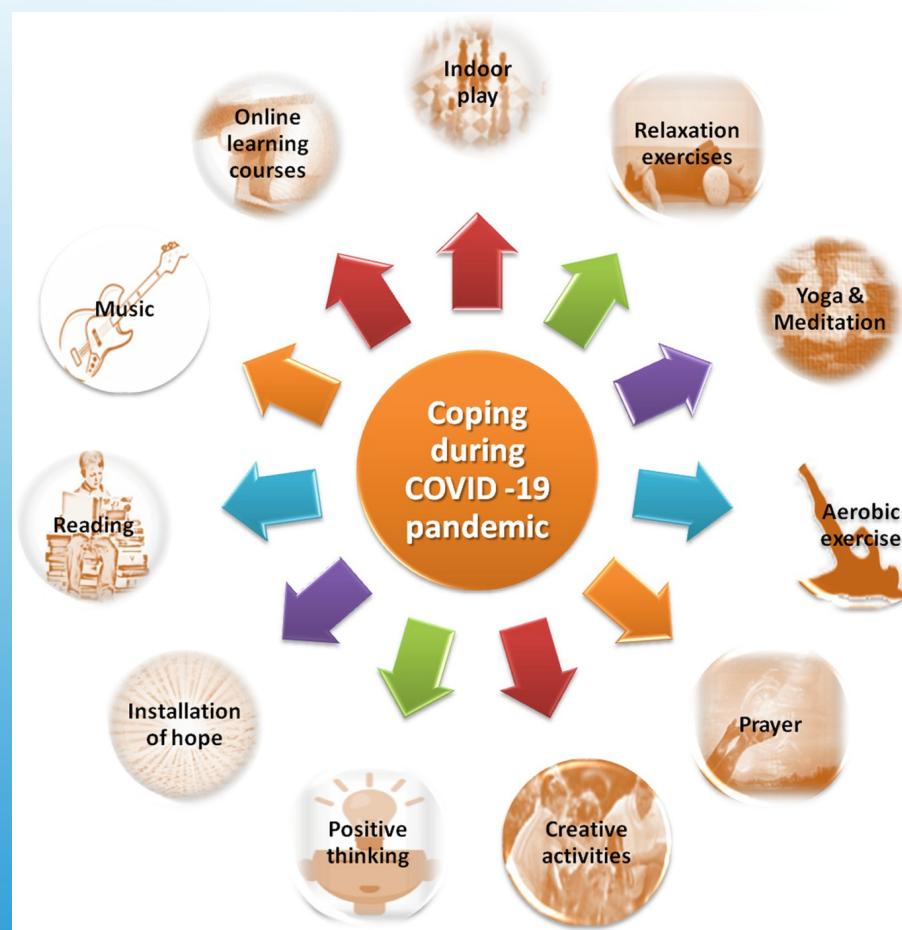




Lorin B Olsen  
Chief Technologist  
Lobostrategies, Inc.

**Unparalleled Unguent of  
Updates and Upgrades**



# Activities During Pandemic



# Geek Activities During Pandemic



**Update *vs.* Upgrade**

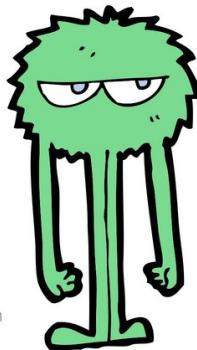


# Do You Need An Upgrade?

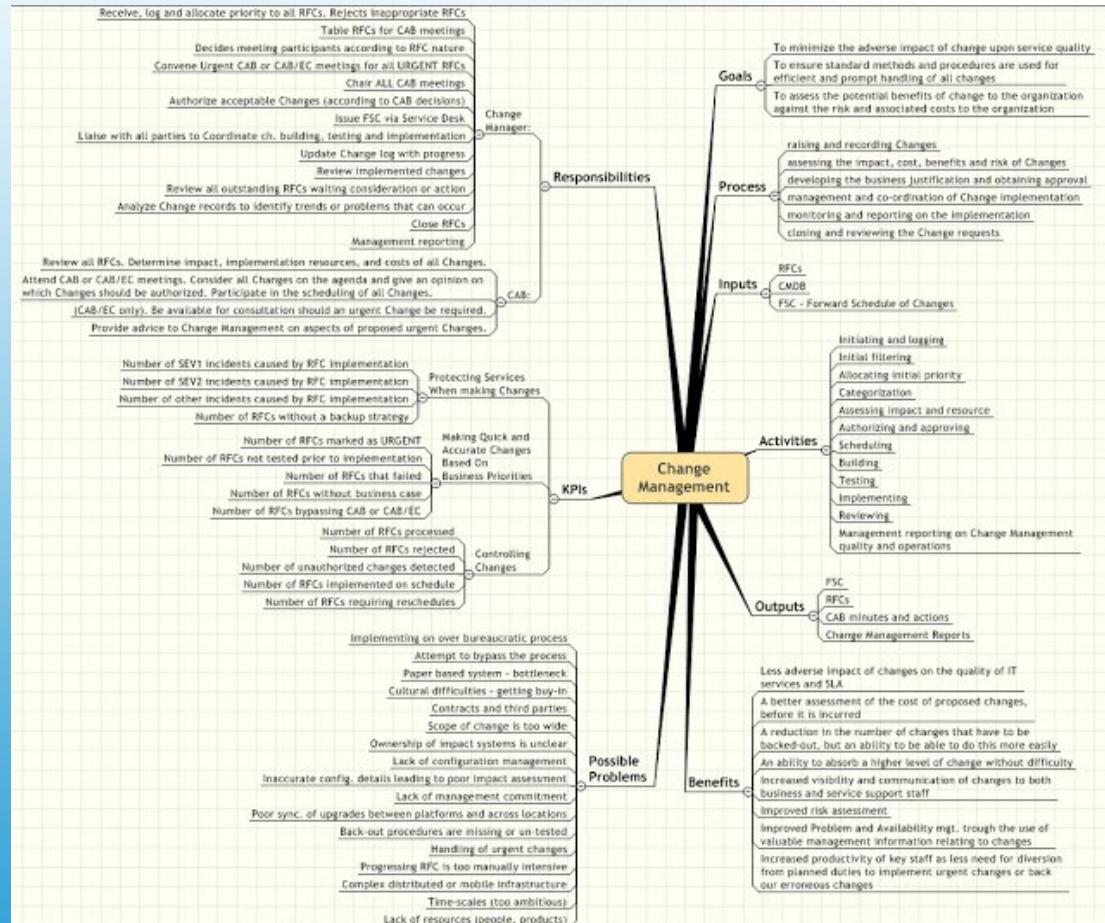
“IF YOU DON’T LIKE  
SOMETHING,  
CHANGE IT. IF YOU  
CAN’T CHANGE IT,  
CHANGE YOUR  
ATTITUDE.”

**Maya Angelou**

[www.positivitysparkles.com](http://www.positivitysparkles.com)



# A Rose By Any Other Name



# Formal Change Management



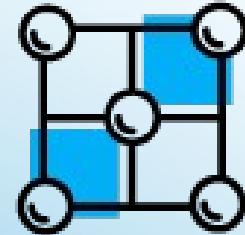
### STANDARD

- Straightforward
- Frequent
- Documentation needed
- No authorization by CAB needed



### NORMAL

- Important
- Full review
- Requires CAB authorization



### MAJOR

- High risk
- Detailed report
- Requires CAB & management authorization



### EMERGENCY

- Urgent
- Resolves incident
- High risk of failure
- Flexible pool of approvers

# Change Types



# Change Management Is A Mindset

- Infrastructure / Service Changes
- Hardware Changes
- Software Changes
  - Operating System Changes
  - Application / Package Changes
- Configuration Changes
- Workflow / Process Changes

# The Typical Change Pipeline

- My Infrastructure / Service Changes
  - Modernize DNS Infrastructure
- My Hardware Changes
  - Replace Home Assistant Hardware
  - Replace Laptop Hardware
- Operating System Updates / Upgrades
  - Implement Ubuntu 20.04 (Everywhere)
  - Implement Debian (Buster) on Raspbian
- Software Package Updates

