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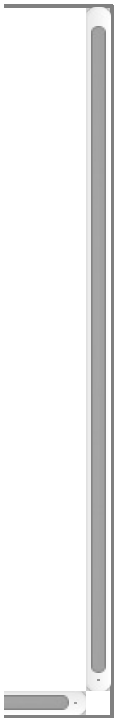
Install Script lf_kinstall.pl

Goal: Install and reconfigure your LANforge server with the lf_kinstall.pl script.

The `lf_kinstall.pl` script can configure a majority of Linux OS features that LANforge requires changes to. This includes:

- Disabling SELinux
- Disableing firewall
- Downloading dnf and LANforce updates
- Adding VNC and RDP access
- Adding firmware
- Disabling or reconfiguring NetworkManager
- Enabling serial console
- Modifying kernel options for iommu, pci-aer and kernel memory
- ...and more...



Usage

`lf_kinstall.pl --lfver {lanforge version} --kver {kernel version} {command}`
Note: the parameters `--do_kern` and `--do_grub` requires the `--kver` option to specify the kernel version. Candelatech Linux kernels end with "+" to denote extra patches. Use `--debug|--verbose|-d` to enable debugging.
Example: `./lf_kinstall.pl --kver 3.5.7+ --lfver 5.2.7 --do_lanforge`

Please refer to the Install Guide and the options reference:
• Install guide: `http://www.candelatech.com/lfserver_install.php#webauto`
• Reference: `http://www.candelatech.com/cookbook.php?vol=misc&book=lf_kinstall`

Common Options

--help
This message.

--lfver
Specify LANforge version (i.e., 5.2.6)

--kver
Specify kernel version, use a + at the end of kernel versions for Candelatech kernels

--proxy
Use a proxy for curl, e.g. `http://%user:%password@%proxy-ip:%port`

--do_all_ct
Enables all options except: `--xrandr, --runlevel`

--do_upgrade

Also `--do_update.` Upgrades LANforge software, kernel, firmware, packages and OS packages. No system settings altered. Skips cpu-burn.

--do_lanforge

Installs LANforge software ONLY, i.e. no kernel installed. No system settings altered.

--do_firmware

Download and install ath10k 802.11AC NIC firmware.

--do_kern

Install the kernel via download or `--source_dir.` Enables 'do_grub' option.

--help_all

Show advanced options

--skip_pip

Avoid doing pip upgrades; might be necessary if you have proxies

--skip_yum_all

Don't yum update packages, or install new ones.

--secureme

reconfigure system to bind to the management port and other security necessities * bind btserver to management port * bind_mgt enables listening on localhost/127.0.0.1 * indicate to GUI to bind ports to management address Also: `--do_secure --do_secureme --secure`

Please refer to the Install Guide and the options reference:
• Install guide: `http://www.candelatech.com/lfserver_install.php#webauto`
• Reference: `http://www.candelatech.com/cookbook.php?vol=misc&book=lf_kinstall`

Advanced Options

--acknowledge

Also -g. Acknowledge that your licenses are out of date to continue updates

--add_random_www_data

creates a series of files in `/var/www/html` accessable using the url `/slug_list.html`

--bind_apache_mgt_port

configures an `/etc/hosts` entry lanforge-srv that matches the ip address of the mgt_dev in `/home/lanforge/config.values.` Updates the `/etc/httpd` or `/etc/apache2` files to bind to that address. Use this option each time you change the mgt_dev.

--build_url

Also: `--build_path.` This path is appended directly after the `--download_from` hostname. The default download path will not be used. The string `$lfver` will not be inserted. Build paths will not adhere to a directory pattern, use the full path.

