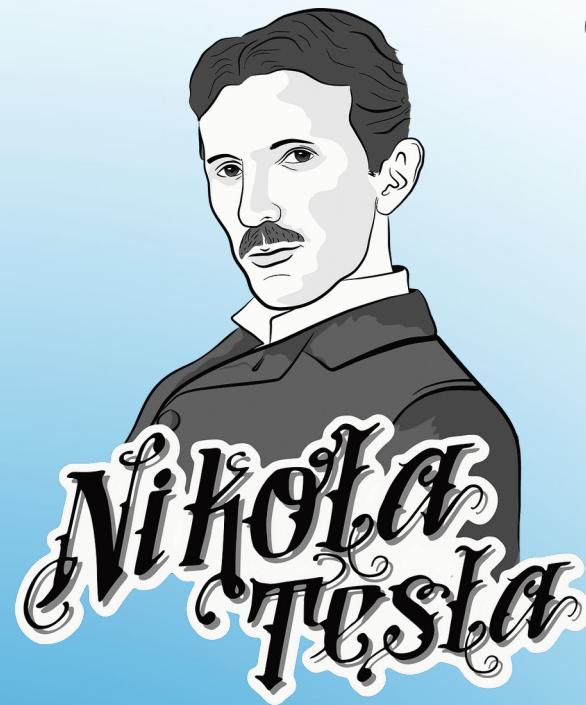


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Is It (Finally) Time For Linux Phones?



“When wireless is perfectly applied, the whole earth will be converted into a huge brain...”

- Nikola Tesla

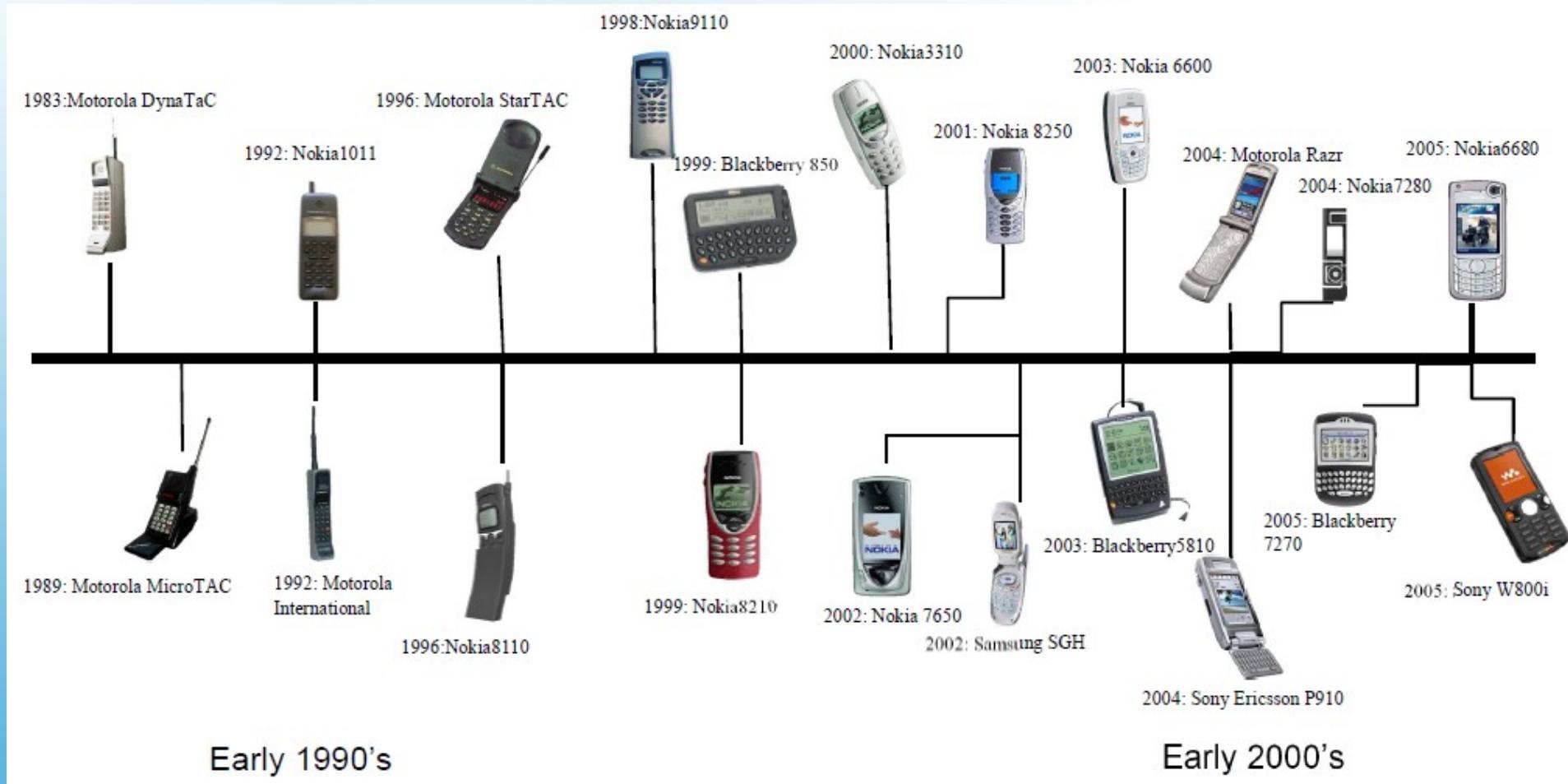
Lessons From History

- Mobile Phone History
- The Birth of the Smart Phone
- The Problems With Smart Phones
- Is A Linux Phone The Answer?
- The State of the Linux Phone
- Demonstration
- Conclusions

