# How to build QubesOS?

Frédéric Pierret

June 10, 2020

# Outline of talk

1. Qubes OS Overview

2. Get Hands Dirty

3. Summary

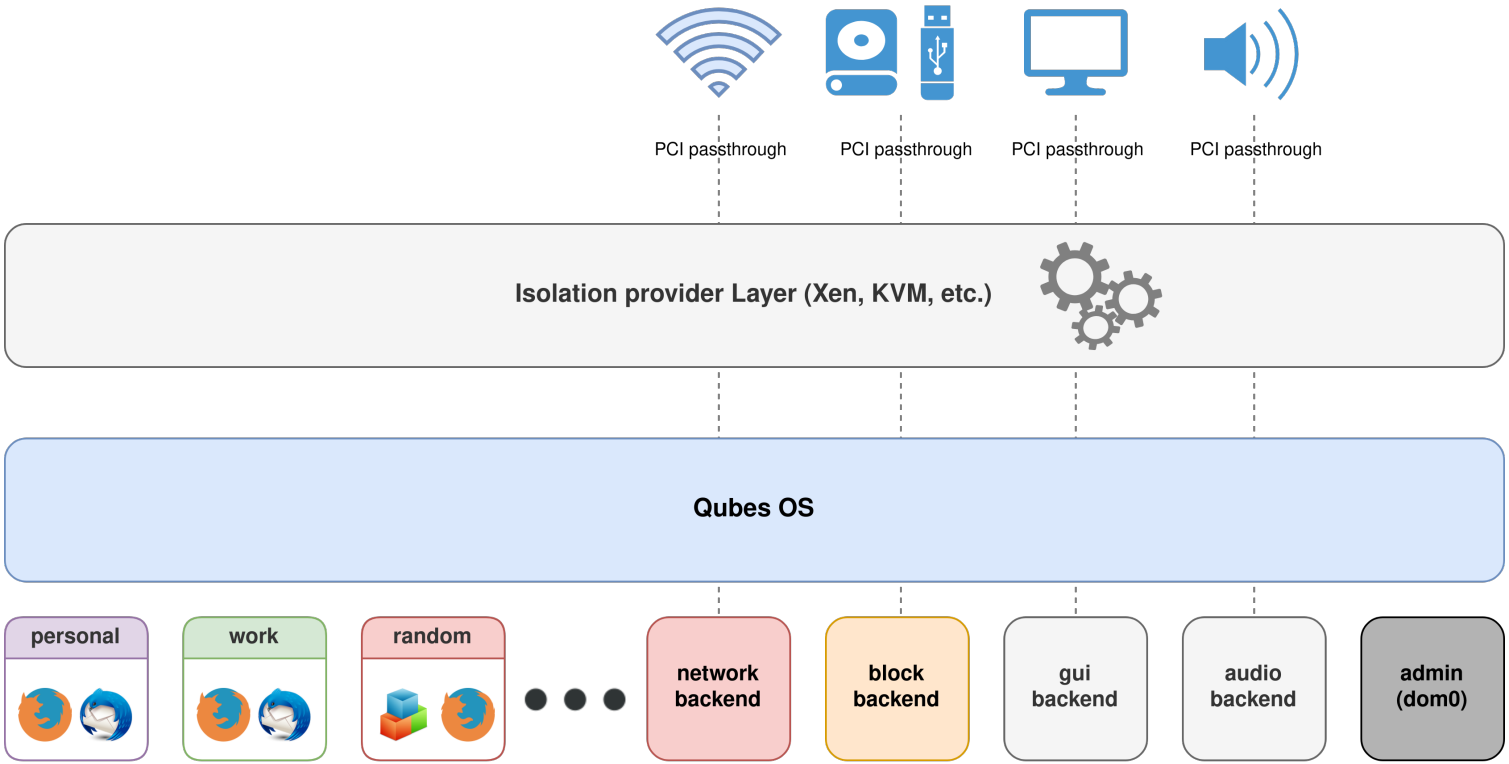
4. Q&A

# @fepitre

- PhD in Applied Mathematics,
- Space dynamics,
- (How to) build OS.