--bundle_dest

Also: `--bundle_dir.` Specify a directory that the bundle archive should be created in. Use this is to keep bundles from being written to the tmp_dir or src_dir

--clone_lvm

[source-drive,dest-drive], or [source-drive,file://file-name] or [source.img.xz,dest-drive] Clone the disk with the LVM partitions to the specified disk. == *Do not use on a running system, use this from a live boot disk.* ==
1: Boot from F39 Live Install CD and open a terminal and become root. Do not plug

in multiple USB drives at once when booting.
2: download ./lf_kinstall.pl: wget https://www.candelatech.com/./lf_kinstall.pl
3: chmod +x ./lf_kinstall.pl
4: use lsusb to check your target drives: lsusb -o name,model,label,partlabel,size
5: [optional] Plug another USB drive into the system if necessary
6: copy the disk image: To copy disk to disk: ./ ./lf_kinstall.pl --clone_lvm /dev/sda,/de/sdb To copy disk to file (for backing up a machine image): ./ ./lf_kinstall.pl --clone_lvm /dev/sda,file://run/media/liveuser/usb/lanforge-dev-sda.img To copy compressed disk image to installed drive: ./ ./lf_kinstall.pl --clone_lvm /run/media/liveuser/usb/lanforge-dev-sda.img.xz,/dev/sda This command will not compress a disk image; please do that on a workstation.
7: when installing a system, follow with: ./ ./lf_kinstall.pl --resize_lvm
8: when installing to a second drive to mirror the disks: ./ ./lf_kinstall.pl --promote_lvm_mirror /dev/sdb When applying a new image to a system, when you reboot with the system image and it complains about not successfully loading the system, refer to --regen_initrd.

--create_install_bundle

Also: --install_bundle, --create_bundle, --create_tarball Create a tarball in tmp_dir for copying to another LANforge system, will infer --osver, --osveri for current system unless you specify --force_osver, --force_osveri, --force_uname. A complicated example for building a bundle for Adtran: ./lf_kinstall.pl --create_bundle --lfver 5.4.8 --kver 6.10.3+ --force_osver "rpi5" \
--force_osveri 5 --force_uname adtran-aarch64 --tmp_dir `pwd` --source_dir `pwd` --bundle_dest ./bundles/

--create_lanforge_user

adds user lanforge and directory /home/lanforge create:pypirc: create pypirc file

--create_raid

Also --make_raid [drive1,drive2...] Turn two or more blank drives into a mirrored LVM filesystem If there have been filesystems installed on these drives before, use --wipe_raid to remove the filesystems.
Example: ./lf_kinstall.pl --make_raid nvme0n1p1,nvme1n1p1

--create_lvm

Also --make_lvm [drive] Turn one drive into an LVM filesystem image. Use this on a system before installing a LANforge system that you want to develop. This is not intended for image installation. If there have been filesystems on the drive before, please use --wipe_raid to remove the old filesystems. Example of developing a system from a blank SSD: 1. Boot from a Live Install CD image 2. Download ./lf_kinstall.pl: wget http://www.candelateh.com/./lf_kinstall.pl chmod +x ./lf_kinstall.pl 3. Double check the drives in the system: lsblk -o name,model,label,partlabel,size 4. ./lf_kinstall.pl --make_lvm /dev/sda This should leave the system ready to install Fedora or another OS onto. Depending on drive and kernel details, you might have to reboot back into the Live Install CD at this point (because of disk partition changes). 5. Install the OS onto the LVM partions. The partions are GPT and are intended for UEFI installation. /dev/sda1 BIOS Boot partition /dev/sda2 EFI data partition /dev/sda3 /boot partition /dev/sda4 LVM physical volume for Volume Group Your LVM Volume Group will be ctvg_1234 to keep it distinct from any other system volume groups. ctvg_1234-lv_root for / partition ctvg_1234-lv_home for /home partition ctvg_1234-lv_swap for swap space. 6. After OS installation, reboot back to OS DO NOT use --resize_lvm or --promote_lvm_mirror at this point. 7. touch /home/lanforge/did_cpuburn /home/lanforge/did_disktest You do not need to both testing the system, those flag files will be erased by --do_image_prep 8. Install LANforge, using /var/tmp as

`--tmp_dir: ././lf_kinstall.pl --lfver 5.4.9 --kver 6.11.11+ --do_all_ct --tmp_dir /var/tmp` 9. Make sure system reboots to lanforge. 10. If it does not, try rebooting to the Live Install CD and: wget www.candelatech.com/`./lf_kinstall.pl`; chmod +x `./lf_kinstall.pl` `./lf_kinstall.pl --regen_initrd ctvg-xxxx,/dev/sda,/dev/sdb` reboot to LANforge

11: With LANforge booted, log in as root and prepare the system for image capture: `./lf_kinstall.pl --do_image_prep`

12: reboot to live install CD

13: save disk image using steps listed in `--clone_lvm` feature.