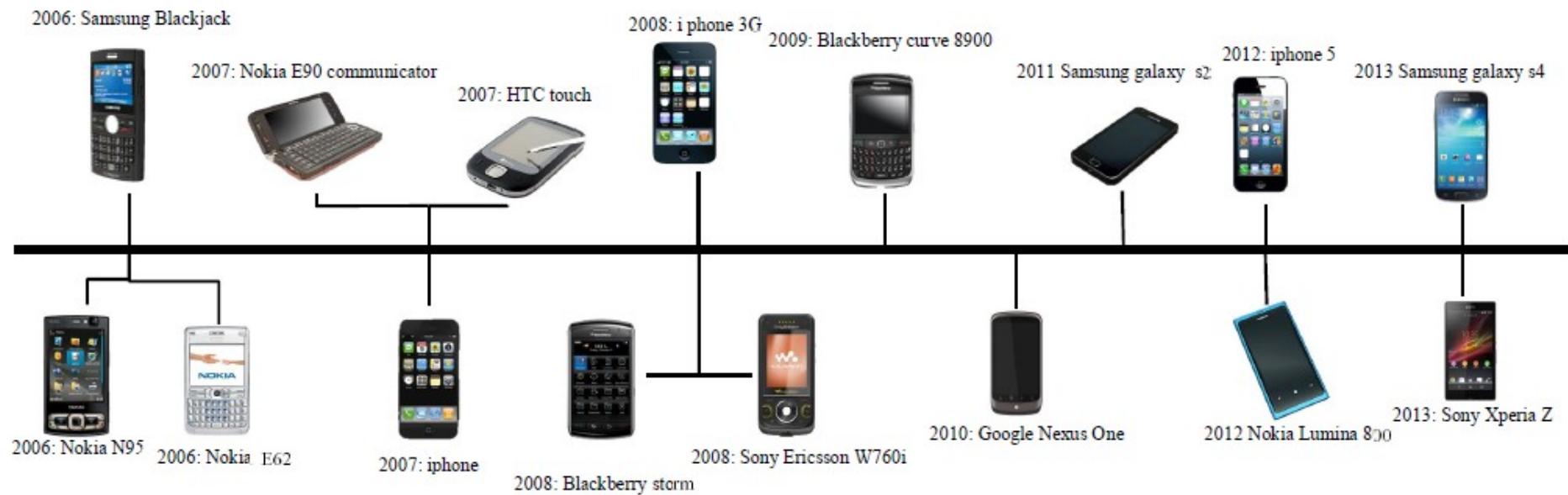
Agenda



You Always Remember...



