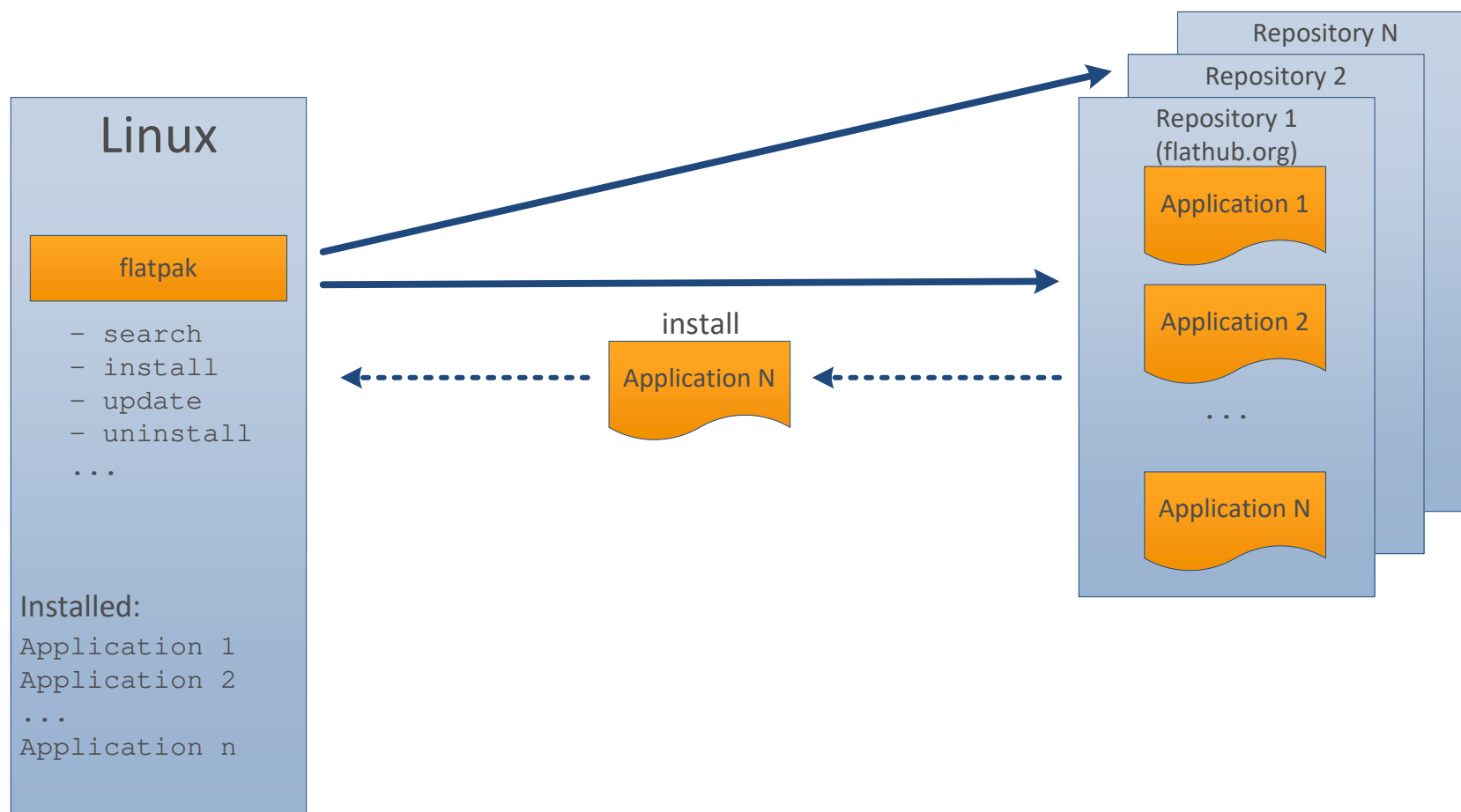
Problem with .deb packages?

Packages for other distributions and
with a different release cycle of your
distribution?

<https://flatpak.org>
<https://flathub.org>

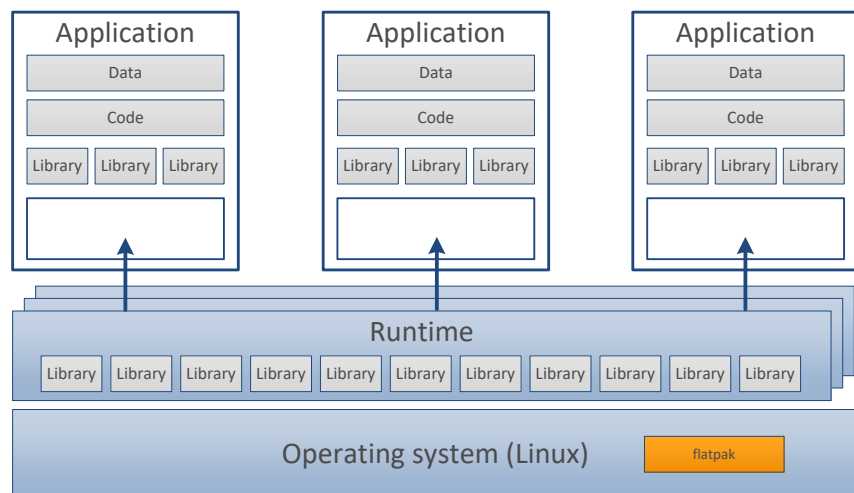


flatpak - repositories





flatpak - applications



flatpak properties

- Build for **every distribution**
- **Runtimes** (basic dependencies)
- **Bundled libraries** (different version, patched, not available on host)
- **Sandboxes** (isolated applications)
- **Portals** (interact with host through sandbox)
- **Repositories** (easy search/update)

More details: <http://docs.flatpak.org/en/latest/basic-concepts.html>

flatpak

cmd

`flatpak search`
`flatpak list`
`flatpak install`
`flatpak uninstall`
`flatpak update`
`flatpak info`
`flatpak run`
`flatpak-builder`

Description

Searches for packages on flathub.

Lists installed packages.

Installs packages from file or flathub.

Removes installed packages.

Updates installed packages.

Shows information about packages.

Runs a installed application.

Set of commands to **build** packages.

Summary and outlook

Summary

- Software management
- Create own packages
- Flatpak

Outlook

- OS system boot
- OS architecture