--com-speed

Also `--com_speed.` Specify serial com speed (defaults to 115200)

--com_port

Specify the serial com port (defaults to ttyS0)

--create_webpage

turn this help into HTML text for publication

--debug

Also -d, `--verbose.` Enable extra output.

--disable_apache

when selected this will stop and disable Apache on the system.

-1: take no action

0: Enable apache systemctl unit and remove LF_NO_APACHE

1: Masks the apache systemctl unit and touches LF_NO_APACHE.

--disable_audit_logs

Affects kernel audit messages. Use with `--do_grub` and reboot to have this setting take effect.

0: enable kernel audit logs (auditd.service not enabled)

1: disable kernel audit logs

--disable_resolved

change NetworkManager dns=systemd-resolved to dns=default and disable systemd-resolved.service

--do_all

Enables all options except: `--xrandr, --biosdevname, --runlevel,` and `--serial` Skips the CPU burn-in test.

--do_abandoned_cleanup

create cronjob that erases systemd slices from logged out sessions every hour (might have occurred between F24-F27)

--do_biosdevname

Enable biosdevname for interface names (uses terms like enp0s1 instead of eth0). Only takes affect when `--do_grub` is enabled.

0: Disabled

1: Enabled

-1: Use current settings (default)

--do_cma

Configure cma buffer for extra VRF buffer space. Use with `--do_grub,` applies on reboot. Use these choices:

-1: do not change

0: disable

1: apply 64 megabyte value

>1: apply this value in megabytes

Example: `--do_grub --do_cma 256` This sets cma=256M in `/etc/default/grub`

From `https://www.kernel.org/doc/html/v4.14/admin-guide/kernel-parameters.html` : Sets the size of kernel global memory area for contiguous memory allocations and optionally the placement constraint by the physical address range of memory allocations. A value of 0 disables CMA altogether.

--do_cpu_burn

Attemps the CPU burn task. NOTE: The `--skip_cpu_burn` flag below has precedence.
0: Do not attempt it.
1: Do it if we have not already run it on this system previously.
2: Always run it.
>10: Run CPU burn test for specified seconds.

--do_ct_st

Download and install LANforge software and kernel only. Enables 'do_lanforge do_kern do_grub do_http do_selinux=0 do_iommu=0 do_firmware' No yum update. No system settings altered, except for selinux and iommu.

--do_ct_swak

Download and install LANforge software but only update grub to point to an already installed kernel. Enables 'do_lanforge do_grub do_http do_selinux=0 do_iommu=0 do_firmware' No system settings altered, except for selinux and iommu.

--do_cve

Apply mitigations to various CVE vulnerabilities.

--do_cups_pdf

install cups-pdf package

--do_disk_test

Also: `--disk_test.` Fill and re-read disk to prove read errors?
0: Do not attempt it
1: Do it if `/home/lanforge/did_disktest` not found unless `--skip_disk_test` specified
>1: Always run it, ignoring `--skip_disk_test`

--do_elevator

Add kernel option elevator=noop (i.e. not deadline) for single SSD CFQ optimisation.
0: Disabled
1: Enabled
-1: Use current settings (default) Only takes affect when do_grub is enabled.

--do_enable_archive_baseurl

Select this option if your mirrors.fedoraproject.org URLs are unable to provide your repository because the content has been moved to archives.fedoraproject.org This option is pretty much opposite of `--do_restore_metalinks.`

--do_enable_max_zram

write `/etc/sysctl.d/70-lanforge.conf` and apply agressive zram configuration (Fedora >= 30) To undo, remove file and reboot.

--do_fedrepos_default

Select this option to use the fedrepos default command if your yum.repos.d repository URLs have become misconfigured. If fedrepos is not available, consider `--do_restore_metalinks` option.

--do_ff_homepage

updates Firefox Homepage

--do_gnome

Tweak gnome settings (enble desktop icons, etc)

--do_grub

Modify the grub config files to boot the specified kernel.

