Bedrock Linux - A Meta Distribution

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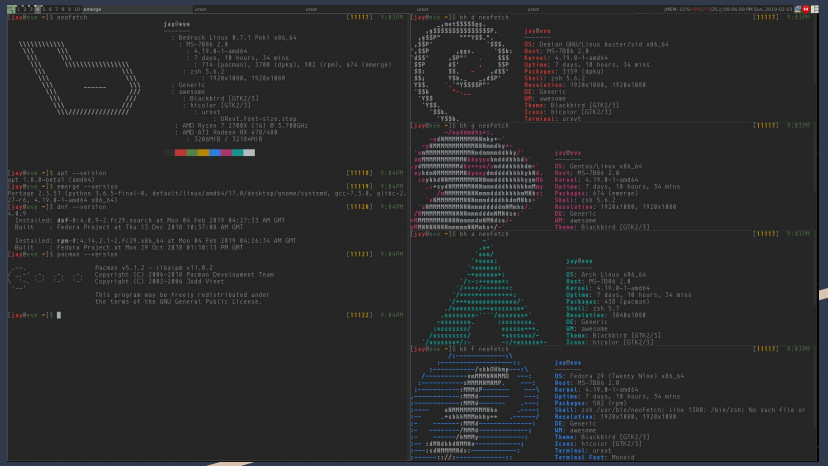
What does it do? / How Does it Work?



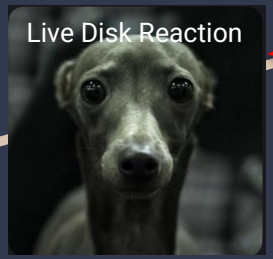
- Bedrock Linux allows user's to mix and match components of various distributions by separating them by layers, called stratum. Think of these like chroots with little tunnels in between them.
- It makes resources available to every stratum via a FUSE filesystem called crossfs that changes files on-the-fly to allow them to be shipped across the stratum boundaries.
- Package managers and other resource producers are not informed to crossfs, so they don't conflict with each other.
- Bash is keyed into crossfs, so cross binary locations are added to $PATH so that bash or zsh can find them and allow you to > pacman -S and > apt install to your heart's content in the same instance.

How does one install Bedrock Linux?

```
# sh ./bedrock-linux-<release>-<arch>.sh --hijack
```

- Bedrock does not have a traditional installation, it instead needs to hijack and entirely replace its host distro.
- Start with installing a distro of your choice from the list of compatible distros.
- Download the installer with wget from https://raw.githubusercontent.com/bedrocklinux/bedrocklinux-userland/0.7/releases, then run the script as root with the --hijack flag. This will wipe anything on the original host system.
- After that, reboot your system. You will be greeted by the bedrock linux logo, and asked to pick a distro init to load.

A word of caution...



- Bedrock is more difficult to harden due to its greater attack surface.
- While it does a lot to glue everything together, it's not perfect. It's possible some combinations of features just won't work.
- Having programs listen to each other from various stratums can be difficult (needs to clamber through specific stratum directories).
- Desktop environments especially are a huge pain in the ass if used cross stratum, which will require bedrock specific configuration.
- Can easily become difficult to maintain depending on how your stratum's are organized and employed.
- Bedrock doesn't deduplicate files across its stratums, so there may be an issue of disk overhead.
- Bedrock can have runtime overhead, such as in /etc access.

So, what's the point?

- Most people are perfectly fine just making their single distro work, so in what situation would you *need*/*want* Bedrock Linux?

Use-Case 1: To install a distro you can’t install normally

- According to this random reddit post I found, if for some reason your device can't use other installation media except for one in particular, you can use bedrock to hijack the install and fetch the one you want and remove the old host stratum.
- For example, you install some version of Fedora, hijack it with Bedrock, and then install Arch linux.
- Not exactly its intended purpose, but technically a use case.

Use-Case 2: Diversifying Package Managers

- You could use debian to install just stable packages and use arch if you wanted more bleeding-edge packages.
- Start with a stable foundation of debian's coreutils, and then build upon them with packages from other distribution's package manager