Mobile Phones Proliferate



Late 2000's

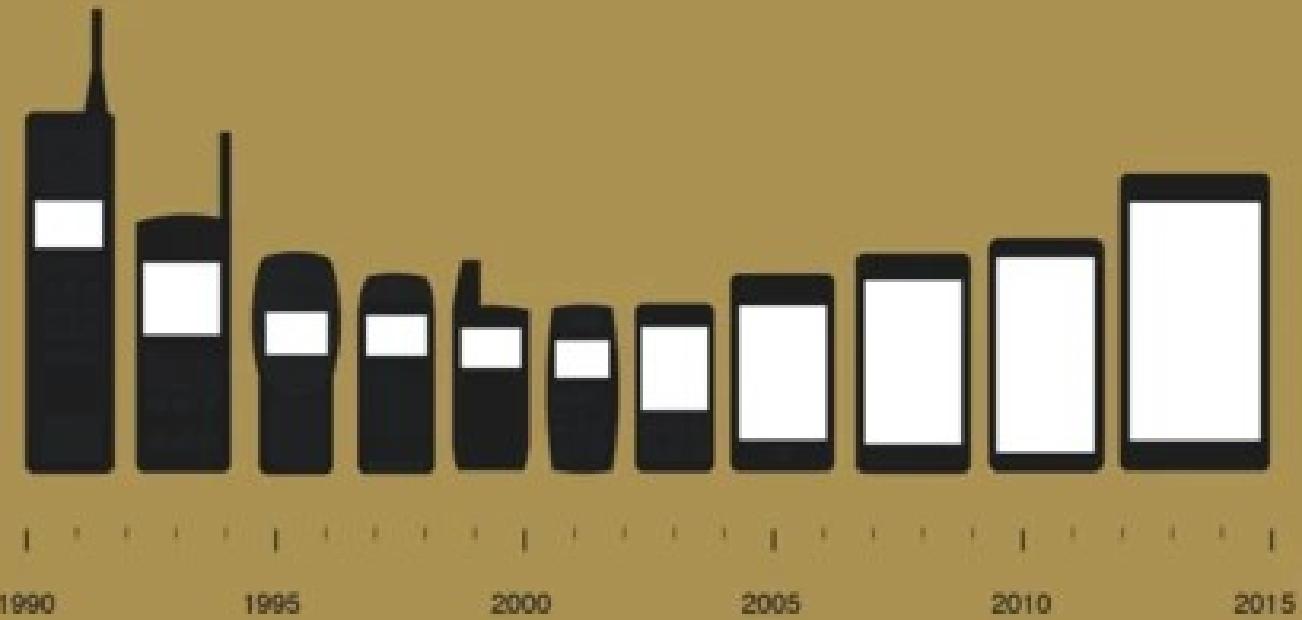
Smart Phones Emerge

Evolution of the Mobile Phone



Mobile Phone History

Mobiltelefonens evolution



Bigger to Smaller to Bigger

Evolution of the iPhone



Iphone Evolution

SAMSUNG Galaxy S



Samsung Galaxy S Evolution

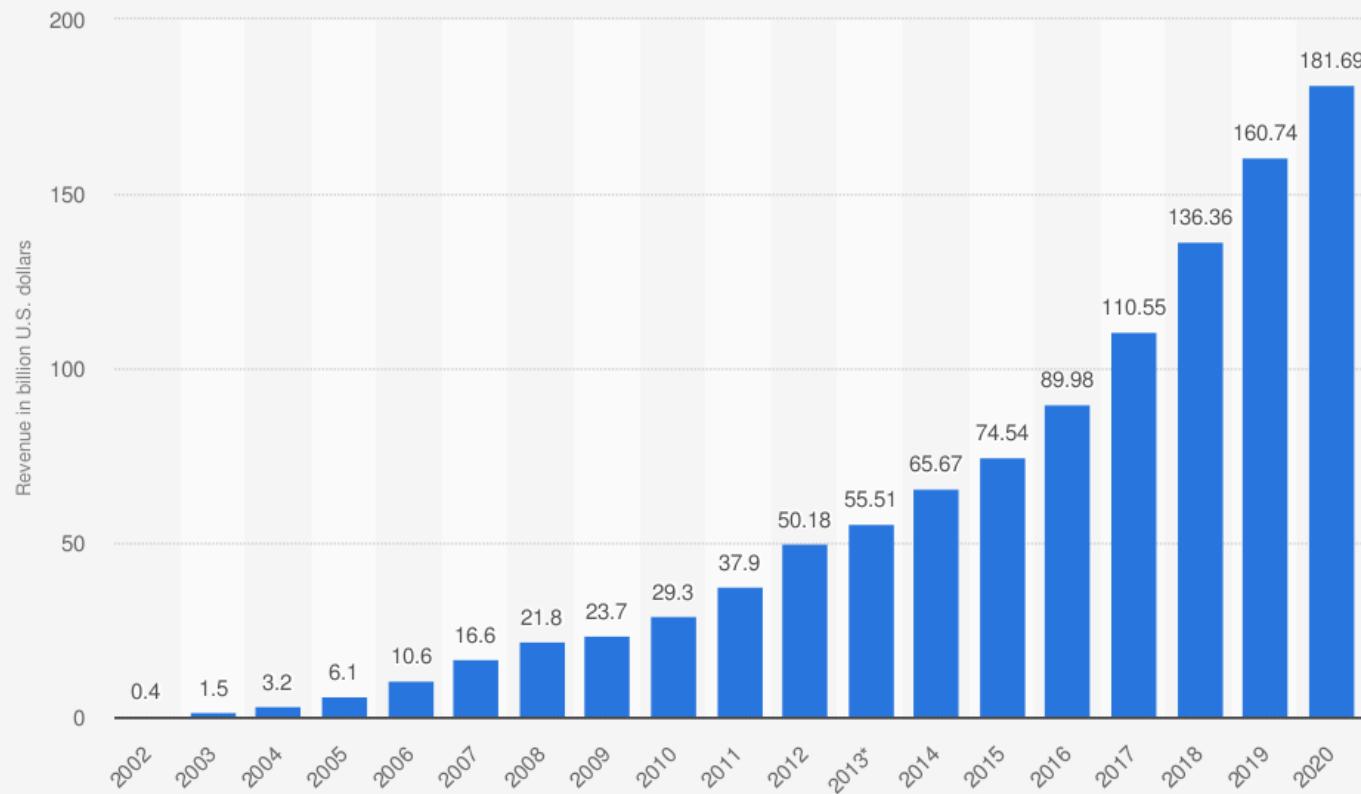


Is Your Phone Spying on You?

- Everywhere You (Physically) Go
- Everything You See
- Everything You Say
- Everything You Hear
- Everyone You Know
- Everything You've Planned
- Everywhere You (Virtually) Go

Data Collection

Annual revenue of Google from 2002 to 2020 (in billion U.S. dollars)



Sources

Google; Alphabet
© Statista 2021

Additional Information:

Worldwide; Google; 2002 to 2020

Advertising Profits



© COMEDY
CENTRAL
ORIGINALS

IS THE GOVERNMENT SPYING ON YOU?



Government Surveillance?



Has Surveillance Occurred?

- Use a more private DNS (e.g., Pi-hole, Cloudflare, Quad9)
- Use adware blockers in your browser
- Use a VPN
- Don't use phone "sensors" until / unless you need them (e.g., GPS, location services, accelerometer, voice recognition, etc)
- Harden your browser
- Don't use a closed source phone

How to Protect Yourself

- OEM Android requires explicit trust of OEM and Google.
- De-googled Android eliminates most Google dependencies.
 - De-googling a phone is time-consuming - and perpetual.
- Tools like Termux can provide support for “Linux” apps – i.e., GNU apps and open source apps.
- But the problem is running closed source apps. Eliminate closed source apps.

Should I Use Android?

- AOSP eliminates all unknown Google dependencies.
 - Not all phone handsets can run AOSP.

Don't Use iOS or OEM Android

- Apple iOS requires explicit trust of Apple.
- Apple supports censorship in China.
- Apple has censored content in the United States.
- Apple users have no right to repair their own devices.
- Read <https://apple.com/legal/privacy>
 - Apple has - and sells - advertising ID's.
 - Apple sells this data to third-parties – but doesn't use it themselves.
 - Apple uses AppleID for its own use and advertising.
- Apple won't use profile data – except when a real person reviews it.
- In 2020, Apple fulfilled 82% of all US government's data requests.

Should I Use iOS?

- Linux is open source, right?
- So just get a phone that runs a Linux distribution, right?
- Android uses the Linux kernel. Doesn't that make it Linux?
- Apple iOS is based on BSD. So it's open, right?
- So use a phone where entire ecosystem is free and open. Those exist, right?

Why Not Use A Linux Phone?

- It uses a Linux kernel.
- It uses open source components in the distribution.
- It uses open source components for its core applications.
- It uses open source components for its userland applications.

What Is A Linux Phone?

