

## Upgrading Offline LANforge Systems

Goal: upgrade a LANforge system that does not have access to the Internet.

LANforge systems are often in off-line or isolated test environments where the only updates they get can be brought to them on a laptop that can taken to the isolated network manually. Candelatech provides Bundle upgrades that contain all the files necessary for performing the equivalent of a `lf_install.pl --do_lanforge` upgrade action. It is also possible to create a mirror of the software that LANforge systems can query. Offline bundle files were introduced in 5.4.1. Offline upgrade by listing files from `lf_install.pl` was introduced in 5.3.3.

### Proxy from Controller Method

Given a network gateway that allows one-way access to LANforge systems, an outside management laptop can be used to upgrade the offline LANforge systems. There is no need to mirror everything, because your LF systems do not span all combinations. **You don't want to mirror everything.** It's over 13GB. Also, If you do not have ssh-keys installed between bizproxy and the LF systems, this technique will prompt you for passwords!

#### Mirror Packages Proxy option

If the proxy has a web server URL on the management LAN where LF files can be cached, follow these steps to update the bundles on the proxy and upgrade the LF systems. This option mirrors the LANforge tar archives and not the bundles. For this example the proxy system will have these properties:

- hostname: bizproxy, 192.168.10.1
- management LAN: 192.168.10.0/24
- required disk space: **10GB**
- file system web folder: `/var/www/html/lanforge/r5.4.6`
- LAN URL: `http://192.168.10.1/lanforge/r5.4.6/`
- Apache Directory config example:

```
Alias /private/downloads /var/www/html/lanforge
Alias /private/downloads/ /var/www/html/lanforge/
Alias /lanforge /var/www/html/lanforge
Alias /lanforge/ /var/www/html/lanforge/
<Directory /var/www/html/lanforge>
  Require ip 192.168.10.0/24
  Options +Indexes +FollowSymLinks
  IndexOptions FancyIndexing FoldersFirst NameWidth=*
  AllowOverride all
</Directory>
```

- Nginx example:

```
location /lanforge/ {
    root /var/www/html/lanforge;
    autoindex on;
    allow 192.168.10.0/24;
    deny all;
}
```

1. On bizproxy, mirror files from [www.candelatech.com](http://www.candelatech.com) to bizproxy. Below something close to the commands you would need to put into a shell script.
2. Size of the files files you would expect to mirror is about **8GB**
3. **mirror.bash:**

```
#!/bin/bash
```

```

VER="5.4.6"
OSV=F36
CT="https://www.candelatech.com/private/downloads/r${VER}"
cd /var/www/html/lanforge/r$VER
curl -s -o lf_kinstall.pl ${CT}/lf_kinstall.pl
curl -s -o list.html ${CT}/
perl -ne '/a href="(^[^"]+)"/ && print "$1\n";' list.html > list.txt
rm -f list2.txt
perl -ne '/^(ath|board|ct[56]|firmware|interop-|LANforge-Server-).*/ && print "$1\n"' list.txt > list2.txt
perl -ne '/(LANforge-?GUI[- ]5.*/ && print "$1\n"' list.txt >> list2.txt
grep "[Lx].*[-]${OSV}" list.txt >> list2.txt
mapfile -t URLS < list2.txt
for file in "${URLS[@]}"; do echo "${CT}/${file}" ; done > urls.txt
wget -i urls.txt

```

4. After running `mirror.bash`, you now have a copy of the LANforge packages you want on `bizproxy`.
5. From `bizproxy`, the below script can use the first argument as the IP of the system to upgrade.

**web\_upgrade.bash:**

```

#!/bin/bash
LFHOST=${1:-}
if [ -z $LFHOST ]; then echo "Please specify hostname or ip"; exit 1; fi
VER=5.4.6
# specify a kernel version in parameter 2:
KV=${2:=5.19.17+}
BIZ="http://192.168.10.1/"
scp lf_kinstall.pl root@${LFHOST}:/root/lf_kinstall.pl
ssh root@${LFHOST} "chmod +x /root/lf_kinstall.pl"
ssh root@${LFHOST} "/root/lf_kinstall.pl \
--lfver $VER --kver $KV \
--do lanforge --skip yum_all --skip pip --skip_installer_check \
--download from $BIZ \
--tmp_dir /home/lanforge/Downloads"

```

Example: `./web_upgrade.bash 192.168.10.2 6.2.4+`

## SSH Copy Packages Option

If the LANforge cannot reach the proxy controller because of firewall or routing reasons, the proxy controller can copy the files to the LF system and use a local-only install with the `lf_kinstall.pl --source_dir` option.