--do_gui_autostart

Start GUI in VNC server session which starts on boot. Requires LANforgeGUI of specified version to already be installed.
0: disable GUI autostart
1: enable GUI autostart

--do_hs20

Build keys, configure apache ssl and other actions to enable this system to act as an HS20-R2 server. Requires specific LANforge configuration as well before this will actually work. This option must be explicitly enabled: It is not enable as part of any of the other option groupings.

--do_http

Serve LANforge related files at `http://localhost`

--do_https_cert

Generate https self signed certificate.

--do_image_prep

Erase the network settings and dnf cache in preparation for making a disk image for a clone. Expects `/root/resize-home.sh`

--do_interop

installs LANforge server, GUI, firmware and required packages on system to sufficient to allow it to be a resource in a LANforge cluster. Right now, this focuses on Ubuntu based systems. This also will configure Networkmanager to ignore ports except the management interface. We cannot necessarily disable NM on interop equipment.

--do_iommu

Configure system to enable/disable intel_iommu. This kernel feature decreases performance, so LANforge typically wants this disabled for optimal Ethernet performance. This can also be disabled in the BIOS by disabling the VT-d option and IOMMU options.
0: Disabled (default for do_all_ct, do_all, do_ct_swak, do_ct_st)
1: Enabled
-1: Use current settings (default) Only takes affect when do_grub is enabled. IOMMU is useful in these conditions: * virtual machine hosting * MediaTek radios (but not mtk7996 it seems) * Ath10k radios

--do_ios_tools

Installs iOS tools needed for querying iPhone device data.

--do_kmemleak

Configure kernel option for kmemleak. Requires kernel to be compiled with appropriate options to actually enable this.
0: Disabled
1: Enabled
-1: Use current settings (default) Only takes affect when do_grub is enabled.

--do_loadmon

Enable the `loadmon.pl` utility. This logs system load data to journalctl. You can read the output using journalctl `--since` "5 min ago" -t loadmon | `./scripts/parse_loadmon.pl`
0: Disable the service
1: Enable the service
-1: default behavior is to enable the service on 5.4.8, Fedora 30+

--do_loglevel

Configure kernel console logging level. Requires `--do_grub.`
0: Disabled (removes grub bootline parameter)

>0: Adds loglevel=[value] bootline parameter)
-1: Use current settings (DEFAULT) NOTE: This may be overriden by `/etc/sysrq.d/lanforge.conf` kernel.printk sysctl

--do_mgt_dev

Also `--md.` Specify the device to dedicate with management network. Use this with `--do_sys_reconfig.`

--do_noaer

Configure system to enable/disable pci error reporting. Requires `--do_grub.`
0: Disabled (removes grub bootline parameter)
1: Enabled (adds pci=noaer bootline parameter, DEFAULT)
-1: Use current settings

--do_nomitigations

Configure system to enable/disable spectre and related mitigations. We try to compile out most of these security features since LANforge is not designed to be secure and performance is more important to us. To help make sure all of these mitigations are disabled, we will also pass command-line args to the kernel on bootup to request disabling mitigations. Default is '1'.
0: Do not add the mitigations=off option
1: Do add the mitigations=off (default)
-1: Use current settings Only takes affect when do_grub is enabled.

--do_only_pkgs

Only install packages (and groups) and exit. Use when creating VMs or if you want to install all distro packages and reboot before proceeding. If you want to download everything needed, install yum packages for development imaging:
1) touch `/home/lanforge/did_cpuburn /home/lanforge/did_disktest` or touch `/root/did_cpuburn /root/did_disktest` (if `/home/lanforge` does not exist)
2) `./lf_kinstall.pl --lfver ___ --kver ___ --do_selinux=0 --skip_yum_all`
3) `./lf_kinstall.pl --lfver ___ --kver ___ --skip_yum_all --do_all_ct --force_web \`
`--tmp_dir` /home/lanforge/Downloads `--download_from http://ctdownloads/ --download_only`
4) reboot
5) `./lf_kinstall.pl --lfver ___ --kver ___ --do_only_pkgs`
6) poweroff and make your snapshot

--do_pkgs

Install packages from Internet needed by LANforge.