PROCESSOR

Allwinner A64 @ 1.2GHz
(Quad-Core A53)

5.9" DISPLAY
IPS LCD (1440x720)

CAMERAS

2MP 5MP

GRAPHICS
Mali 400 MP2 GPU

REPLACEABLE BATTERY

Samsung J7 3000mAh

RAM & STORAGE

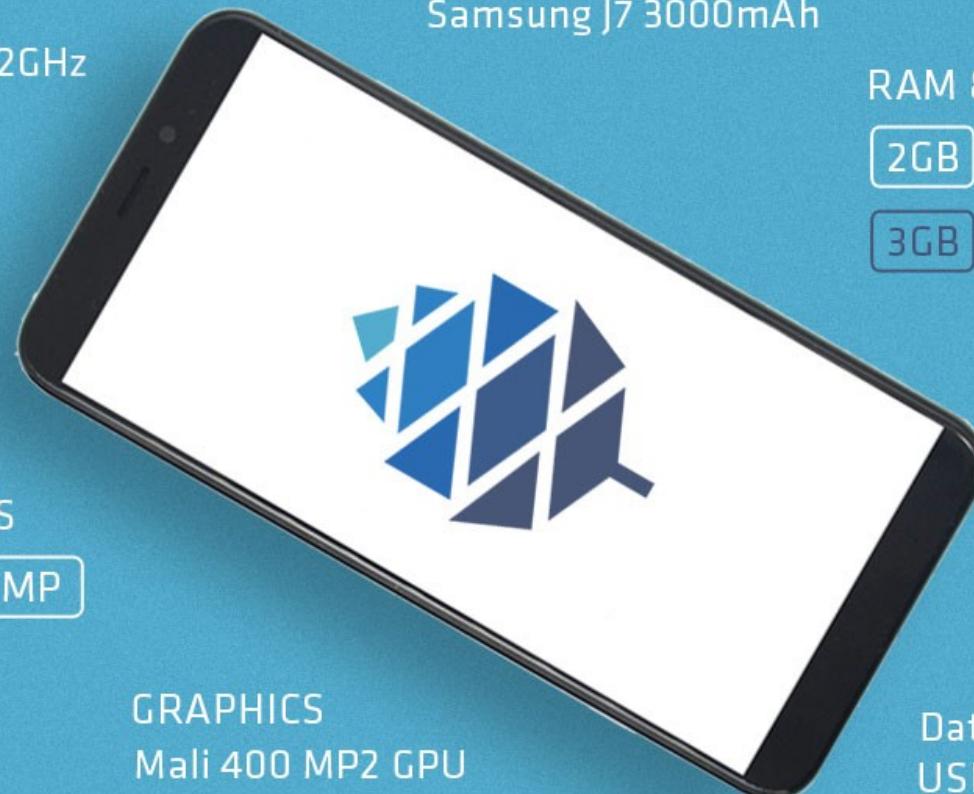
2GB 16GB
3GB 32GB

KILL SWITCHES
Wi-Fi • Cellular
Camera • Speaker
Microphone

Data / Charging / Video Out
USB TYPE-C PORT

AFFORDABLE & AWESOME

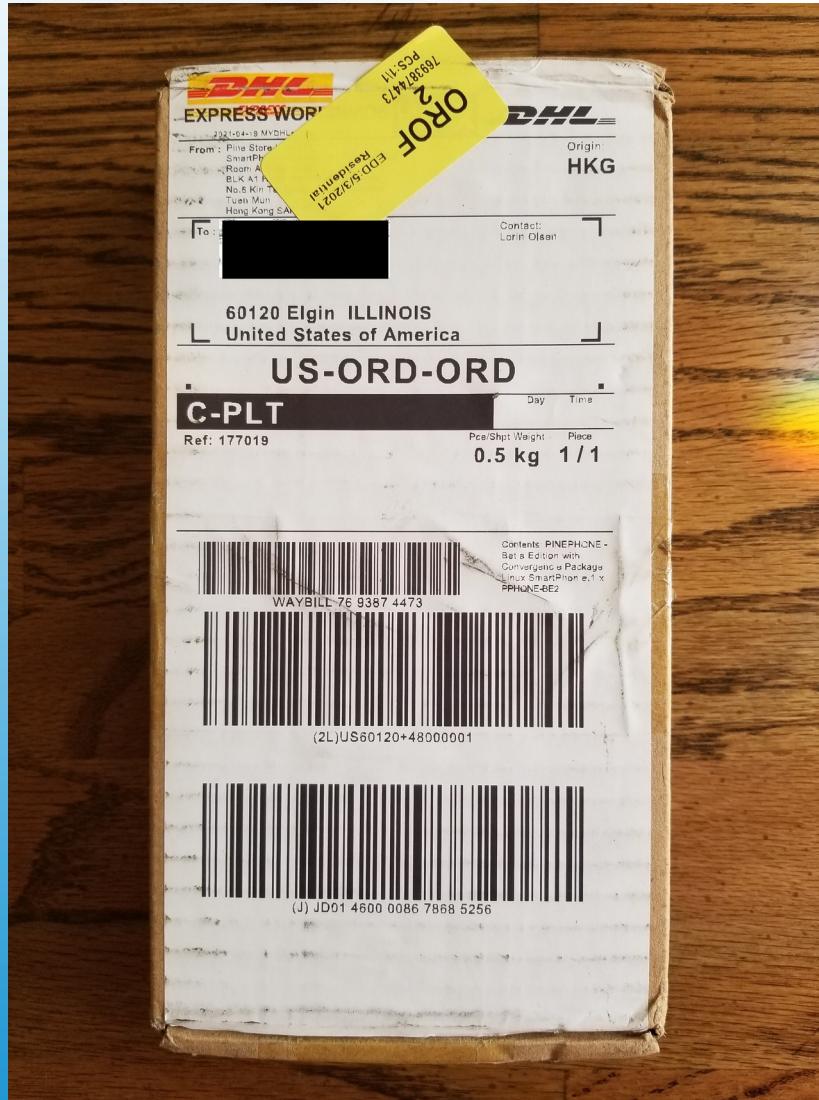
PINEPHONE BY PINE64



How About A Pinephone?