1. Use the above mirror script for mirroring the LANforge packages.
2. Use a script like the one below to query and copy the correct files to the LF system:

```

#!/bin/bash
cd /var/www/html/lanforge/r5.4.6
LFHOST=${1:-}
if [ -z $LFHOST ]; then echo "Please specify hostname or ip"; exit 1; fi
# specify a kernel version in parameter 2:
KV=${2:=5.19.17+}
OSV=$(ssh lanforge@${LFHOST} "awk -F= ' /VERSION ID/{print \$2}' /etc/os-release")
scp lf_kinstall.pl root@${LFHOST}:/root/lf_kinstall.pl
ssh root@${LFHOST} "chmod +x /root/lf_kinstall.pl"
ssh root@${LFHOST} "/root/lf_kinstall.pl --print_only --show_urls \
--skip pip --skip yum all --do upgrade \
--lfver $VER --kver $KV | grep '# http' > /tmp/lf_list.txt"
scp root@${LFHOST}:/tmp/lf_list.txt /tmp
mapfile -t urlz < /tmp/lf_list.txt
for url in "${urlz[@]}"; do
file="${url##*/}"
scp $file root@${LFHOST}:/home/lanforge/Downloads/
done
scp md5.txt root@${LFHOST}:/home/lanforge/Downloads/
ssh root@${LFHOST} "/root/lf_kinstall.pl --offline \
--lfver $VER --kver $KV --do lanforge \
--source_dir /home/lanforge/Downloads \
--tmp_dir /var/tmp --skip yum_all --skip pip"

```

## SSH Copy Bundles Option

This option is for mirroring the Bundle files only. This is useful if the default kernel version is acceptable.

1. On bizproxy, mirror files from <http://www.candelatech.com> to bizproxy. Below something close to the commands you would need to put into a shell script. Sizes of the bundle files you would expect to mirror:

```
$ ls Bundle*F{27,30,34,36}* | xargs du -shc
1.7G  Bundle lfver-5.4.6 kern-5.19.17+ osver-F27-i-27 x64.tar.xz
1.7G  Bundle lfver-5.4.6 kern-5.19.17+ osver-F30-i-30 x64.tar.xz
1.7G  Bundle lfver-5.4.6 kern-5.19.17+ osver-F34-i-34 x64.tar.xz
1.7G  Bundle lfver-5.4.6 kern-5.19.17+ osver-F36-i-36 x64.tar.xz
6.7G  total
```

2. We'll call this "bundle\_mirror.bash":

```
#!/bin/bash
VER="5.4.6"
CT="https://www.candelatech.com/private/downloads/r${VER}/"
cd /var/www/html/lanforge/r$VER
curl -s -o lf_kinstall.pl ${CT}/lf_kinstall.pl
curl -s -o list.html ${CT}/
perl -ne '/a href="(^[^"]+)"/ && print "$1\n";' list.html > list.txt
perl -ne '/^(Bundle.*?(F(27|3[046]))).*/&& print "/$1\n"' list.txt > urls.txt
wget -i urls.txt
```

3. From bizproxy, the below script can use the first argument as the IP of the system to upgrade.

**scp\_bundle\_upgrade.bash:**

```
#!/bin/bash
cd /var/www/html/lanforge/r5.4.6
LFHOST=${1:-}
if [ -z $LFHOST ]; then echo "Please specify hostname or ip"; exit 1; fi
OSV=$(ssh lanforge@$LFHOST "awk -F\= '/VERSION ID/{print \$2}' /etc/os-release")
BNAME="Bundle lfver 5.4.6 kern-5.19.17+ osver-F${OSV}-i-${OSV}_x64.tar.xz"
scp $BNAME lanforge@$LFHOST:/home/lanforge/Downloads/
scp lf_kinstall.pl root@$LFHOST:/root/lf_kinstall.pl
ssh root@$LF_HOST "chmod +x /root/lf_kinstall.pl"
ssh root@$LF_HOST ". /lf_kinstall.pl --use_bundle /home/lanforge/Downloads/$BNAME"
```

Example: `./scp_bundle_upgrade.bash 192.168.10.2`

## Bundle method

The bundle upgrade is a standard manner of doing an offline upgrade.

## Interop

### Windows

Offline Windows IIS upgrades will require a place to download the windows lanforge update zip from. The existing offline Bundle\_lfver\_X tar file does not include these files. Rather this requires the LANforge-Server-5.4.6-upgrade.zip file.

1. on the Fedora lanforge, configure a test-network port to serve HTTP.
2. edit the resulting `vr_conf/nginx_eth3.conf` to add the Downloads directory:

3. **# Remove the first line '# Autogenerated by ...' and edit the file as # desired for a custom config file.**

```
worker processes      1;
error_log logs/br1000 error.log;
pid                  /home/lanforge/vr_conf/nginx_br1000.pid;
events {
    worker_connections 1024;
}

http {
    include          /usr/local/lanforge/nginx/conf/mime.types;
    default type     application/octet-stream;
    access_log       logs/br1000_access.log;
    sendfile         on;
    keepalive_timeout 65;
```

```

server {
    listen      10.40.0.1:80 bind_dev=br1000;
    server name localhost;
    access_log  logs/br1000_host.access.log;

    location / {
        root    html;
        index   index.html index.htm;
    }
    error_page 500 502 503 504 /50x.html;
    location = /50x.html {
        root    html;
    }
    location /Downloads {
        root    /home/lanforge/;
        autoindex on;
    }
}

