Documentation

How do I do things?

- Software & Applications
  - Scanning with the DS-640 and NAPS2
- Infrastructure Systems
  - How To: Change the IP Address of a Proxmox Clustered Node
  - How To: Mount SMB Shares on a Pi

Software & Applications

Software & Applications

Scanning with the DS-640 and NAPS2

Installing the Necessary Software

The latest version of Not Another PDF Scanner 2 can be downloaded from the NAPS 2 website:

https://www.naps2.com/

The scanner driver for the DS-640 scanner can be downloaded from Brother's website:

https://support.brother.com/g/b/downloadtop.aspx?c=us&lang=en&prod=ds640_us_eu_as

Ensure your device is connected to the internet and plug in the DS-640 scanner. Windows will fetch basic drivers to allow the operating system to detect the scanner. The scanner will not function yet. Leave the scanner plugged in and run the NAPS 2 installer. THis should be pretty straight forward and simple, no additional configurations are required yet. When installing the driver from Brother you can uncheck everything except the primary driver software. The extra iPrint and scan is not required to use NAPS 2 (which is far superior to Brother's own software). This may take a few minutes to complete.

Configuring Not Another PDF Scanner 2

Once you have the software and drivers installed you need to configure NAPS 2 to use the scanner. Open NAPS 2 and click on the scan button. If this is the first time you have set up the scanner, you will be prompted to configure a new profile. Below is a quick run through of the basic settings needed to scan.

1. Click on the 'Choose device' button to choose the scanner you are going to use.
2. Click on your scanner and click OK. This will populate the 'Display name' field too.
3. Change the display name if you would like but unless you want multiple profiles for different paper sizes, qualities, or scanners, this isn't really necessary. If you are setting up a profile for photos or index cards, you could throw the size or type of the paper in the name to tell it apart from the default letter size.
4. If you will be scanning in a size other than the default US letter, change the size in the drop down under 'Page size'.
5. Select the resolution you would like to scan at. DPI stands for Dots Per Inch. The higher the DPI, the better the scanned document will look, but the file will also be larger and the scan will take

longer. 600 or 800 DPI seems to be a good spot for this scanner.
6. If you would like to poke around any of the other settings, you can do so now. If you make a change you don't want you can either change it back or create a new profile and delete the old one.
7. Click on OK. If you haven't loaded the scanner you will get an error that 'No pages are in the feeder.' This is okay and you can simply close it. We will start scanning in the next section.

After you have configured the profile, click on the OCR button in the main window. OCR stands for Optical Character Recognition and is used to take pictures and scanned documents and turn the words within into searchable and copyable text. Select the language you would like to use and click on Download. This may take a few moments.

Once the OCR files download another window will pop up. Check the box to 'Make PDFs searchable using OCR' and then change the OCR mode to 'Best'. If you have a slower machine you may want to use 'Fast' but most modern machines should be able to handle best reasonably well. Leave the 'Automatically run OCR after scanning' box checked if you would like all the documents you scan to be analyzed (this is recommended, your data doesn't go anywhere, that's why it's slow-ish). Click OK.

Scanning with Not Another PDF Scanner 2

Once everything is set up you can feed the first page you would like to scan into the font. Move the slider in the front to the right, stopping at the desired paper size. This will help you keep the document centered on the scan head. The scanner should pull the page in a small amount and you can let go.

In the NAPS 2 software click on the blue Scan button on the top left. Your page should start moving and the bar should fill up once the scan completes. If you configured OCR (which you really should) you will see a little loading bar appear in the bottom right showing that OCR is running. You will also see your page appear in the window. If you have more pages to scan, feed the next page in now and click scan again.

Alternately if you know how many pages you will be scanning you can click on the drop down next to the scan button and select batch scan. Here you can select from several options, the easiest of which is likely the third. You set how many pages you want to scan, how long it should wait between scans, and you click on start. You can feed each page in after the scanner stops moving. Otherwise you may "jam" it and it will stop.

To save your scans simply click on the Save PDF button. This will save each page you currently have in NAPS 2 in the order shown. Choose where to save your PDF and hit enter. Tada! You're done! If you want to delete any pages, simply right click on them and click on delete. If you would like to save as an image instead, you can do that too with the Save Images button.

Troubleshooting

If the scanner turns off while it is plugged in, simply press the start/stop button to turn it back on.

If the scanner blinks orange or stops with the paper in the middle, you can open it up from the front like a laptop to remove the paper or service it.