Arch Linux ARM	Nemo Mobile
ExpidusOS	NixOS
Fedora	OpenMandriva Lx
Gentoo	openSUSE
GloDroid	postmarketOS
LuneOS	PureOS
Maemo Leste	Sailfish OS
Manjaro ARM	SkiffOS
Mobian	Sxmo
Multi-boot demo image	Ubuntu Touch

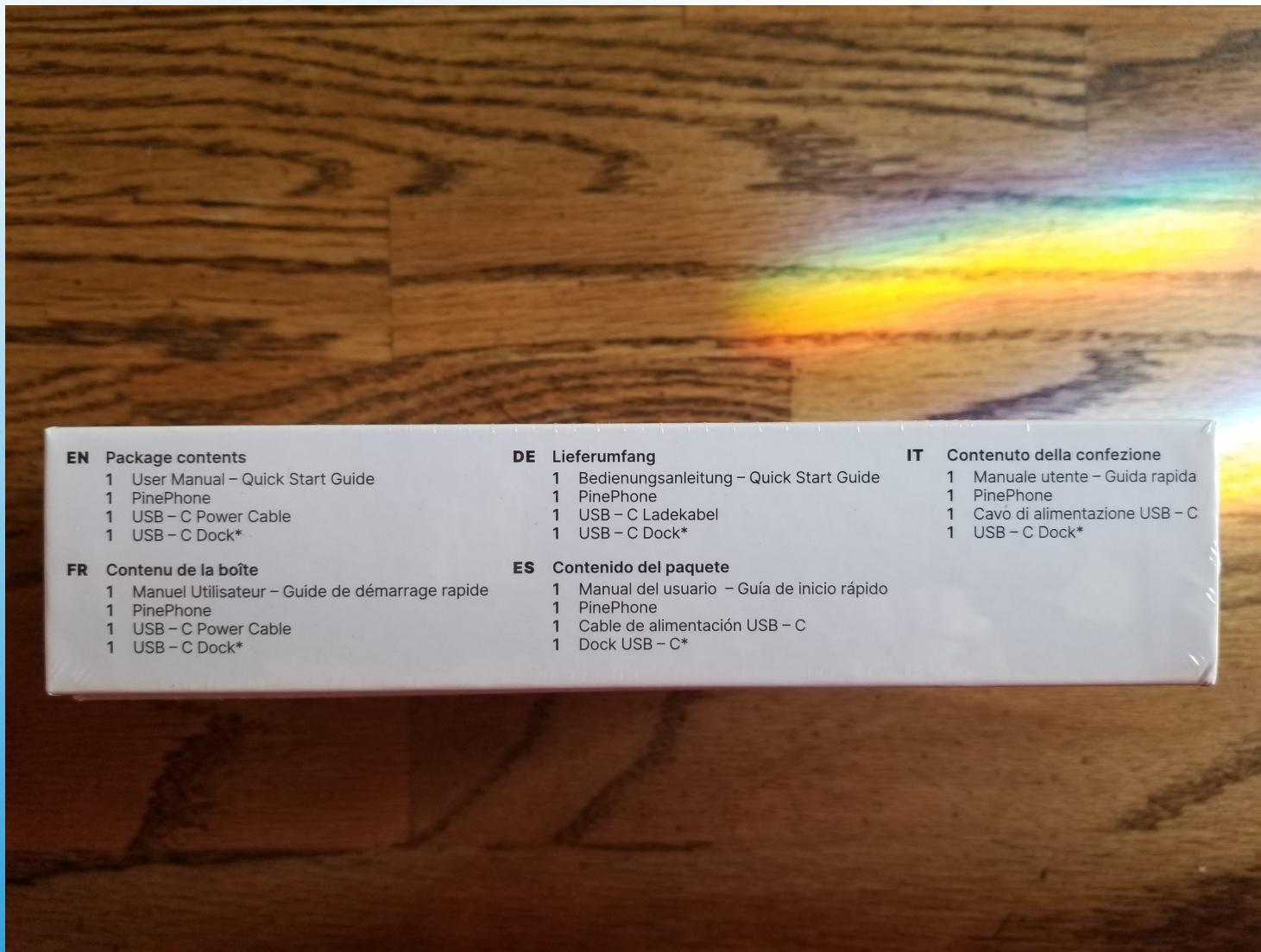