```

Notice the:

```

1. location /Downloads {
    root    /home/lanforge;
    autoindex on;
}

```

2. and of course: remove the top line of the file

4. reset the port to make the changes take effect

1. first, tail the logfile:

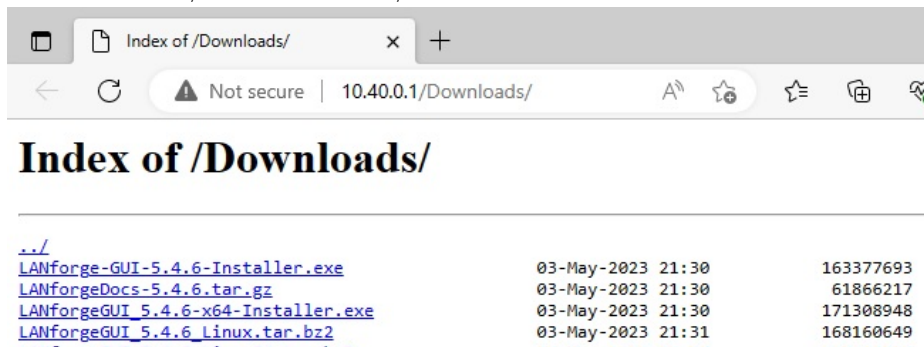
```

[lanforge@ct523-jedway1 logs]$ pwd
/usr/local/lanforge/nginx/logs
[lanforge@ct523-jedway1 logs]$ tail -F br1000_error.log

```

2. next **down and up the port**. A simple port reset does not restart nginx

5. check on the Windows system to make sure you can browse the url:



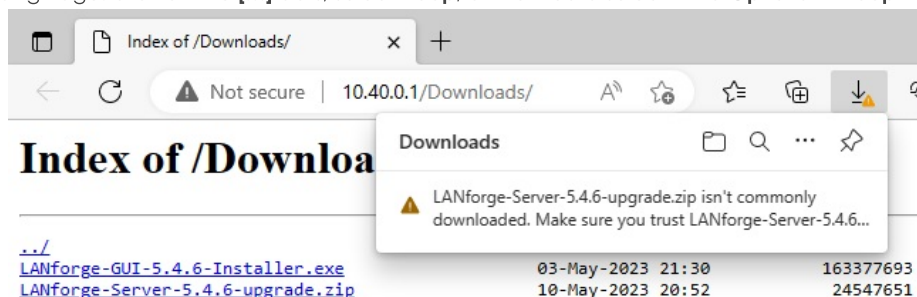
6. Get the correct files into Fedora /home/lanforge/Downloads:

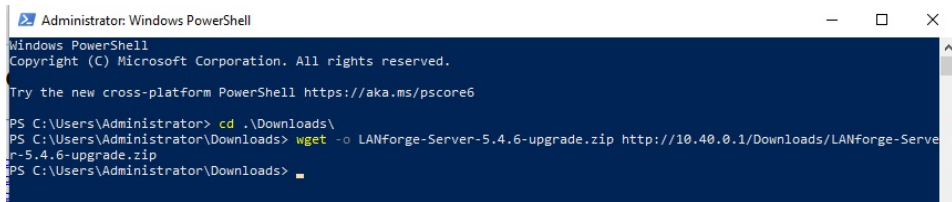
1. `wget https://www.candelatech.com/private/downloads/r5.4.6/LANforge-Server-5.4.6-upgrade.zip`

2. check that you did not create LANforge-Server-5.4.6-upgrade.zip.1

7. Download on windows, or use posh wget:

1. Using Edge: click on the [...] dots, select **Keep**, on next card select **Extra Options** → **Keep**





```
Administrator: Windows PowerShell
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\Administrator> cd .\Downloads\
PS C:\Users\Administrator\Downloads> wget -o LANforge-Server-5.4.6-upgrade.zip http://10.40.0.1/Downloads/LANforge-Server-5.4.6-upgrade.zip
PS C:\Users\Administrator\Downloads>
```

2. `wget -o LANforge-Server-5.4.6-upgrade.zip http://10.40.0.1/Downloads/LANforge-Server-5.4.6-upgrade.zip`
8. Stop LANforge on the windows system
9. Extract the zip file:
  1. `cd %env:PROGRAM<TAB><TAB>` tab complete to get to `cd 'C:\Program Files (x86)\LANforge-Server\'`
  2. `Expand-Archive -Path $HOME\Downloads\LANforge*upgrade.zip -Dest .`
10. run the `upgrade_lfconfig` script:
  1. `.\upgrade_lfconfig.ps1`
  2. click OK
  3. The server will have started
11. Check the LANforge manager system to check it has re-registered
  1. In the Resources tab, you should see the host-name has returned
  2. check the Build Date column to check the version is recent.