--do_print_label

Use the following two options to print a label with model and mac address information
1) print_host: hostname owning printer
2) print_queue: name of print queue, often 'QL-800' or 'LaserWriter-450'
3) serialno: provide the serial number for chassis, or use 'HOSTNAME'
Example: `--do_print_label --print_host 192.168.100.14:8082 --print_queue QL-800 --serialno HOSTNAME`

--do_radius

Install and configure radius server (with default values).

--do_release_mirror

for downloading install files necessary to host new releases on the system. These files are placed in `/var/www/html/downloads` and `/var/www/html/private/downloads.` In the GUI Release Mgr tab, Download From can list `http://192.168.1.101` or whatever the mananagement port IP is.

--do_restore_metalinks

Select this option if you see errors like below:
1) Repository updates-debuginfo has no mirror or baseurl set.
2) Repository updates-source has no mirror or baseurl set.
3) Repository fedora-debuginfo has no mirror or baseurl set.
4) Repository fedora-source has no mirror or baseurl set.
5) Error: Failed to synchronize cache for repo 'updates'
6) Your `/etc/yum.repos.d` repo files have had changes and are unable to reach mirrors.fedoraproject.org

--do_rfgen

removed in 5.4.8, udev rules are now created automatically

--do_runlevel

Configure system to run-level 3 or 5
0: Use current settings (do nothing)
3: Set to use runlevel 3 (non graphical login)
5: Set to use runlevel 5 (graphical login, needed for cinnamon)

--do_save_yumc

Specify:
1: Yum update then save cache.
20: Delete local cache first then update and save.

--do_selinux

Configure selinux (it conflicts with LANforge.) do_grub should also be enabled to modify the kernel boot commands.
0: Disabled (default, if do_all and related options are selected)
1: Enabled
-1: Use current settings

--do_serial

Enable serial console configuration in grub.
0: Disabled
1: Enabled
-1: Use current settings (default) Only takes affect when do_grub is enabled.

--do_services

Enable/Disable services to work well with LANforge.

--do_slub_debug

Enable/Disable SLUB memory debugging (at least on debugging kernels) Use with `--do_grub`, applies on reboot. Use these choices:
-1: do not change
0: disable
1: enable slub debugging
Example: `--do_grub --do_slub_debug 1`

--do_ssd_fstab

Modify rw behaviour for SSDs in `/etc/fstab.`

--do_sys_reconfig

Attempt to re-configure system config files. Only works on certain platforms (APU2, Jetway, Noah2, Axiomtek)

--do_udev

Create `/etc/udev/rules.d/70-persistent-net.rules` file if it does not already exist. It may still need hand-editing.

--do_vm_prep

Erase the network settings and dnf cache in preparation for making a OVA image. Expects `/root/resize-home.sh`

--do_vm_reconfig

forces `--do_sys_reconfig` to run, looking for enpX interfaces and no radios

--do_vnc

Configure VNC for user lanforge. See `--do_secureme`

--do_webui

installs and configures LANforge WebUI components. Fedora-34 and higher. Requires online access.

--do_xrandr

Add work-around to disable LVDS1 using xrandr. This works around Gnome issues on the Lanner WiFi appliances, and perhaps other systems.

--do_xrdp

should we adjust the xrdp.ini and sesman.ini files:
0: ignore files
1: adjust files

--do_yum_update

Update OS packages from Internet. Does yum `--upgrade` or dnf `--upgrade` or apt-get upgrade.

--download_from

Also: `--from, --download_host.` Specify web url to download LANforge packages from. Implies `--force_web.`

--download_only

Download files to tmp-dir, but do not install them or make other changes.

--download_videos

shortcut for downloading Candelatech videos into `/var/www/html/videos` so that they might be served for video testing. See `/usr/local/lanforge/nginx/video.inc` for stanza when enabling directory listings when using nginx.

--fix_web_root

Enable do_http and reset the `/etc/httpd/httpd.conf` DocumentRoot and Directory from `/home/lanforge/candela_cdrom` to `/var/www/html`

--force_new_certs

Re-generate the HotSpot 2.0 R2 (HS20-R2) and/or RADIUS certs, even if we have previously created them.