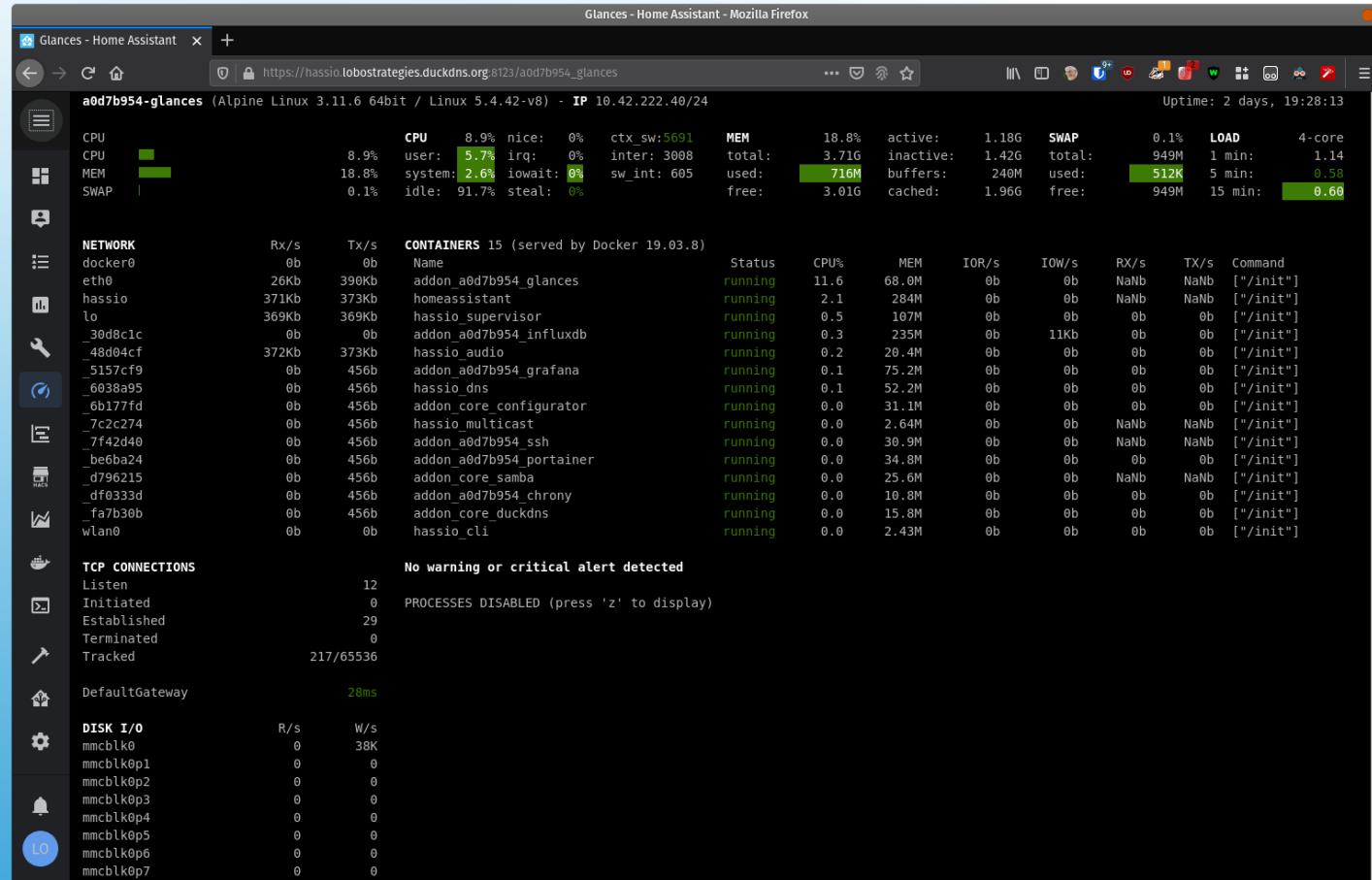
## My Change Pipeline



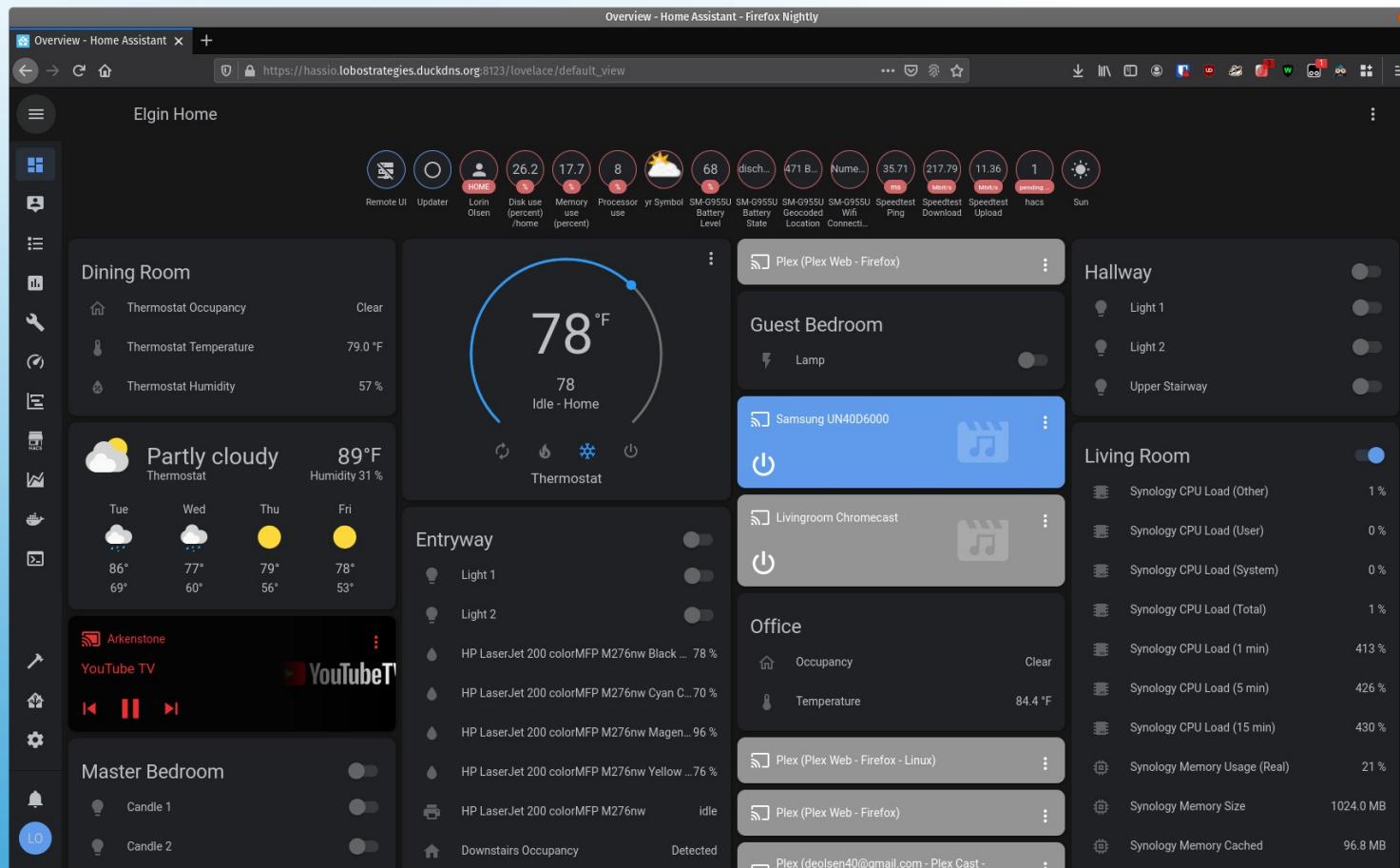
# The Necessary Changes



# Home Assistant Hardware Changes



# Home Assistant Hardware Changes



# Home Assistant Software Changes



# DNS / Pihole Changes

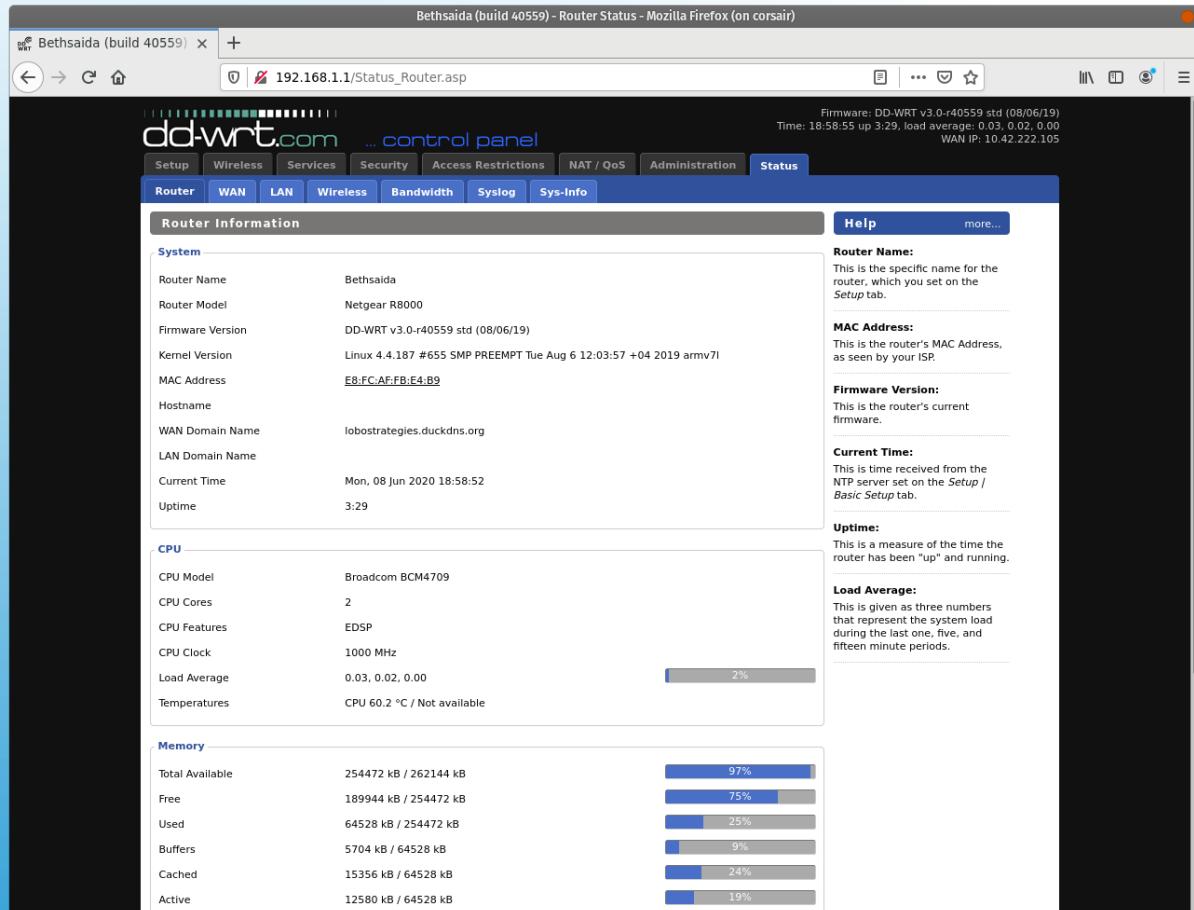
The screenshot shows the Portainer web application running in a Firefox browser window. The title bar reads "Portainer - Firefox Nightly". The left sidebar has a dark blue theme with white text and icons. It includes sections for "LOCAL" (Home, Dashboard, App Templates, Stacks, Containers), "SETTINGS" (Extensions, Users, Endpoints, Registries, Settings), and a footer with "portainer.io 124.0". The main content area is titled "Container list" and shows a table of three containers: pihole, unbound, and portainer. The table columns are Name, State, Quick actions, Stack, Image, Created, Published Ports, and Ownership. The "Containers" section of the sidebar is currently selected.

Name	State	Quick actions	Stack	Image	Created	Published Ports	Ownership
pihole	healthy	[Start] [Stop] [Kill] [Restart] [Pause] [Resume] [Remove]	pihole	pihole/pihole:latest	2020-06-08 20:01:00	[443:443] [53:53] [55:55] [80:80]	[administrators]
unbound	healthy	[Start] [Stop] [Kill] [Restart] [Pause] [Resume] [Remove]	pihole	klutchell/unbound	2020-06-08 20:01:00	[5053:5053]	[administrators]