Pinephone Distributions



Virtual Unboxing



Virtual Unboxing



Virtual Unboxing



Virtual Unboxing



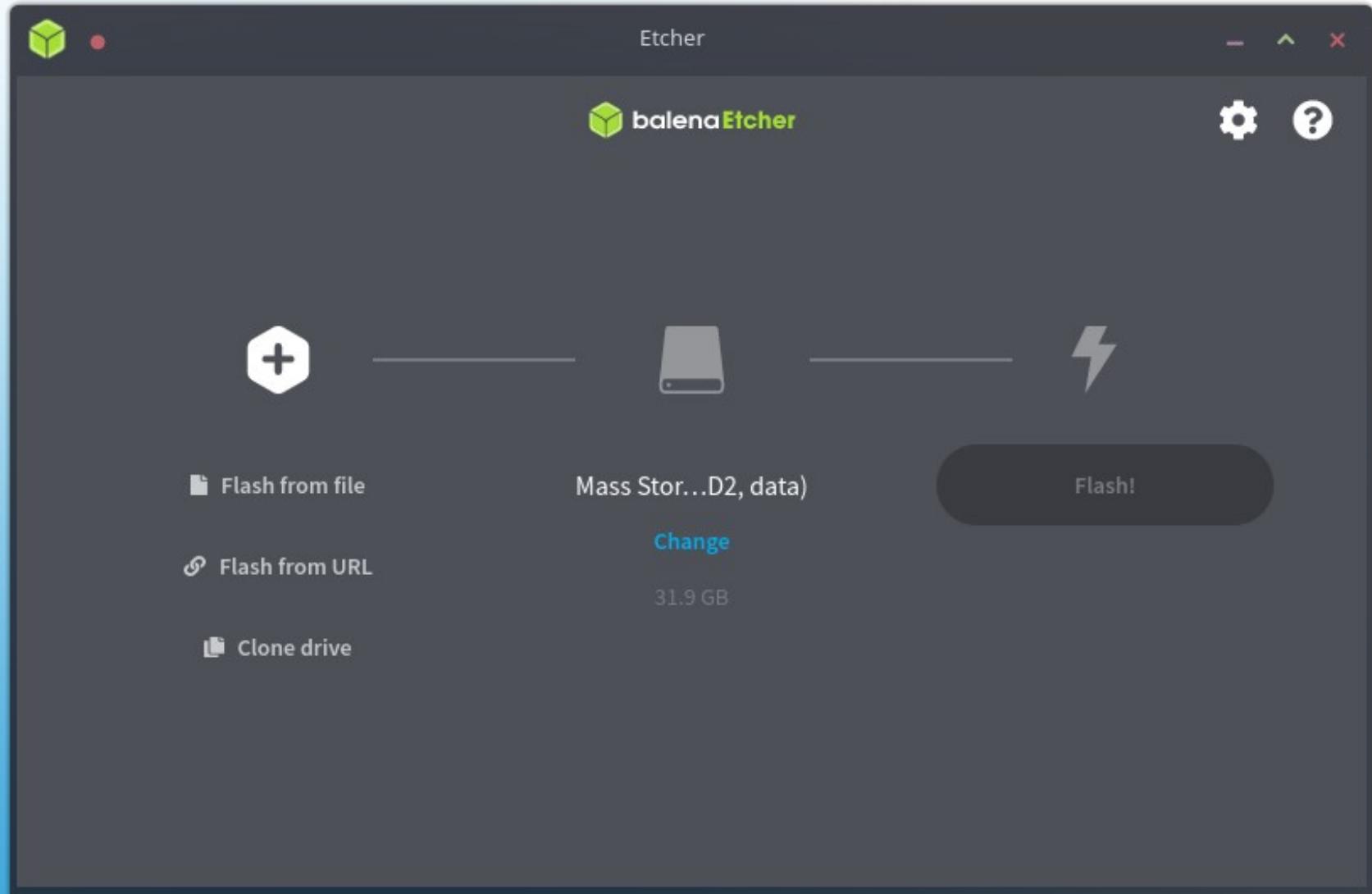
Virtual Unboxing



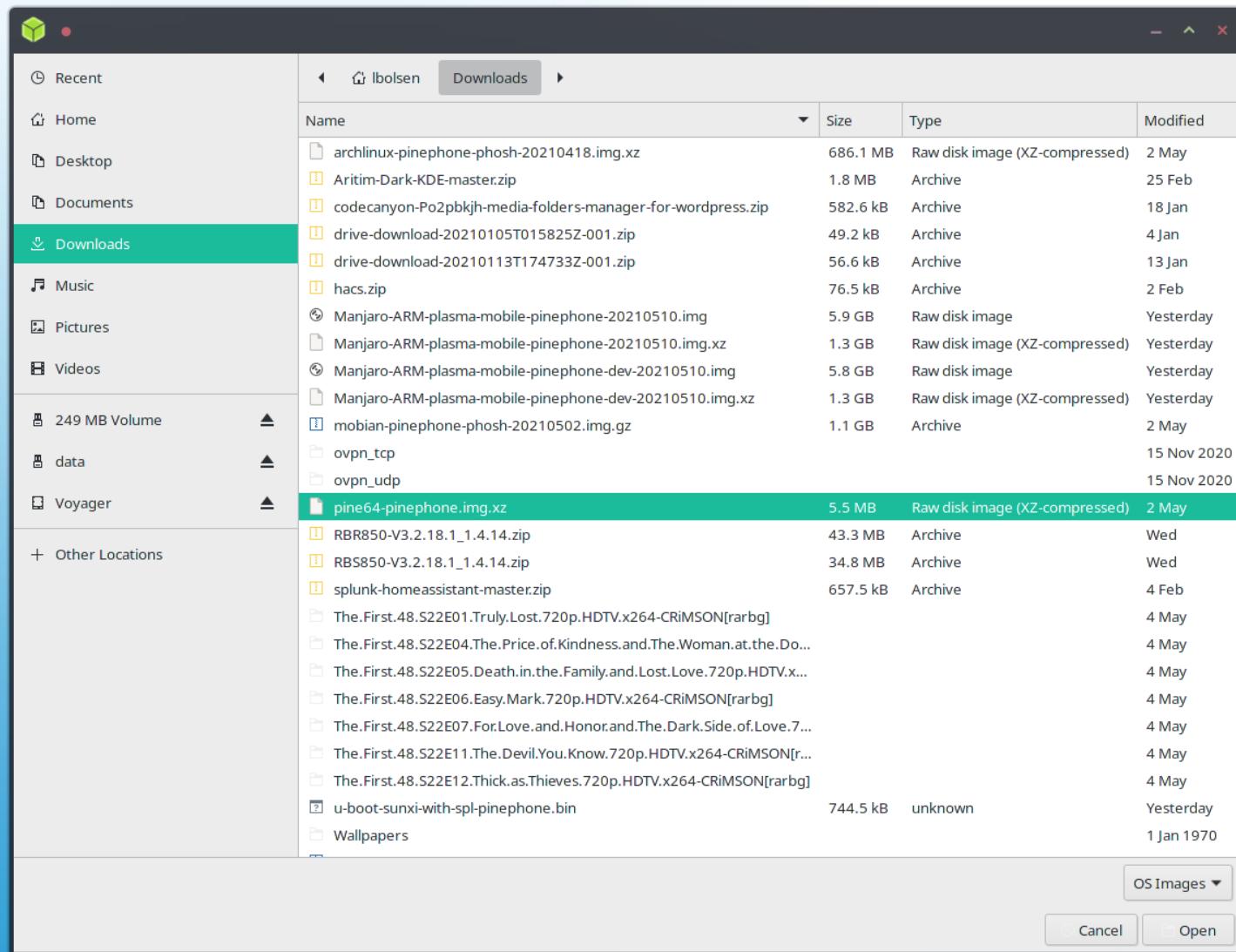
Virtual Unboxing



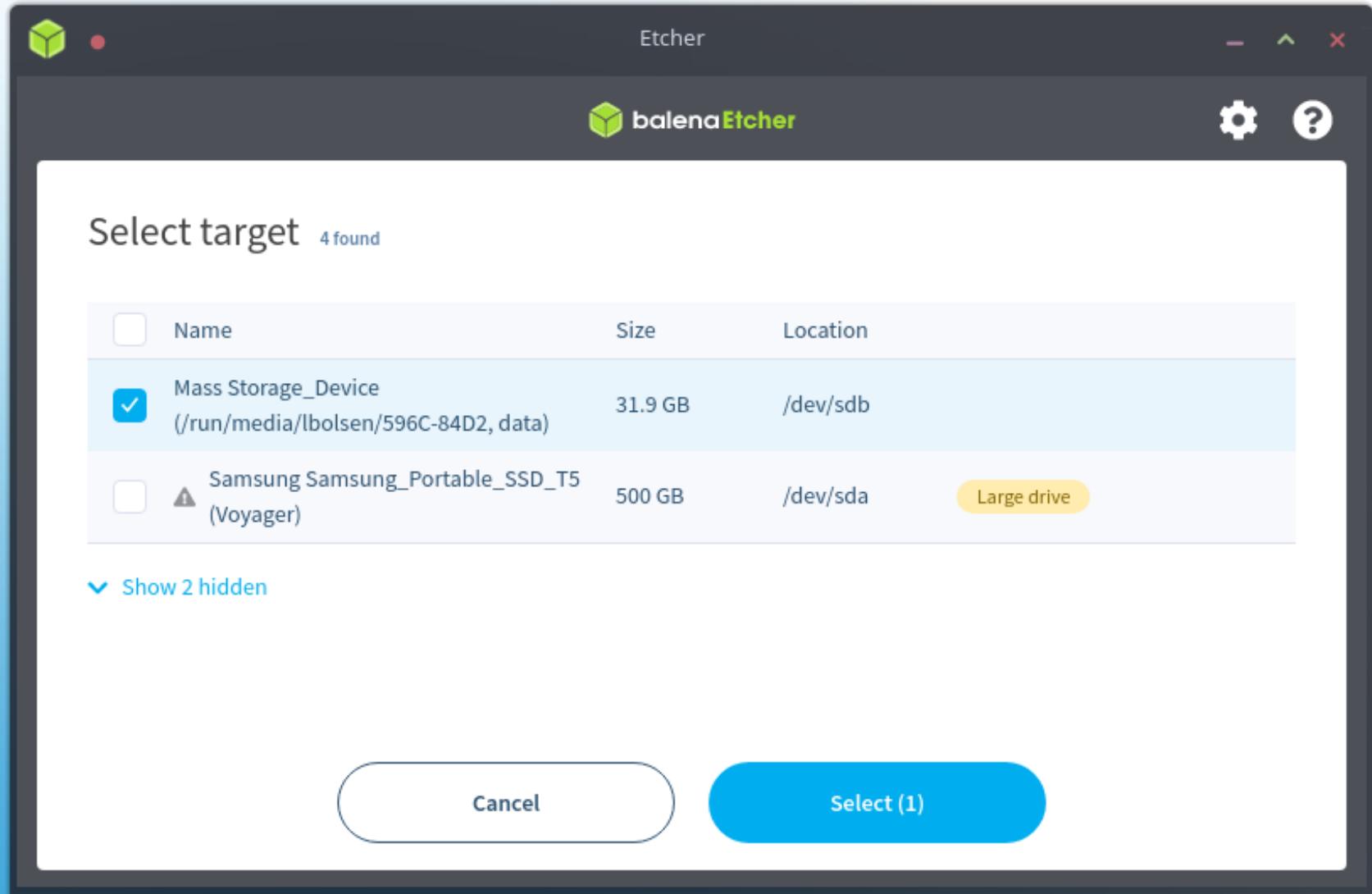