--force_notes

Force creating lfnotes.html

--force_osver

Override the detected OS version string with this value. EG: F36

--force_osveri

Override the detected OS version number (integer) with this value. EG: 36

--force_uname

Override the detected value of uname -a. Useful for building bundles on non-matching hardware. EG: adtran-aarch64

--force_web

Force script to use webserver. Do not use with `--source_dir.`

--hs20_server_ip

IP Address to advertise as HS20 servers. This could be IP address of management port in simple configurations, and for more realistic configurations, perhaps the IP address

of something in same network as the HS20 OSEN and .1x APs.

--hwver

Specify the hardware string: CT521, CT52x-PR, CT521, CT520, LF0202, CT523, CT523c, CT314, LF0312, LF0313, CT522 Can help with html info page configuration. Leave blank if unsure.

--ignore_err

Ignore any (otherwise fatal) errors. May be useful for offline installs where some functionality is better than none.

--install_large_file_cron

Creates a crontab entry that runs `/home/lanforge/scripts/check_large_files.bash` on a daily basis. If you want to run that check more frequently, you will have to modify the crontab rules yourself.

--install_pip_lanforge_scripts

removed in 5.4.8, 'lanforge-scripts' package is no longer maintained

--install_selenium

install the selenium package using pip3 (implemented in 5.4.8)

--install_vlc

VLC video player requires RPMFusion repository. This adds the repository and then installs VLC.

--lf2100_8x

Specify adapter board used is the 8x internal splitter/combiner board, for do_sys_reconfig

--lf2103_8x

Specify adapter board used is the 8x gen-3 internal splitter/combiner board, for do_sys_reconfig

--make_ifcfg_eth0

Creates `/etc/sysconfig/network-scripts/ifcfg-eth0` from the eth0 entry found in `/etc/udev/rules.d/70-persistent-net.rules.` Fedora only. Edit 70-persistent first.

--mgt_dev

indicate what interface should be configured as the management interface. LANforge works best in cases where there is a dedicated management interface and management network (out of band management). In the case there is only one interface and it has to serve as a traffic port and a management port, that is possible (in band management). Currently this option is only used by the `--regen_nm_conf` option. If this option is not specified Specify one of these options:

1) {interface_name}: name of the interface to set
2) "existing": force the use of the mgt_dev in `/home/lanforge/config.values`

--mgt_dns

specify IP address to add to [ipv4]mgt_dev.dns value in mgt_dev.nmconnection

--mgt_ip

specify either "dhcp" or a "ip/cird/gateway" combination for mgt_dev.nmconnection:

1) mgt_ip=dhcp
2) mgt_ip=192.168.208.24/20/192.168.208.1

--no_candela_wireshark

Instruct kinstall to not install the Candelatech version of wireshark. It will uninstall wireshark if `/usr/local/bin/wireshark` is discovered. This creates `/home/lanforge/LF_NO_CTWIRESHARK.` To install the Candelatech version of wireshark later, remove the file LF_NO_CTWIRESHARK.

--no_fmirror

Uninstall yum-fastest mirror.

--nocache

Add fake URL argument to disable any HTTP caching.

--ntwk_mgr_ok

Enable NetworkManager. Enabled on Fedora 41+, otherwise disabled. Interop on Debian/Ubuntu will leave NetworkManager enabled.

--offline

Specify that the system is on an isolated network. Turns off `--do_only_pkgs --do_pkgs` Enables `--skip_fmirror --skip_installer_check --skip_pip --skip_yum_all --skip_yum_update`

--print_host

Use with `--print_label`

--print_only

Implies `--show_urls` without website check Turns off `--do_only_pkgs --do_pkgs` Enables `--skip_fmirror --skip_installer_check --skip_pip --skip_yum_all --skip_yum_update`

--print_windows

print out .bat file contents to help with downloading LANforge updates promote_lvm_mirror [drive]: Also: `--lvm_mirror.` Reformat named drive and attach partitions to the existing LVM as mirror devices. This feature is intended to be used during installation: 1. Boot the system with a live CD distro 2. Download `kinstall.pl` 3. Use `lf_kinstall.pl --resize_lvm` 4. Use `lf_kinstall.pl --lvm_mirror [blank drive]`

--rebuild_pip

this will uninstall the python pip user environments and build a new one from `scripts/requirements.txt`; if you see errors, you probably are missing newly required library packages provided by the distro. To make sure your packages are up to date, use:
Example: `./lf_kinstall.pl --do_pkgs`

--regen_https_key

regenerate the `/etc/pki/tls/$hostname.crt` and .key files so that they have F33+ 4096 bit keys, not smaller keys.