portainer	running	[Start] [Stop] [Kill] [Restart] [Pause] [Resume] [Remove]	-	portainer/portainer	2020-06-08 21:57:08	[8000:8000] [9000:9000]	[administrators]

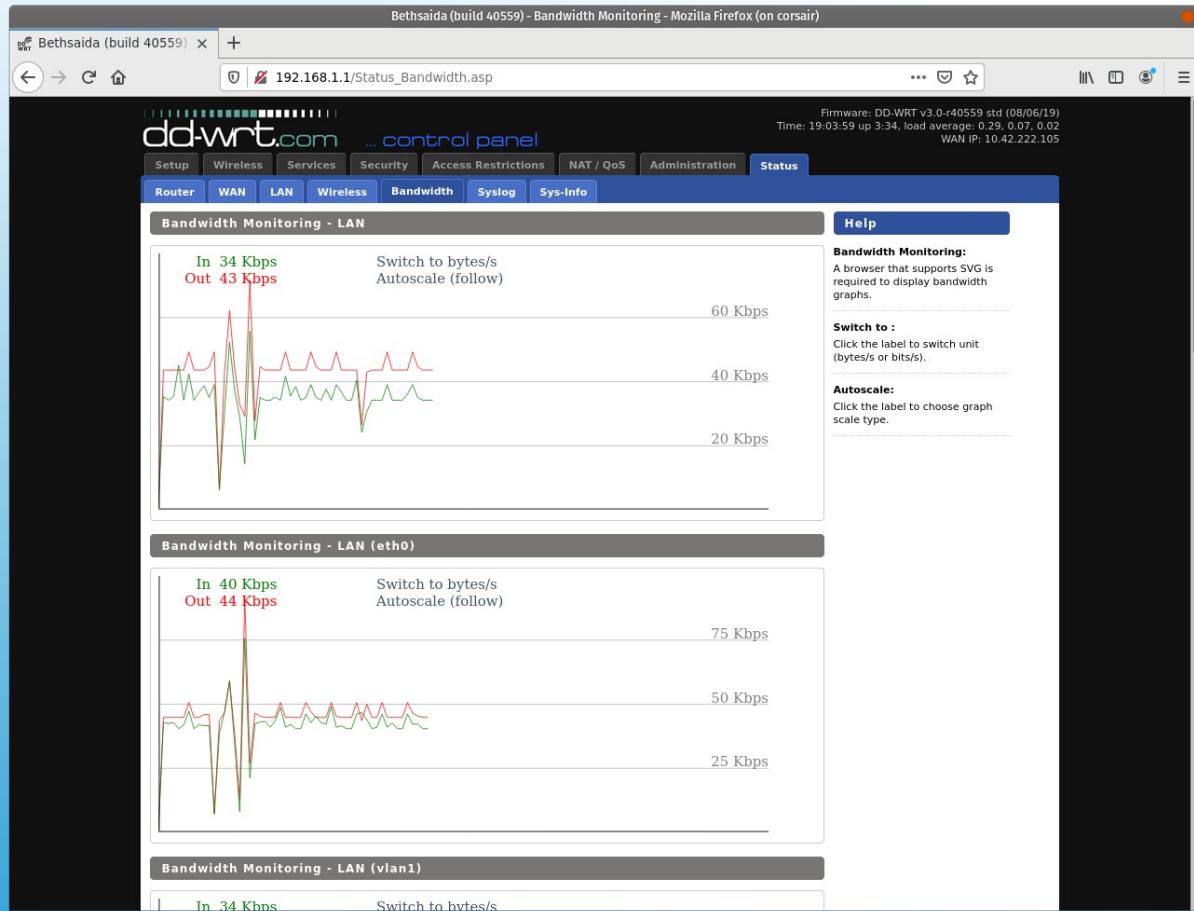
# Secondary DNS Infrastructure

The screenshot shows the Pi-hole Admin Console interface in a Firefox browser window. The title bar reads "Pi-hole Admin Console - Firefox Nightly". The URL in the address bar is "rochros/admin/settings.php?tab=teleporter". The main navigation menu on the left includes options like Dashboard, Query Log, Long term data, Whitelist, Blacklist, Group Management, Disable, Tools, Network, and Settings. The Settings option is currently selected. The top navigation bar has tabs for System, Blocklists, DNS, DHCP, API / Web interface, Privacy, and Teleporter, with Teleporter being the active tab. The Teleporter section contains two main sections: "Teleporter Export" and "Teleporter Import". The Export section has a "Export" button. The Import section includes an "Import..." button, a "File input" field with a "Browse..." button and a message "No file selected. Upload only Pi-hole backup files.", and several checked checkboxes for importing different types of lists: Whitelist (exact), Whitelist (regex/wildcard), Blacklist (exact), Blacklist (regex/wildcard), Blocklists, Audit log, and Static DHCP Leases. There is also a "Clear existing data" checkbox. At the bottom of the page, there is a "Donate" link and footer text indicating "Pi-hole Version v5.0 Web Interface Version v5.0 FTL Version v5.0".

