How good are bind mounts

The title has no question mark: bind mounts are really good

What *are* bind mounts anyway?

A bind mount remounts part of the file hierarchy somewhere else. From the command line:

mount --bind olddir newdir

but usually just put in */etc/fstab* (fstab) where you put **bind** with the other options. {show fstab}

Bind Mounts compared to symbolic links

mount --bind olddir newdir looks a bit like ln **-s** olddir newdir except newdir must exist for **mount** (and preferably be empty, like an *nfs* mount point) while newdir must not exist for and gets created (as a *symbolic link* (symlink)) by ln.
/usr/local used to be a symlink on my desktop – that was the start of my printer frustration. *Something* – an installer I think – blew away the symlink and created a directory instead. The installer(?) would never have done that with a mount point because it's just a regular directory.

Mounts vs. Symlinks *continued*

Another advantage over symlinks is that you know where you are: **bash** doesn't need to pretend that the symlink is part of the path so **pwd -L** and **pwd -P** give different answers.
With a bind mount, you don't need to give **–-follow** to **find** to see past the symlink.
You can get **locate** to show you the files where you want to see them (more anon).
The next few slides detail some other bind mount advantages.

No need to guess partition sizes

You can have 1 big file system partition on each storage device (hdd, SSD NVMe, …). Choose one as / and bind-mount file system chunks from the others. Works well if you buy new (or larger replacement storage.

Bind mounts can be read-only

As a convenience, you can mount frequently-accessed directories straight under your home dir. To avoid accidents, you can make these mounts read-only (just like a loop mount of an iso). If you really want to make changes, you can still do that where you mounted from.

Other Considerations

Files in bind mounts appear in two places in the file system. Usually you are only interested in one of them. This affects some commands in the next few slides

Backup

You only ever want to back up each file once. How you achieve this will vary depending on your backup system. Personally I use **tar**. Tar has a **–one-file-system** option which stops it descending into other file systems including bind mounts. I only backup the source (olddir) directories.
I think that's what most people would want to do.

locate

With **locate** I want to see the mounted (newdir) files. Locate works from a database which (on my system) *cron* updates nightly. /etc/updatedb.conf controls what goes into this database. I add all the source dirs to the PRUNEPATHS line. I certainly don't want PRUNE_BIND_MOUNTS = "yes" (although I used to have that: it didn't seem to do anything)