--regen_initrd

[volume-group],[first-drive]{,second_drive} This process will mount the LVM root volume and chroot into it, regenerating the Candelatech initrd file so that newly images systems can correctly reboot. *Use from a Live CD!* This step is called by `--promote_lvm_mirror` and `--resize_lvm.` You might have to recover a system image by running this command from a live USB if the newly applied image has trouble booting. Example: # vgs VG #PV #LV #SN Attr VSize VFree ctvg_3ba7 1 3 0 wz`--n-` 117.49g 2.00g `./lf_kinstall.pl --regen_initrd ctvg_3ba7,/dev/sda,/dev/sdb`

--regen_nm_conf

Also `--regen_nm_config.` Backs up `/etc/NetworkManager/NetworkManager.conf` and recreates one that specifies that no interfaces except the one with the default route be managed. Enabled by default during do_interop. NM settings you do not want modified should live in separate conf files in `/etc/NetworkManager/conf.d.` When this option is used without the `--mgt_dev` option, a new management device will be determined. Default value is 1.
0: do not modify NetworkManager.conf

1: update NetworkManager.conf and mgt_dev.nmconnection
2: update NetworkManager.conf, mgt_dev.nmconnection, but do not restart NetworkManager

--remove_certain_pkgs

Uninstall packages that are typically noisy, problematic, or pointless for a LANforge system sold by Candelatech. This is implied by `--do_all_ct.` This is overridden by `--skip_yum_all, --download_only, --create_install_bundle.` Packages presently include: dnfdragora-updater, dnfdragora, openvswitch, spice-vdagent, open-vm-ools, setroubleshoot, virtualbox-guest-additions, thunderbird.

--remove_kern

Uninstall a LANforge kernel from `/boot` and `/etc/grub.d.` It will update the `/boot/grub2/grub.cfg.`

--remove_large_file_cron

removes the cronjob created by `--install_large_file_cron`

--remove_passwords

removes the passwords from accounts root and lanforge and reconfigures sshd to accept empty passwords. Yes...really, it IS crazy, right?

--remove_pipewire

Removes pulseaudio-pipewire packages.
0: do not remove pipewire (default)
1: remove pipewire

--reset_pip

Use when pip3 updates were installed as root and you have system pip3 package conflicts. This will reinstall the python-pip3 package and 'pip3 remove -r `requirements.txt`' to remove pip3 libraries from system folder. Follow this with `--update_pip` to get pip3 libraries into user lanforge folder.

--resize_root

resize the root (/) partition to the extent of the storage device. This is intended for Adtran LF0355_AT7 and similar AP chassis when booting from USB storage.

--save_gui_cfg

Use this to restore GUI settings on reboot. Running this a second time copies a changed `LANforgeGUI/lfcfg.txt` file to `$home` to save new changes.
1) backup: copies the `LANforgeGUI/lfcfg.txt` file to `$home.` Disables `lfcustom_gui.bash` if it exists.
2) static: implies backup, creates `lfcustom_gui.bash` that replaces `lfcfg.txt` into LANforgeGUI directory every time LANforgeServer is started.

--serialno

use with `--do_print_label,` specifies serial number on label

--set_swiotlb

Also: `--swiotlb, --do_swiotlb.` Configure IOMMU buffer size. Requires you use IOMMU setting, so use with `--do_grub --do_iommu=1`
Example: `--do_grub --do_iommu=1 --set_swiotlb=65536`

--setup_flatpak

[flatpak URL] Install and create a flatpak 1.6 runtime. Specify the URL of the flatpak to install. Flatpak requires a kernel with SECCOMP enabled to run.

--setup_snapd

[snapd URL] Also `--setup_snap.` Install snapd and the Candelatech python virtual environment. Requires F24 or Ubuntu 20.04.

--show_large_pkgs

Also: `--show_larges_pkgs, --largest_pkgs, --large_pkgs.` Show top 20 largest packages. Useful during do_image_prep if you want to reduce install footprint.