# Add Backup DNS Infrastructure



# Router Firmware Changes

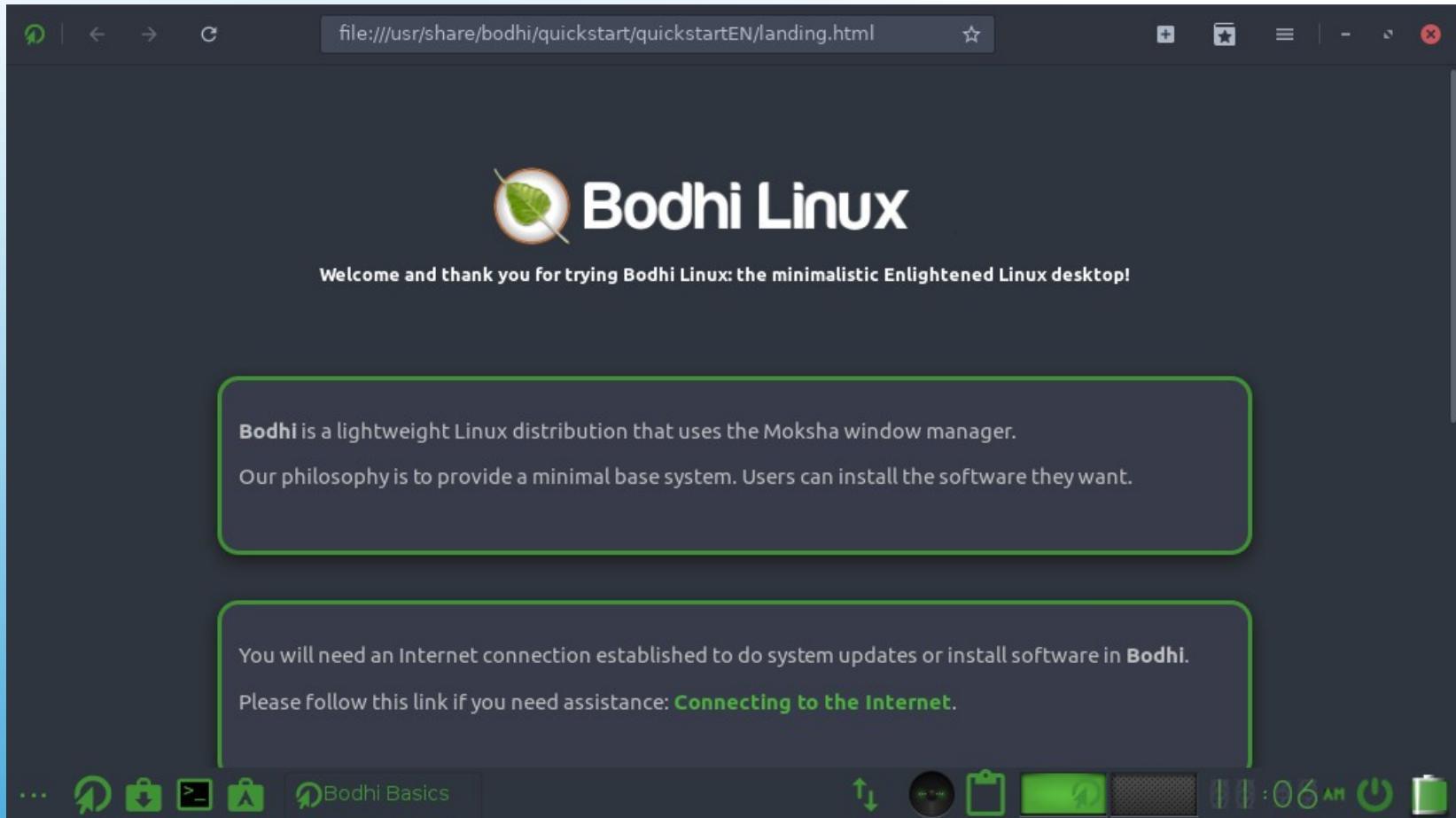


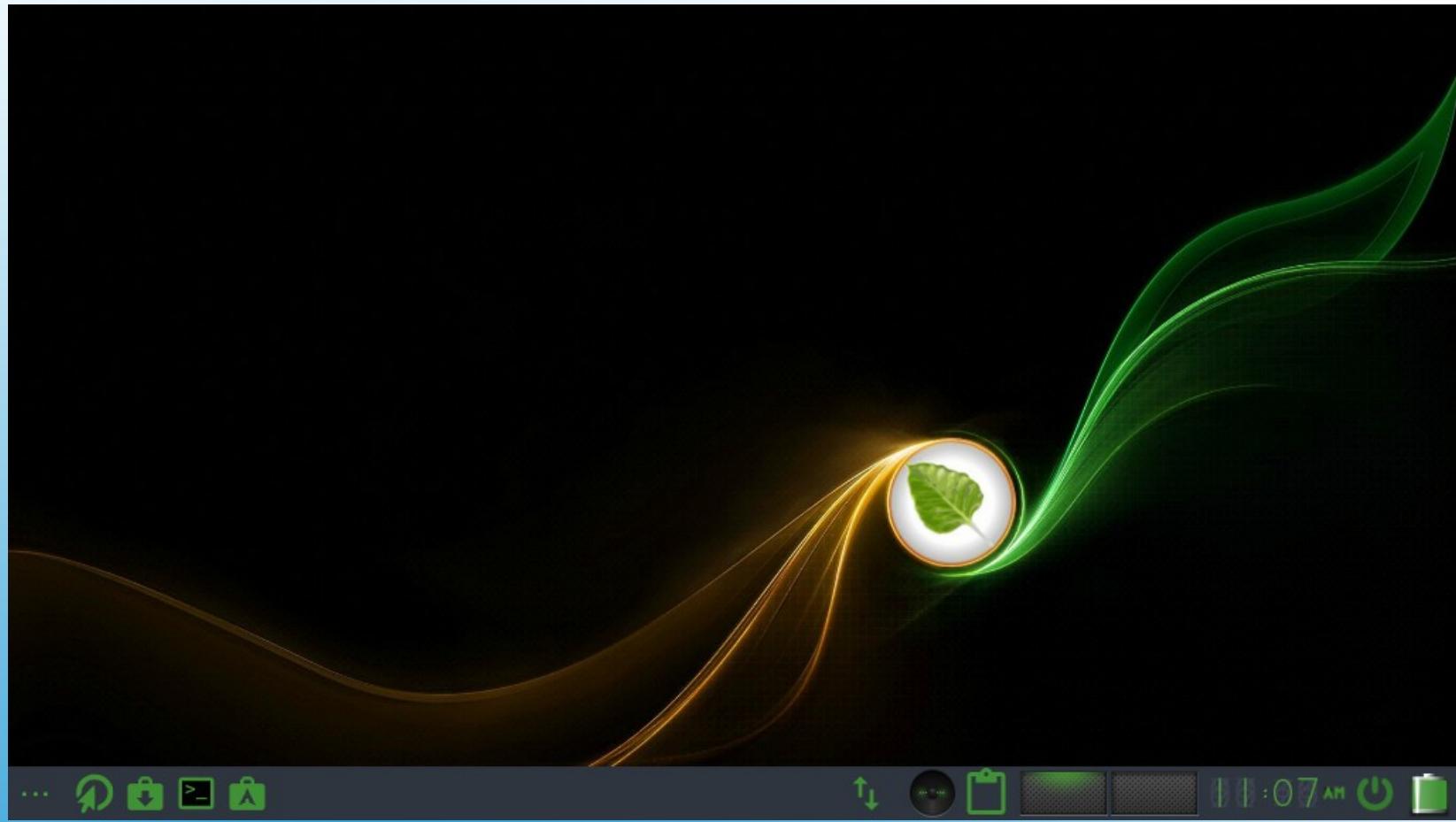
# Router Firmware Changes



# HP Mini Resurrection

# Bohd Linux Video

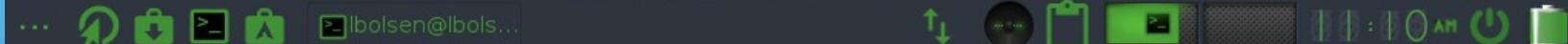




```
lbolsen@lbolsen-HP-Mini-110-1000: ~
Unpacking broadcom-sta-dkms (6.30.223.271-8ubuntu0.1) ...
Selecting previously unselected package wireless-tools.
Preparing to unpack .../wireless-tools_30~pre9-12ubuntu1_i386.deb ...
Unpacking wireless-tools (30~pre9-12ubuntu1) ...
Setting up broadcom-sta-dkms (6.30.223.271-8ubuntu0.1) ...
Loading new broadcom-sta-6.30.223.271 DKMS files...
Building for 4.9.0-6-686
Building initial module for 4.9.0-6-686
Done.

wl:
Running module version sanity check.
- Original module
  - No original module exists within this kernel
- Installation
  - Installing to /lib/modules/4.9.0-6-686updates/dkms/

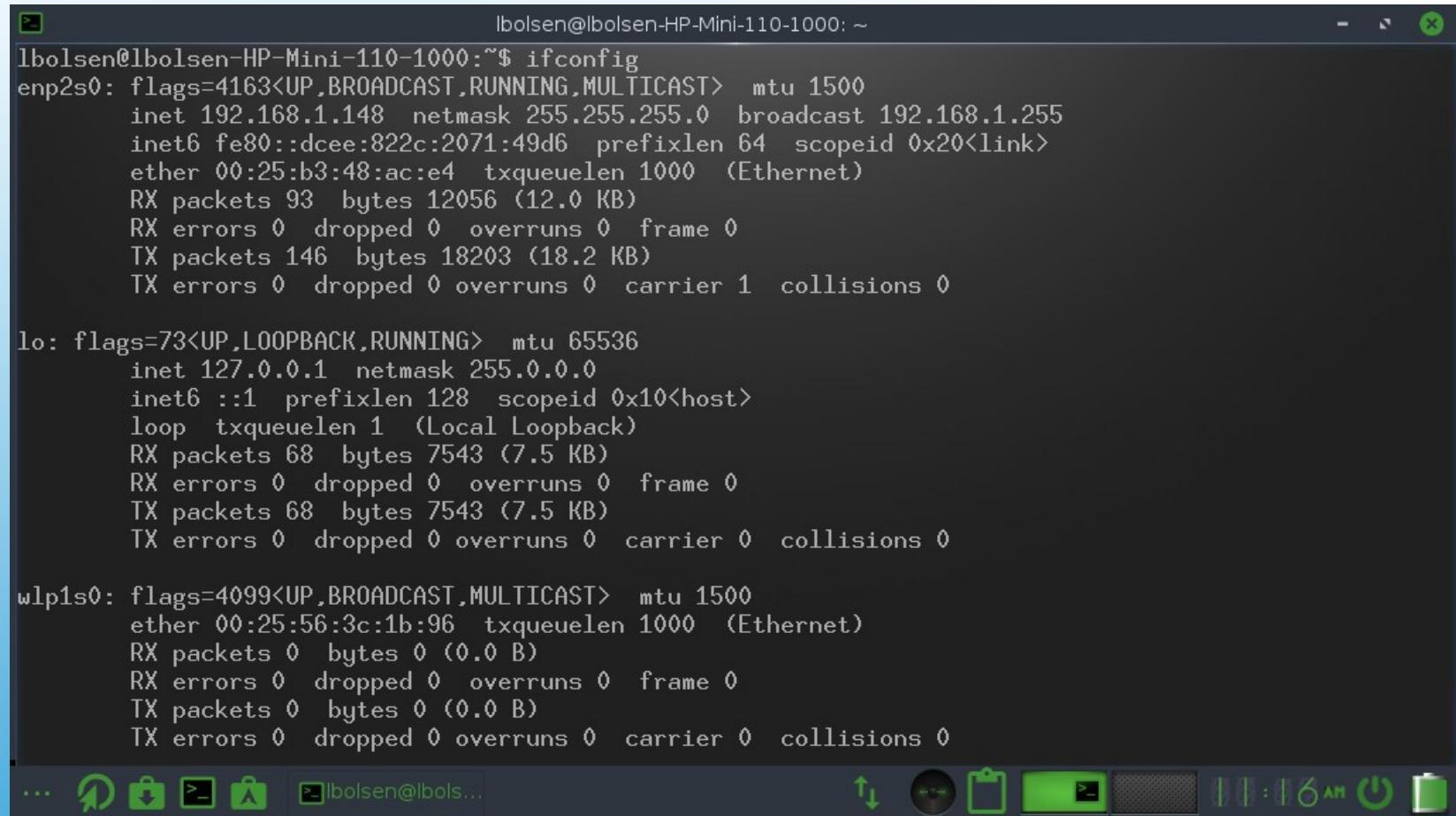
depmod.....
Backing up initrd.img-4.9.0-6-686 to /boot/initrd.img-4.9.0-6-686.old-dkms
Making new initrd.img-4.9.0-6-686
(If next boot fails, revert to initrd.img-4.9.0-6-686.old-dkms image)
update-initramfs...  
Progress: [ 64%] [#####.....]
```

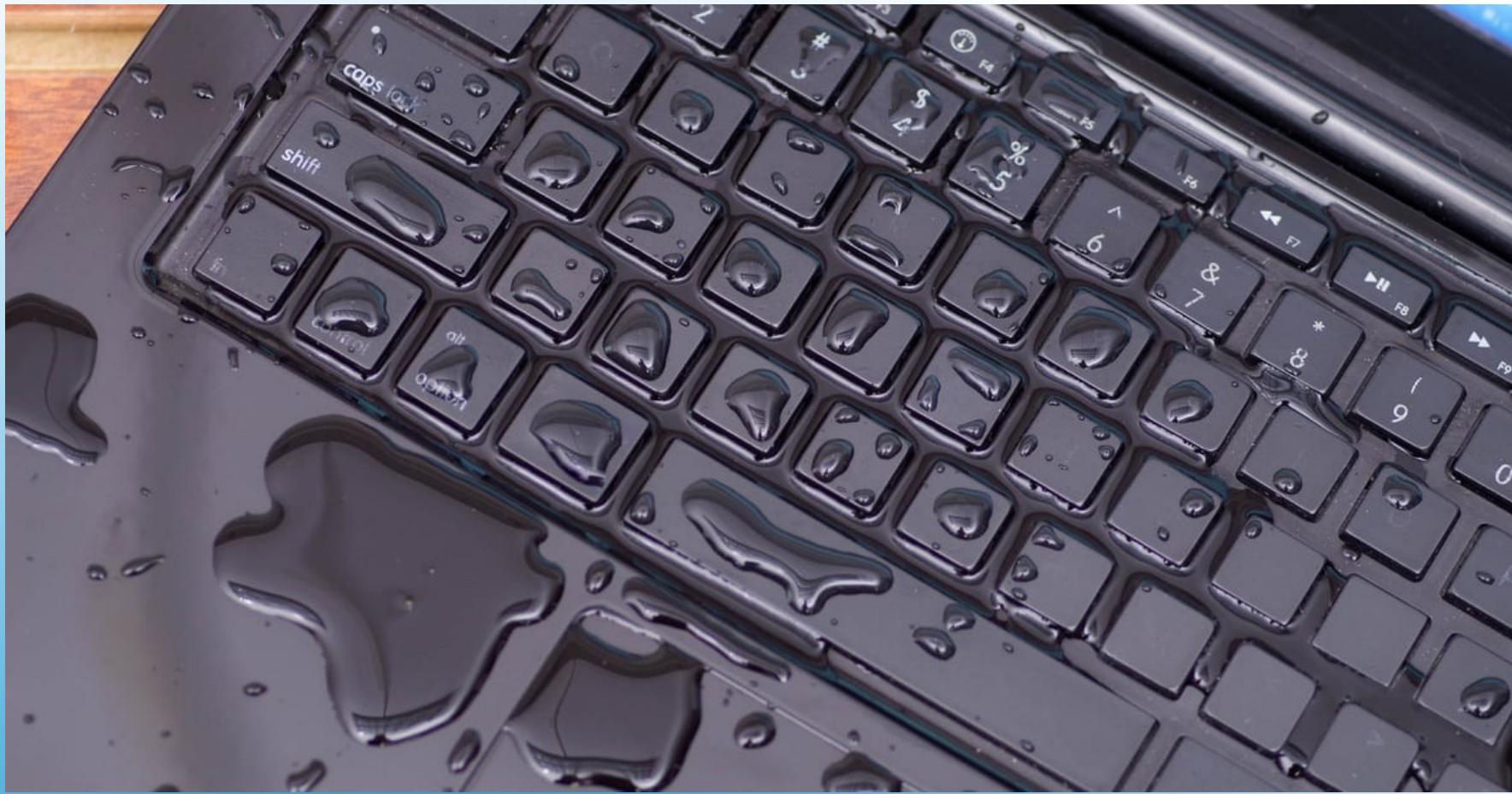


```
lbolsen@lbolsen-HP-Mini-110-1000: ~
lbolsen@lbolsen-HP-Mini-110-1000:~$ ifconfig
enp2s0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
        inet 192.168.1.148 netmask 255.255.255.0 broadcast 192.168.1.255
        inet6 fe80::dceef:27ff:fe49:d6 prefixlen 64 scopeid 0x20<link>
          ether 00:25:b3:48:ac:e4 txqueuelen 1000 (Ethernet)
            RX packets 93 bytes 12056 (12.0 KB)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 146 bytes 18203 (18.2 KB)
            TX errors 0 dropped 0 overruns 0 carrier 1 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
        inet 127.0.0.1 netmask 255.0.0.0
        inet6 ::1 prefixlen 128 scopeid 0x10<host>
          loop txqueuelen 1 (Local Loopback)
            RX packets 68 bytes 7543 (7.5 KB)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 68 bytes 7543 (7.5 KB)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

wlp1s0: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500
        ether 00:25:56:3c:1b:96 txqueuelen 1000 (Ethernet)
          RX packets 0 bytes 0 (0.0 B)
          RX errors 0 dropped 0 overruns 0 frame 0
          TX packets 0 bytes 0 (0.0 B)
          TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```





# Laptop Hardware Changes



# Linux Is Still Not A Default Option