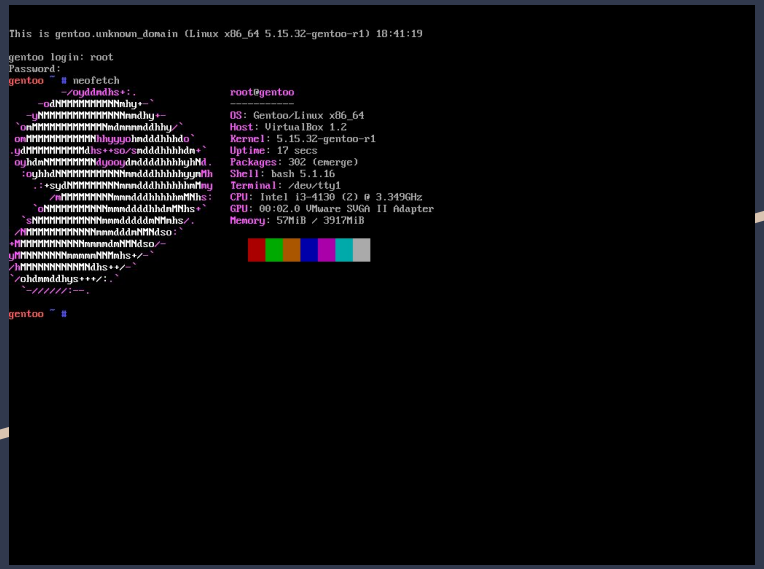
```
[liveuser@localhost-live ~]$ sudo dnf install tigervnc
Fedora 38 - x86_64                              303 kB/s |  83 MB     04:39
Fedora 38 openh264 (From Cisco) - x86_64        768  B/s | 2.5 kB     00:03
Fedora Modular 38 - x86_64                       13 kB/s | 2.8 MB     03:30
Fedora 38 - x86_64 - Updates                    3.5 MB/s |  33 MB     00:09
Fedora Modular 38 - x86_64 - Updates            712 kB/s | 2.1 MB     00:03
Dependencies resolved.
================================================================================
 Package              Architecture  Version               Repository     Size
================================================================================
Installing:
 tigervnc             x86_64        1.13.1-3.fc38         fedora        313 k
Installing dependencies:
 fltk                 x86_64        1.3.8-6.fc38          fedora        614 k
 tigervnc-icons       noarch        1.13.1-3.fc38         fedora         35 k

Transaction Summary
================================================================================
```

```
sofija@sofija-VirtualBox:~$ sudo apt-get install nano
Reading package lists... Done
Building dependency tree
Reading state information... Done
Suggested packages:
  hunspell
The following NEW packages will be installed:
  nano
0 upgraded, 1 newly installed, 0 to remove and 241 not upgraded.
Need to get 269 kB of archives.
```

Good situation where
Having apt would be nice

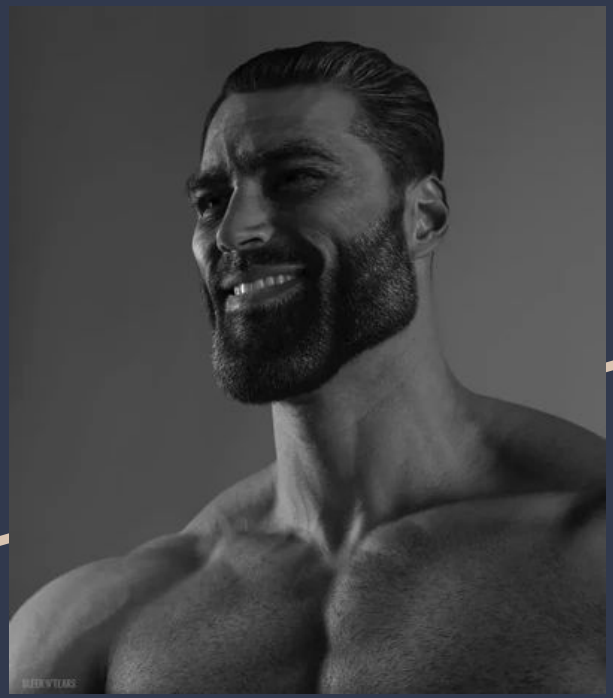
```
NOTE: Unable to determine the package manager used by the system--skipping the optional install
of WolframScript system integration. Installer packages in the RPM and DEB formats have been left in
"/usr/local/Wolfram/Wolfram/14.1/SystemFiles/Installation".  Consult your system documentation on how such packages
might be installed.


Installation failed. See /usr/local/Wolfram/Wolfram/14.1/InstallErrors.

A copy of the previous contents of the directory "/usr/local/Wolfram/Wolfram/14.1" can be found at
"/usr/local/Wolfram/Wolfram/14.1/BackupDir-149731".
```

Use-Case 3: The AUR does what Gendont, and vice versa



- Sometimes, even Gentoo chads need a break from all that compiling and want to get a package installed fast and quick.
- Use Gentoo for when you need to be picky about compilation, and arch or void for stuff that isn't really that serious.

Use-Case 4: Because you want to



- Break free from the shackles of the KISS principle, and wield the power of every distribution at once.
- Distro-hoppers hate this one simple trick
- Maybe you'll find that Bedrock is everything you want and more.
- Never be indecisive about your next distro ever again, have the best of most worlds.