- `github.com/fepitre`
- `frederic.pierret@qubes-os.org`

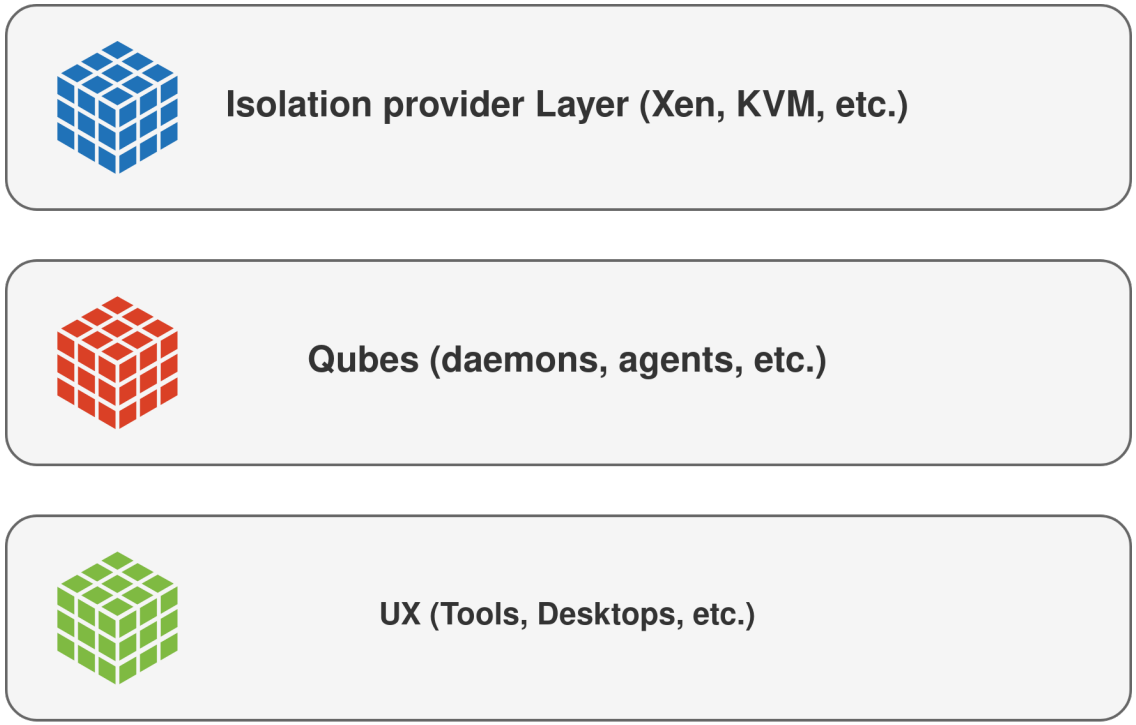
# Qubes OS Overview



# Qubes OS Overview

- dom0: Fedora
  - Why? *FreeBSD* would..., *Debian* is..., *mykillingdistro* rocks...
  - Historically supports large hardware collection,
  - We don't have ressource to spend on changing dom0 yet.
- VMs:
  - Fedora,
  - Debian,
  - Whonix,
  - CentOS,
  - Archlinux,
  - Ubuntu,
  - MirageOS (currently unpackaged),
  - openSUSE (on the road),
  - Gentoo (on the road) (HardenedBSD, ClipOS, etc.),
  - LFS (on the road).