```

pi@narya:~$ shells
pi@narya:~-----+
OS: Raspbian GNU/Linux 10 (buster) armv7l
Host: Raspberry Pi 3 Model B Rev 1.2
Kernel: 4.19.118-v7+
Uptime: 7 days, 17 hours, 28 mins
Packages: 673 (dpkg)
Shell: bash 5.0.3
Terminal: /dev/pts/0
CPU: BCM2835 (4) @ 1.200GHz
Memory: 258MiB / 926MiB

lbolsen@corair:~$ shells
lbolsen@corair:~-----+
OS: Bodhi Linux i686
Host: HP Mini 110-1000 03A8100000000000100300000
Kernel: 4.9.0-6-686
Uptime: 21 mins
Packages: 1140
Shell: bash 4.4.20
Resolution: 1920x1080, 1920x1080
WM: GNOME Shell
WM Theme: Adwaita
Icons: Adwaita [GTK3]
Terminal: /dev/pts/1
CPU: Intel Atom N270 (2) @ 1.600GHz
GPU: Intel Integrated Graphics
GPU: Intel Integrated Graphics
Memory: 146MiB / 996MiB

lbolsen@rivendell:~$ shells
lbolsen@rivendell:~-----+
OS: Ubuntu 20.04 LTS x86_64
Host: 700-414 1.00
Kernel: 5.4.0-33-generic
Uptime: 2 days, 5 hours, 7 mins
Packages: 2145 (dpkg), 17 (snap)
Shell: bash 5.0.16
Resolution: 1920x1080, 1920x1080
WM: Mutter
WM Theme: Adwaita
Terminal: /dev/pts/0
CPU: Intel i5-4570 (4) @ 3.600GHz
GPU: Intel HD Graphics
Memory: 2224MiB / 11887MiB