To clean the glass the scanner uses you can open the scanner up like a laptop and then use a microfiber cloth to wipe the glass. Do not use any kind of solvents or liquid cleaner.

Infrastructure Systems

How To: Change the IP Address of a Proxmox Clustered Node

If changing entire subnet:

(e.g. 192.168.1.0/24 to 192.168.2.0/24)

```
# Stop the cluster services
systemctl stop pve-cluster
systemctl stop corosync

# Mount the filesystem locally
pmxcfs -l

# Edit the network interfaces file to have the new IP information
# Be sure to replace both the address and gateway
vi /etc/network/interfaces

# Replace any host entries with the new IP addresses
vi /etc/hosts

# Change the DNS server as necessary
vi /etc/resolv.conf

# Edit the corosync file and replace the old IPs with the new IPs for all hosts
# :%s/192\.168\.1\./192.168.2./g   <- vi command to replace all instances
# BE SURE TO INCREMENT THE config_version: x LINE BY ONE TO ENSURE THE CONFIG IS NOT OVERWRITTEN
vi /etc/pve/corosync.conf

# Edit the known hosts file to have the correct IPs
```

```
# :%s/192\.168\.1\./192.168.2./g   <- vi command to replace all instances
/etc/pve/priv/known_hosts

# If using ceph, edit the ceph configuration file to reflect the new network
# (thanks u/FortunatelyLethal)
# :%s/192\.168\.1\./192.168.2./g   <- vi command to replace all instances
vi /etc/ceph/ceph.conf

# If you want to be granular... fix the IP in /etc/issue
vi /etc/issue

# Verify there aren't any stragglers with the old IP hanging around
cd /etc
grep -R '192\.168\.1\.' *
cd /var
grep -R '192\.168\.1\.' *

# Reboot the system to cleanly restart all the networking and services
reboot

# Referenced pages:
# - https://forum.proxmox.com/threads/change-cluster-nodes-ip-addresses.33406/
# - https://pve.proxmox.com/wiki/Cluster_Manager#_remove_a_cluster_node
```

If changing only the IP:

(e.g. 192.168.1.10/24 to 192.168.1.20/24)

```
# Stop the cluster services
systemctl stop pve-cluster
systemctl stop corosync

# Mount the filesystem locally
pmxcfs -l

# Edit the network interfaces file to have the new IP information
vi /etc/network/interfaces

# Replace any host entries with the new IP addresses
```

```
vi /etc/hosts

# Edit the corosync file and replace the old IPs with the new IPs for any changed hosts
# BE SURE TO INCREMENT THE config_version: x LINE BY ONE TO ENSURE THE CONFIG IS NOT OVERWRITTEN
vi /etc/pve/corosync.conf

# Edit the known hosts file to have the new IP(s)
/etc/pve/priv/known_hosts

# If using ceph, edit the ceph configuration file to reflect the new network
# (thanks u/FortunatelyLethal)
# :%s/192\.168\.1\./192.168.2./g   <- vi command to replace all instances
vi /etc/ceph/ceph.conf

# If you want to be granular... fix the IP in /etc/issue
vi /etc/issue

# Verify there aren't any stragglers with the old IP hanging around
cd /etc
grep -R '192\.168\.1\.' *
cd /var
grep -R '192\.168\.1\.' *

# Reboot the system to cleanly restart all the networking and services
reboot

# Referenced pages:
# - https://forum.proxmox.com/threads/change-cluster-nodes-ip-addresses.33406/
# - https://pve.proxmox.com/wiki/Cluster_Manager#_remove_a_cluster_node
```

Infrastructure Systems

How To: Mount SMB Shares on a Pi

https://linuxize.com/post/how-to-mount-cifs-windows-share-on-linux/

tl;dr (assuming user/share is set up on freenas)

1. Install cifs-utils and create your mount directory

2. Create a credentials file */etc/win-credentials-app*

3. Populate with *username*= and *password*= on two lines in plaintext (scary, I know)

4. Chown root: and chmod 600 to have a thin veil of security

5. One-off mount:
sudo mount -t cifs -o credentials=/etc/win-credentials-app,dirmode=0755,uid=1000,gid=1000 //freenas.lan/app /app
Replace win-credentials-app with your credentials file and 1000/1000 with your user's user/group IDs.

6. Auto-mount: (add to /etc/fstab)
//freenas.lan/app /app cifs credentials=/etc/win-credentials-app,file_mode=0755,uid=1000,gid=1000 0 0

7. Will mount automatically on boot. Use *sudo mount /app* or *sudo umount /app* to manually mount/unmount with an fstab entry.