Virtual Unboxing



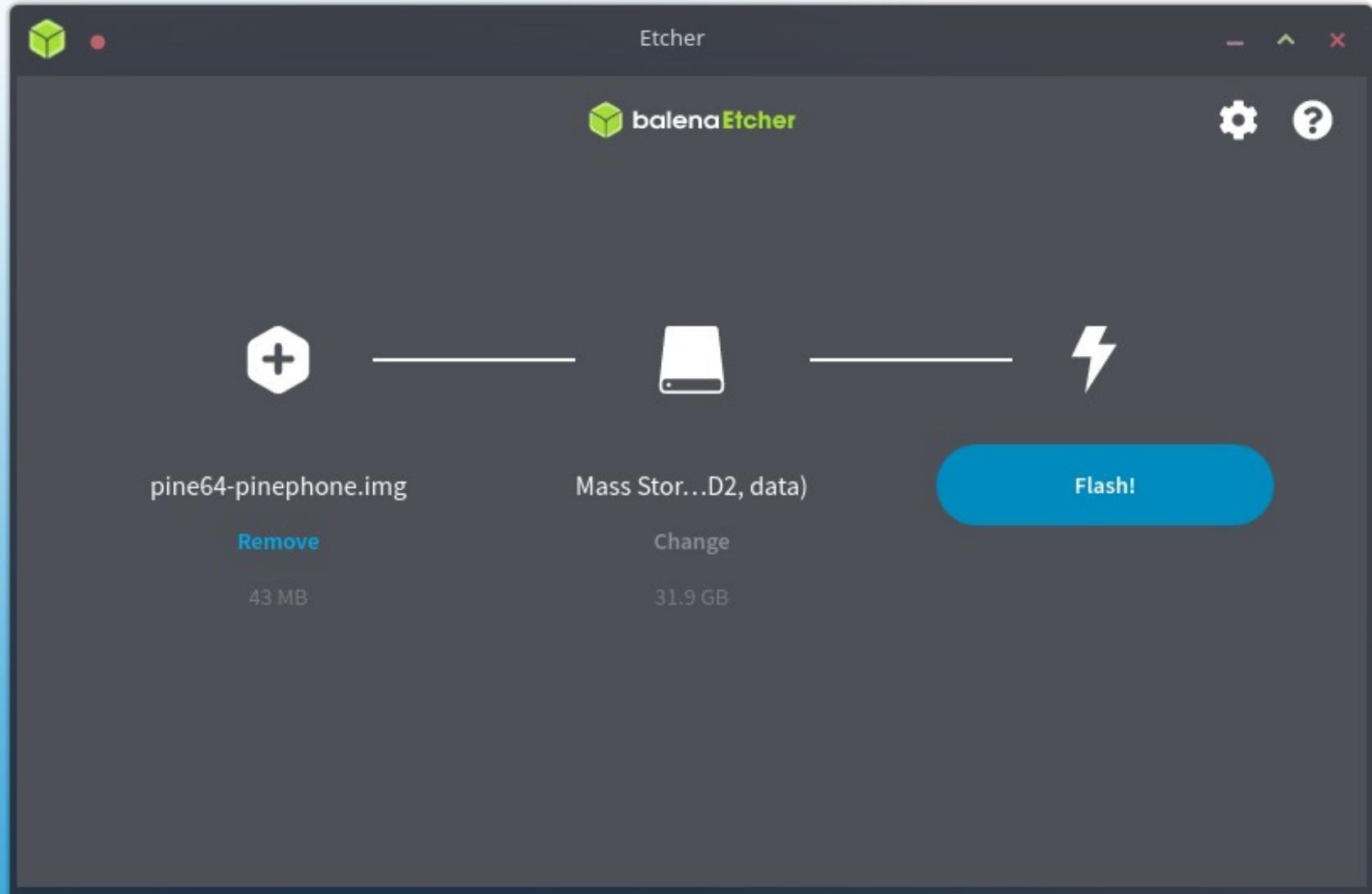
Flash Operating System



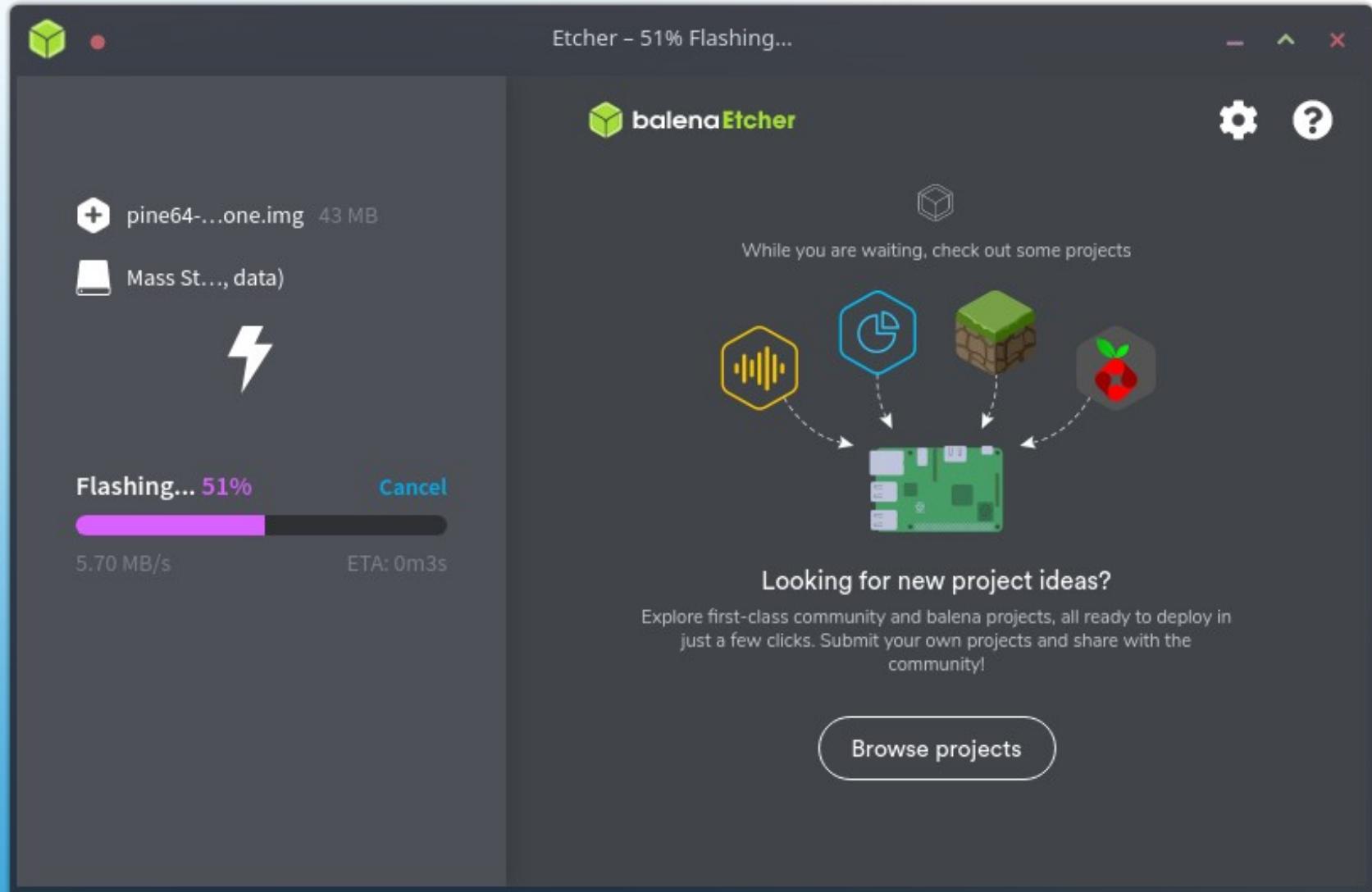
Flash Operating System



Flash Operating System



Flash Operating System



Flash Operating System

Demonstration

- Will it address privacy concerns?
 - Yes, it will.
- Would I Use This?
 - Yes!
 - As A Daily Driver?
 - No!
- Should You Use It?
 - If you are a tinkerer, then try it and learn.
 - You really need to have some background with Linux.*

Conclusions