lbolsen@aerendir:~$ shells
lbolsen@aerendir:~-----+
OS: Ubuntu 20.04 LTS x86_64
Host: 81TD Lenovo Yoga C740-15IML
Kernel: 5.4.0-7629-generic
Uptime: 3 days, 10 hours, 53 mins
Packages: 2761 (dpkg), 17 (flatpak), 31
Shell: bash 5.0.16
Resolution: 1920x1080, 1920x1080
DE: GNOME
WM: Mutter
WM Theme: Prof-Gnome-Dark-3.5
Icons: Papirus [GTK2/3]
Terminal: terminator
CPU: Intel i7-10510U (8) @ 4.900GHz
GPU: Intel UHD Graphics
Memory: 3927MiB / 11685MiB

```

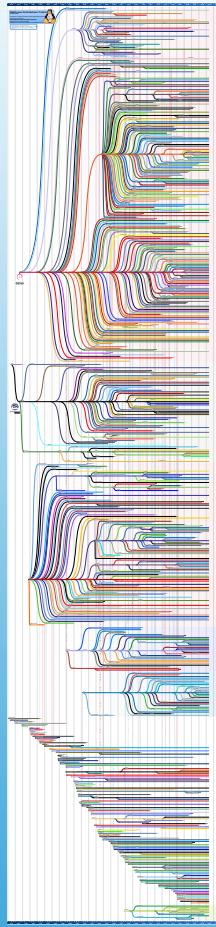
# Never-ending Story





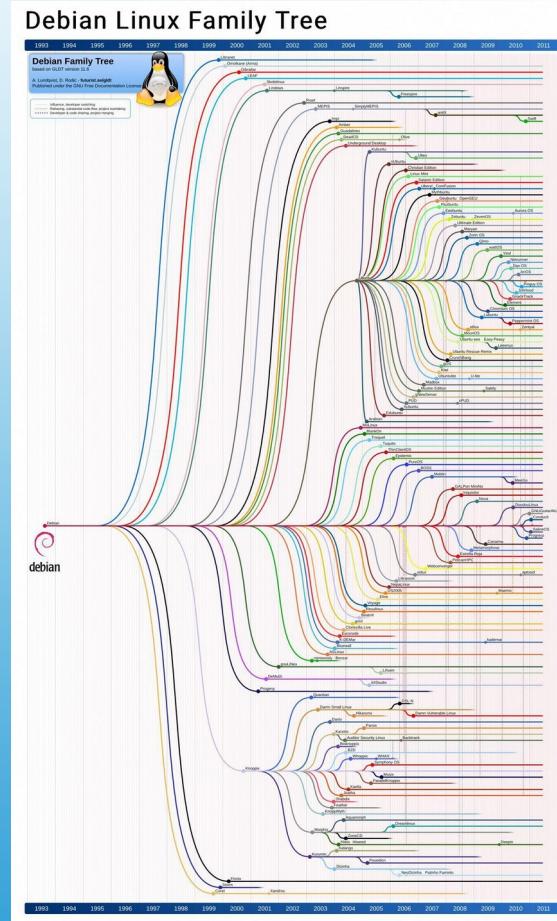
Lorin B Olsen  
Chief Technologist  
Lobostrategies, Inc.

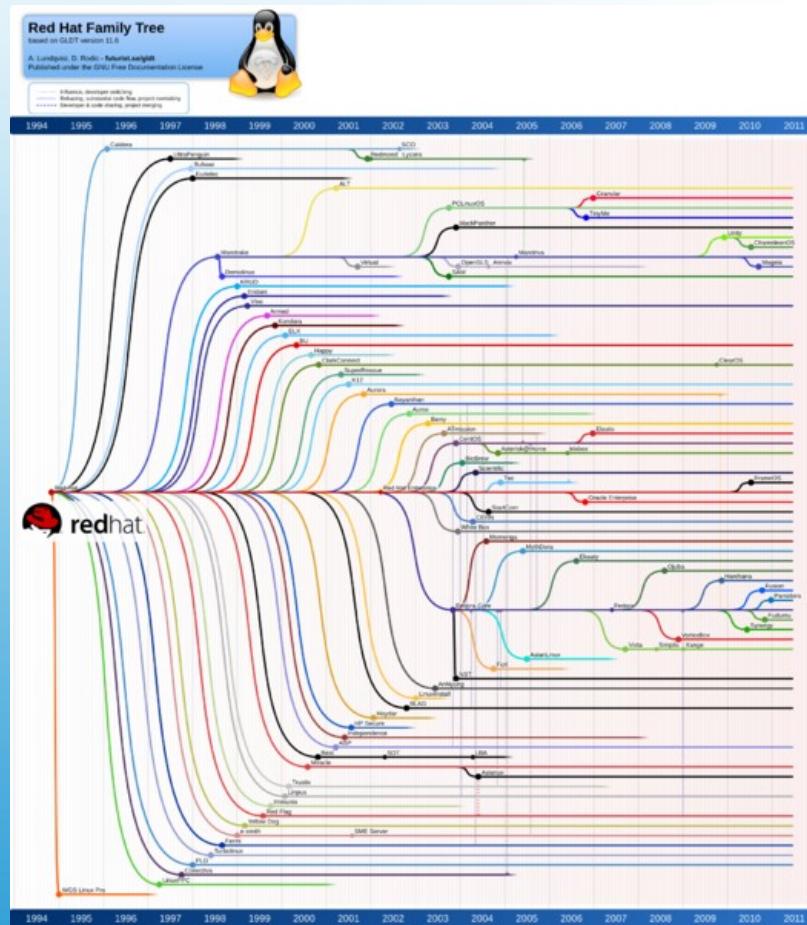
**Fables of the Focal Fossa**



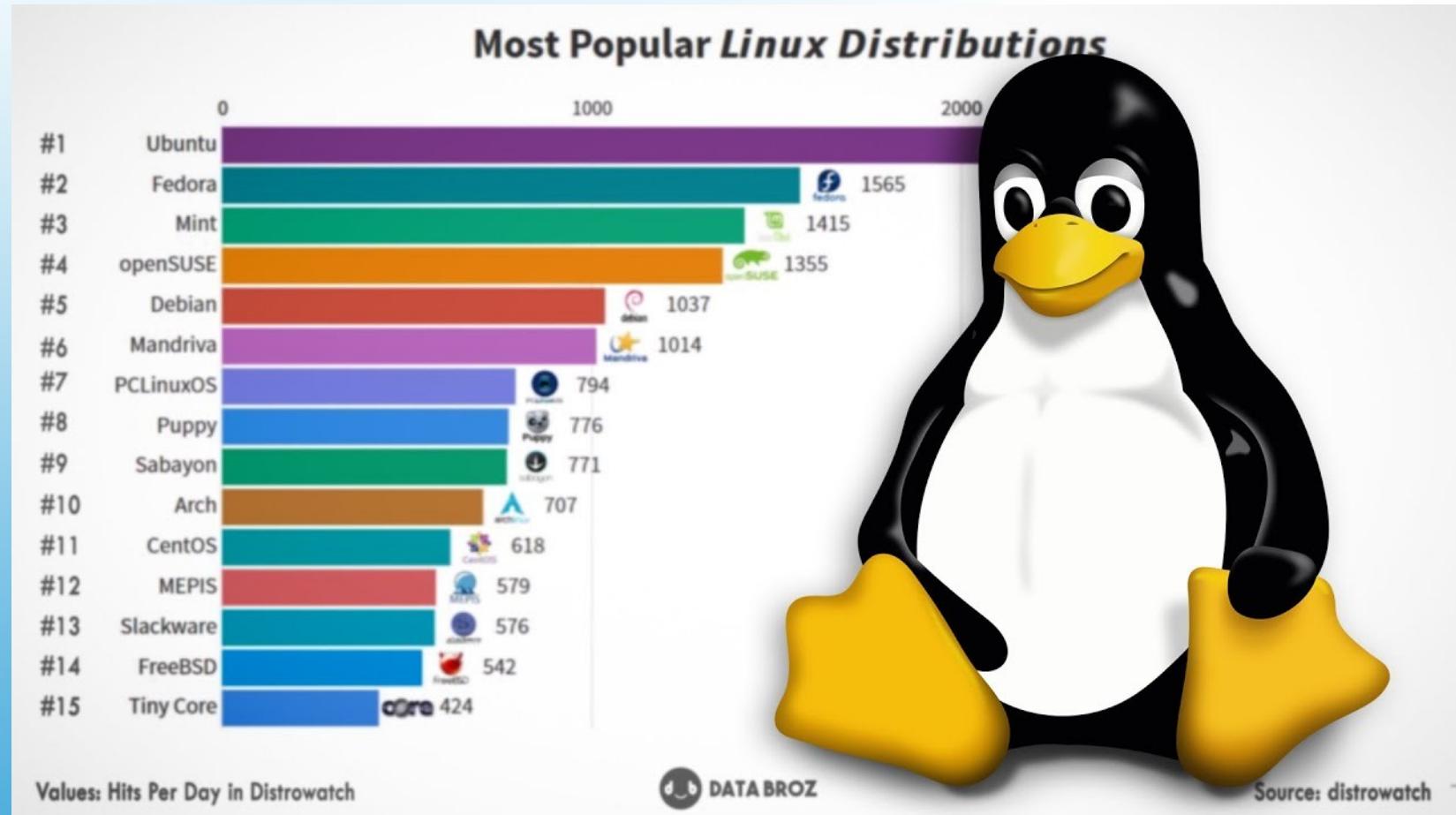