# Qubes OS Overview

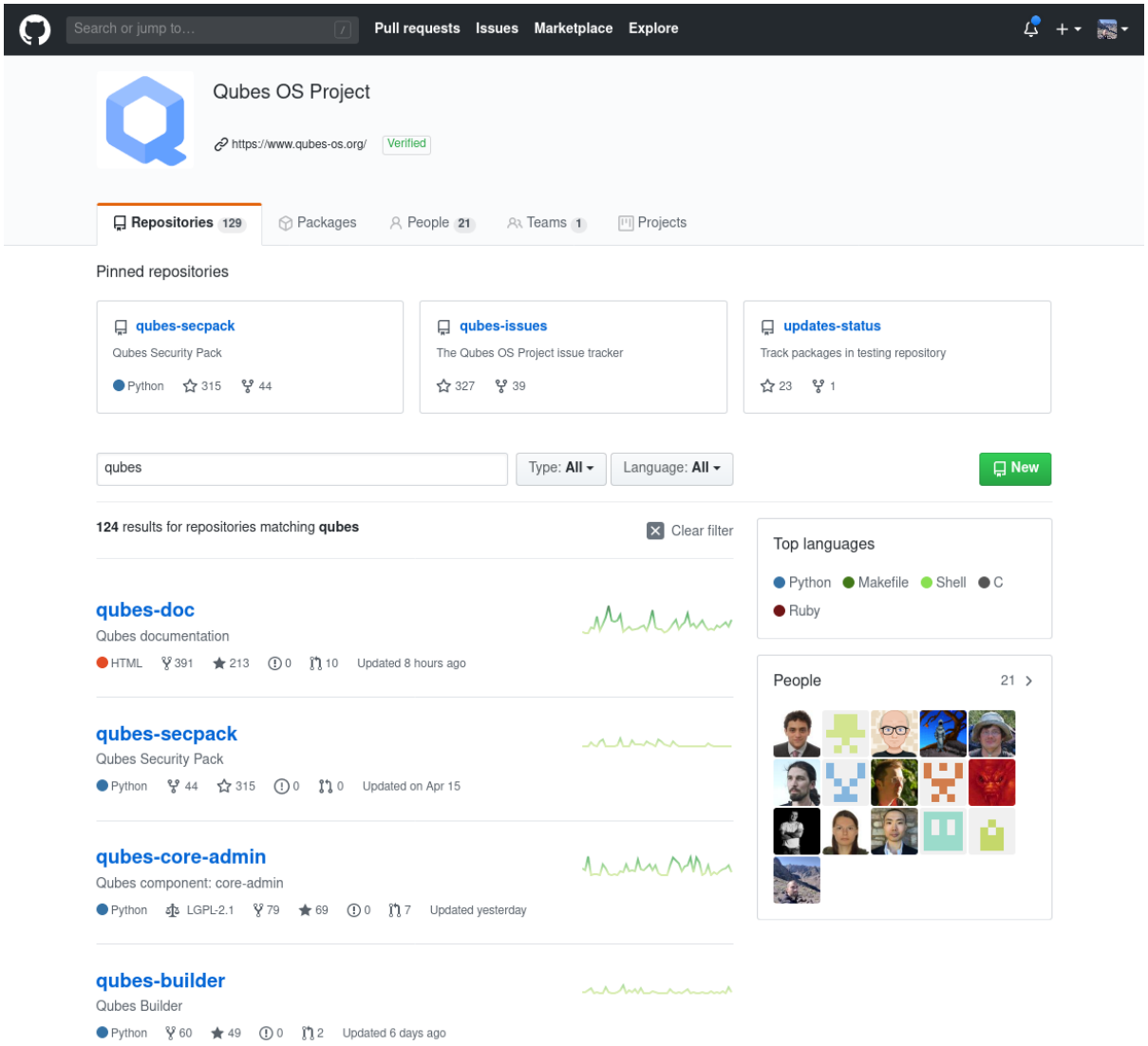


dom0

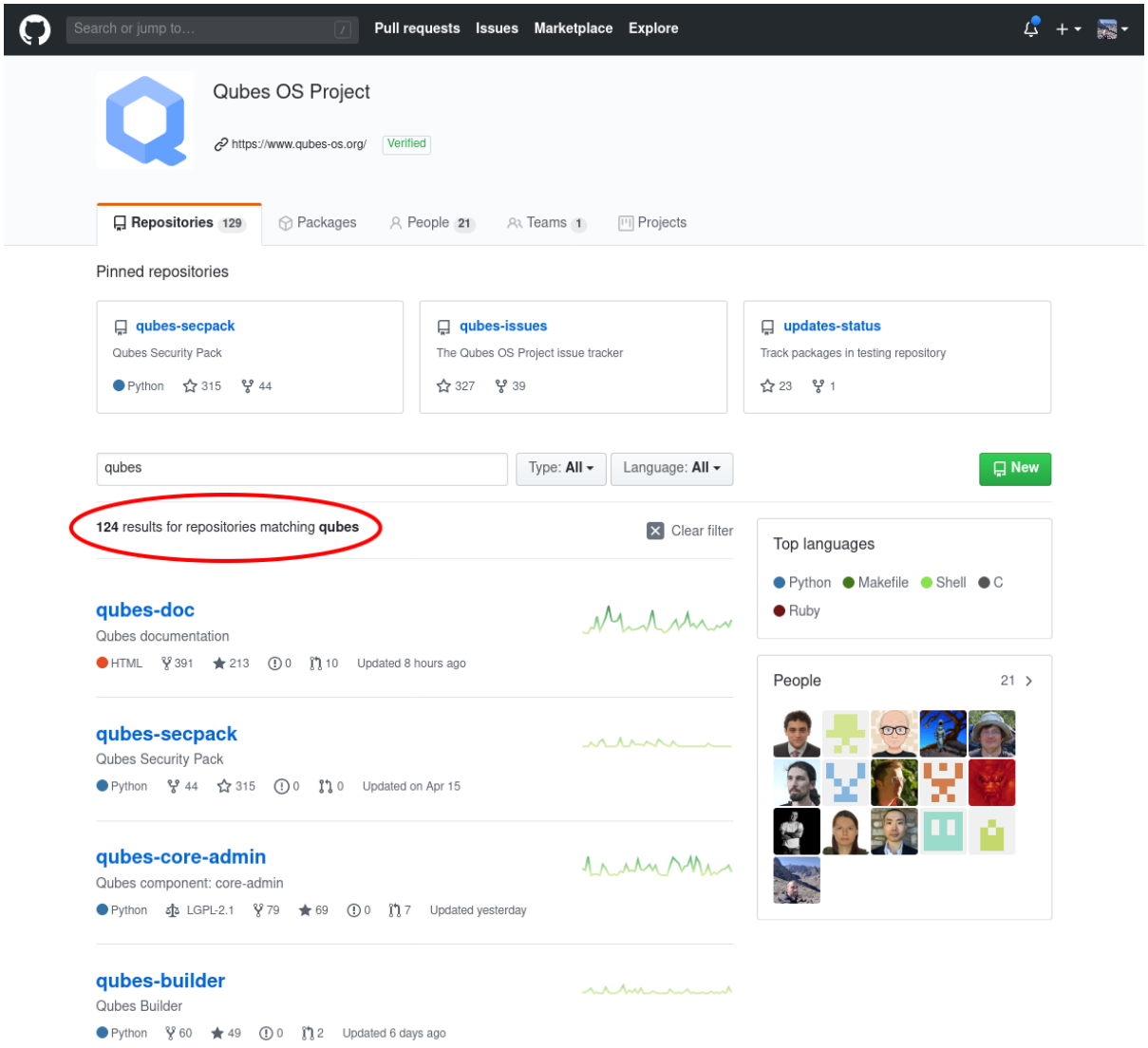
dom0/VM

VM

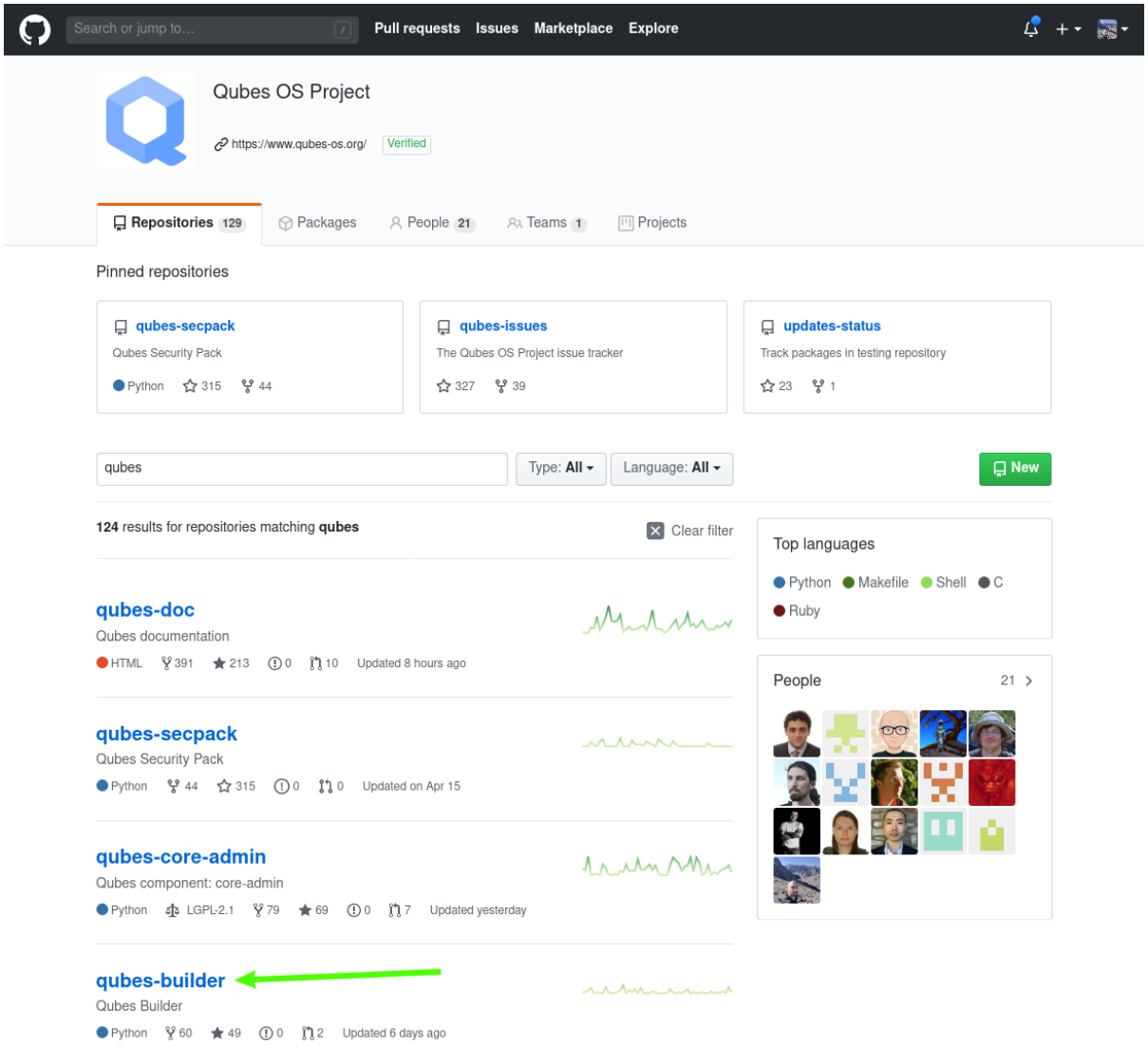
# How? Entry point



# How? Entry point



# How? Entry point



# qubes-builder

- Individual packages and putting them into repositories,
- Template images (and then packaged into RPM),
- Installation image,
- All-in-one place for working or releasing:
  - Production pipeline (throught *qubes-infrastructure*)
  - Developpement pipeline
- We don't publish prepared sources as is (builder-dependent).

# How? Entry point

It's time for a the how-to!

# qubes-builder-v2

- New design for qubes-builder,
- Integration with other build tools (e.g. OBS or COPR),
- Keep modular aspects (plugins),
- Plugins:
  - Sources (get, update, prepare),
  - Build,
  - Release (sign, upload).
- Ideas and WIP:
  - Python instead of Make,
  - Build with/in Dockers (cache layers, time saving),
  - Publish prepared sources repos for other build tools,
  - OpenBuildService (multi-packaging distros),
  - Qubes dev/community ideas.

# Q&A

**Thank you for your attention!**