--show_urls
Show URLS for all files that should be downloaded, and exit.

--skip_certs
Shortcut for `--skip_https_cert --skip_radius.` This speeds up do_sys_reconfig (when testing).

--skip_cpu_burn
Don't burn-in CPU.

--skip_disk_test
avoid do_disk_test if `/home/lanforge/did_disktest` is missing

--skip_fmirror
Don't alter systems existing use of yum-plugin-fastestmirror.

--skip_grub
Don't do kernel install, even if other options would have selected it.

--skip_gui
Don't install LANforge-GUI, even if other options would have selected it.

--skip_https_cert
Don't generate https certificate.

--skip_instller_check
avoids checking MD5 sum of `lf_kinstall.pl`

--skip_ifrename
avoids renaming interfaces and rewriting 70-persistent-net. If OUIs of VMs are detected, the file `/home/lanforge/LF_NO_IFRENAME` is created. If `/home/lanforge/LF_NO_IFRENAME` is found, this option is automatically enabled.

--skip_installer_check
turn off checking md5sum of `./lf_kinstall.pl`

--skip_kern
Do not install a kernel package, suppresses do_grub, do_kern

--skip_radius
Do not attempt to reconfigure radius. Useful when attempting to speed up do_sys_reconfig on slow systems.

--skip_resume
Don't try to use HTTP resume when downloading packages.

--skip_xorp
Don't install Xorp virtual-router package, even if other options would have selected it.

--skip_yum_update
Don't execute dnf/yum `--update`

--source_dir
Specify location of installation files (must be absolute path). Implied by `--use_bundle.` Useful when downloading install packages on an isolated system (typically to `/home/lanforge/Downloads).` Example: `./lf_kinstall.pl --lfver 5.4.7 --kver 6.7.5+ --do_upgrade --source_dir /home/lanforge/Downloads --offline`

--tmp_dir

Specify the script temporary working directory and backups of system files. Typically defaults to `/var/tmp`.

--update_pip

Also `--upgrade_pip`. Upgrades pip3 userland. This calls `scripts/py-scripts/update_dependencies.py`. If there are errors from that process, please run that script as user lanforge (not root). If there is a web proxy in your environment, this might be skipped. Some Debian based environments will attempt to create a virtual environment (/home/lanforge/scripts/venv).

--use_install_bundle

Also `--use_bundle, --bundle` [bundle file] Upgrade LANforge using an install bundle file. Bundle files Sets `$source_dir, $tmp_dir` to directory containing `bundle.tar` file. See `http://www.candelatech.com/lfserver_install.php#offline_bundle` Bundle installations require the system OS matches compiled OS version in the bundle. Confirm your OS version using: "grep Y `/etc/os-release`". Not intended for `--do_interop`. This sets flags: disable_audit_logs = 1 do_cma = cma_recommendation() if (do_cma == 1) do_firmware = 1 do_grub = 1 do_http = 1 do_kern = 1 do_lanforge = 1 do_pkgs = 0 do_upgrade = 1 do_xrandr = 0 do_yum_update = 0 is_offline = 1 skip_cpu_burn = 1 skip_fmirror = 1 skip_pip = 1 skip_xorp = 0 skip_yum_all = 1 skip_yum_update = 1 source_dir = tmp_dir You can specify `--force_osver` and `--force_osveri` to install a bundle onto a non-matching OS. For example: `--bundle` Bundle_lfver-5.4.7_kern-6.7.9+_osver-F36 `--force_osver` 36 `--force_osveri` 36 will install the F36 bundle correctly on F37, F38

--use_yum_cache

do not erase and rebuild yum cache

--wipe_raid

Also `--remove_raid --remove_lvm` [drive1,drive2...] Remove LVM volumes and signatures from specified disks. Use this before doing `--create_raid` the first time on any disk that already has a filesystem.
Example: `./lf_kinstall.pl --wipe_raid nvme0n1p1,nvme1n1p1`

Note:

If you use commands "yum update" or "dnf update", and you need to use a kernel provided by the repository, use grub2-mkconfig to create the boot entry, or consider using `--do_interop`
Example: `grub2-mkconfig -o /boot/grub2/grub.cfg`