# Linux Timeline

# Debian Family Tree





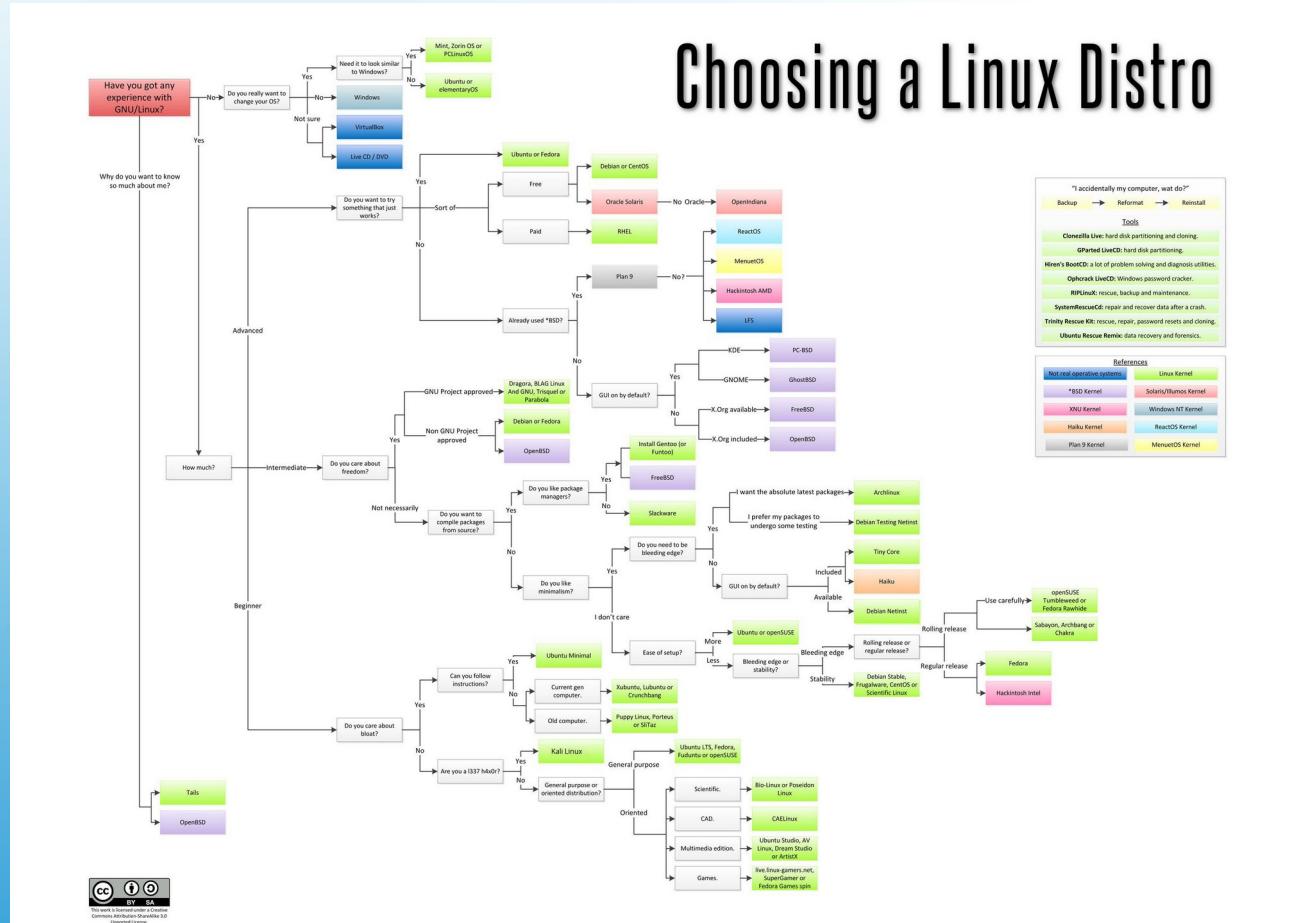
# Red Hat Family Tree



# Linux Popularity

# Linux Popularity Video

# Choosing a Linux Distro



# How To Choose A Distro

- Release Strategy
- Software Repository / Package Formats
- Graphics / Desktop Managers
- Hardware Inventory / Hardware Support

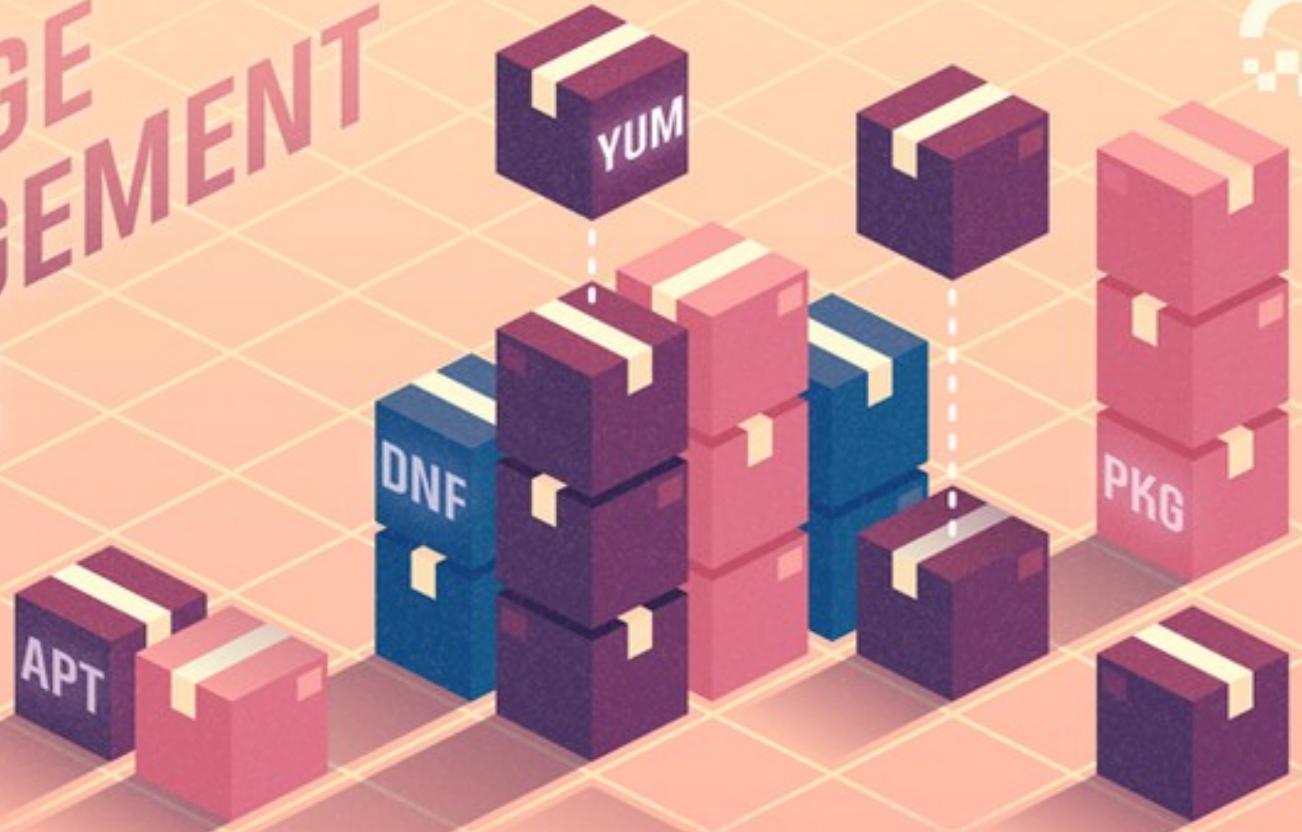
How I Chose???

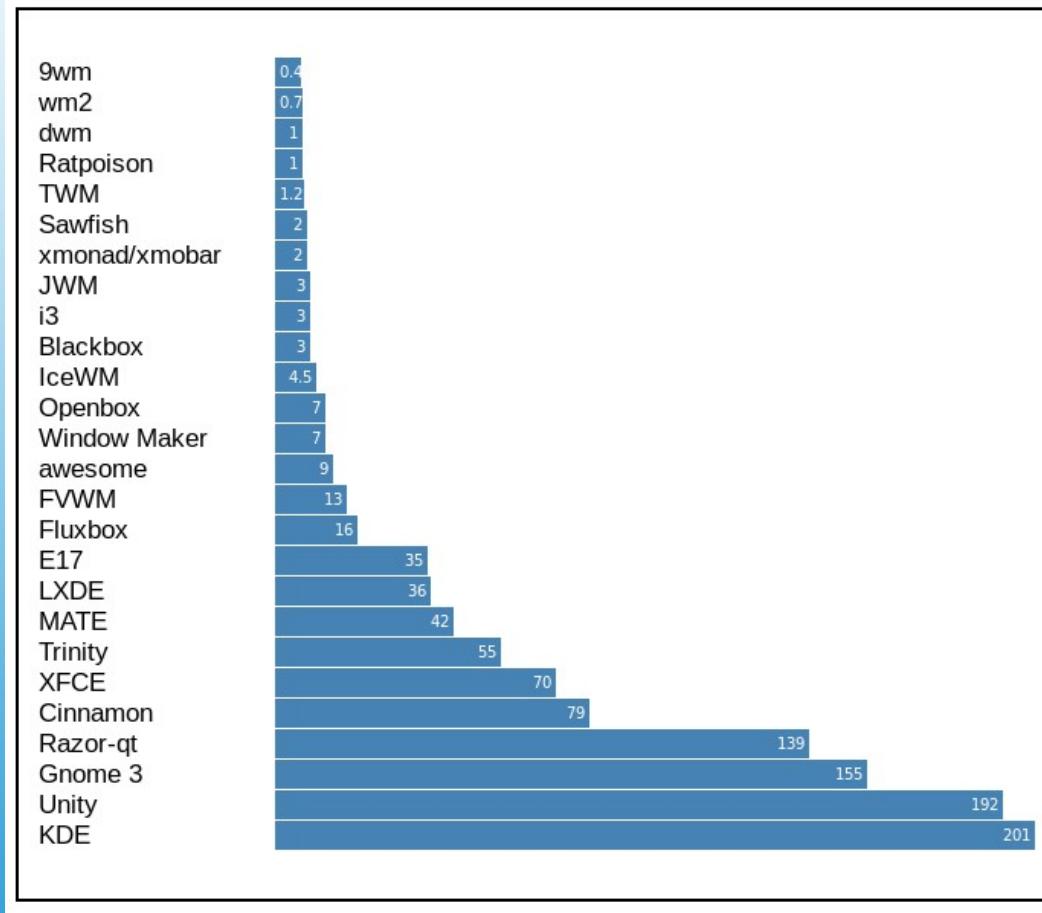


# ROLLING VS. FIXED

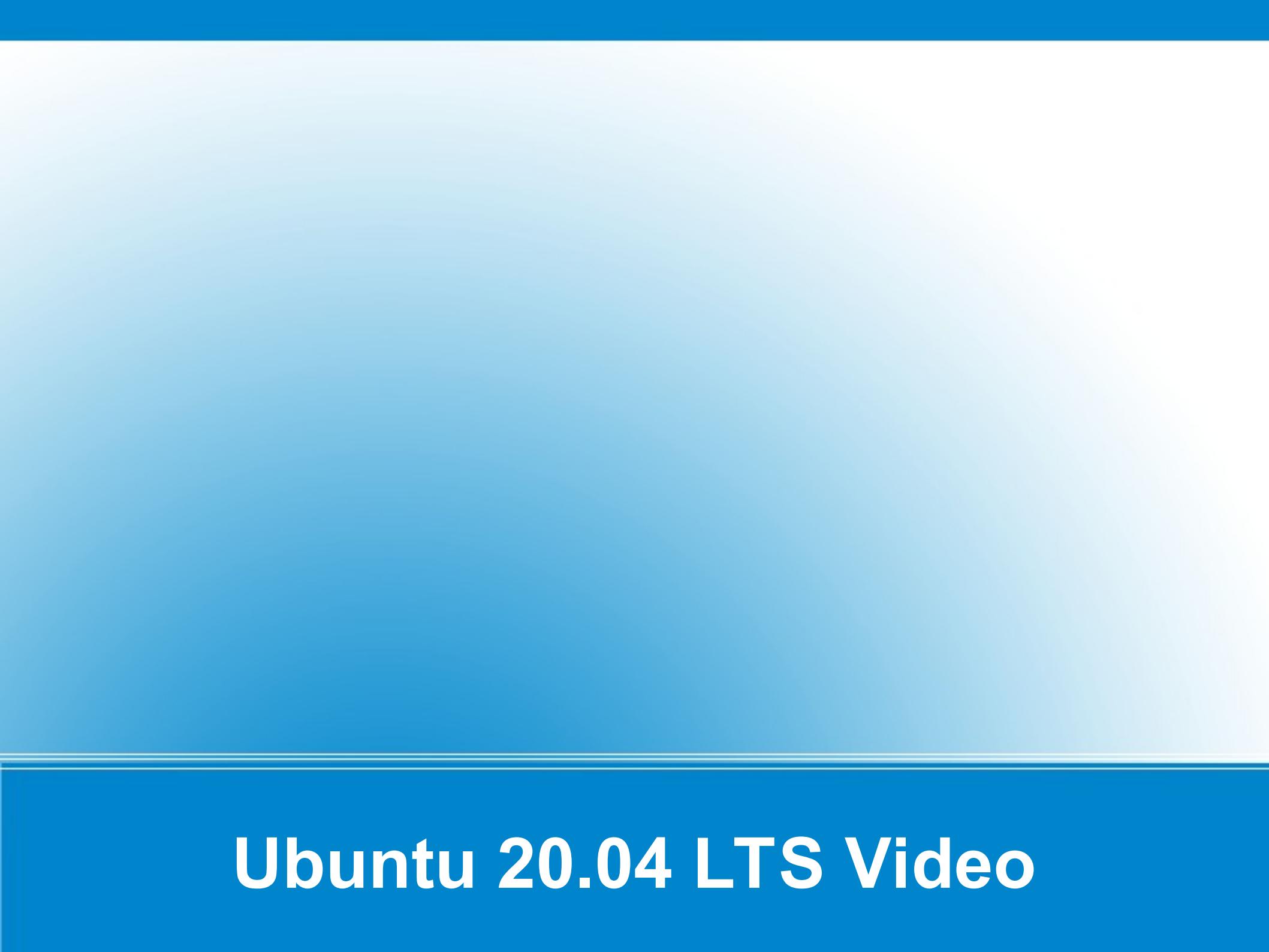
LINUX DISTROS

# PACKAGE MANAGEMENT BASICS





# Linux Desktop Environment

The background of the slide features a vertical gradient from light blue at the top to dark blue at the bottom. A thin white horizontal line is positioned near the bottom edge.

# Ubuntu 20.04 LTS Video

