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Ottawa PC Users' Group

April 26, 2023

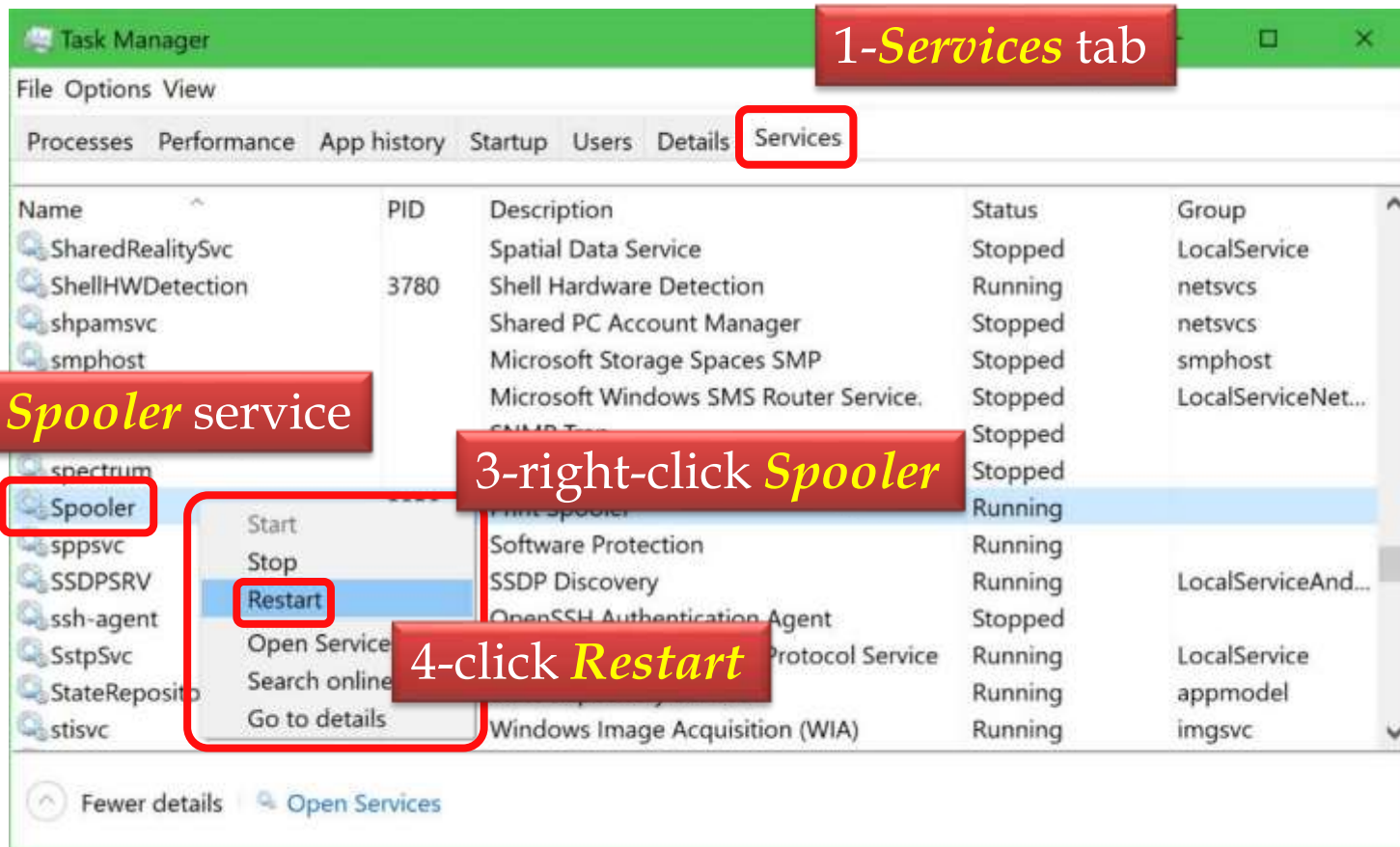
Follow Up Fixing Print Spooler hangs



- 2023-04-19 Q&A
 - multiple people had printing *just stop working*
 - usually fixed by running the Printer Troubleshooter
 - Windows 10
 - Settings > Update & Security > Troubleshoot > Additional trouble-shooters > Printer
 - Windows 11
 - Settings > System > Troubleshoot > Other trouble-shooters > Printer
- Sending print data to a printer
 - handled by the *Print Spooler*
- Suggestion made to stop/start *Print Spooler* Service

Follow Up Restarting Print Spooler Window 10

- Right-click blank area of Taskbar
- Choose Task Manager





Restarting Print Spooler Windows 11

- Right-click blank area of Taskbar
- Choose Task Manager

The screenshot shows the Windows Task Manager application with the 'Services' tab selected. The 'Spooler' service is highlighted in the list. A search box at the top contains the text 'spooler'. A context menu is open over the 'Spooler' service, showing the 'Restart' option. Red boxes and callouts indicate the steps: 1-Click 'Services' tab, 2-type 'Spooler' in search box, 3-click 'Spooler', and 4-click 'Restart'.

Name	PID	Description	Status	Group
Spooler	37788	Print Spooler	Running	

Follow Up Automated it!

- Script the process – 3 commands
 - **NET STOP Spooler**
 - NET: command-line utility
 - STOP: stops a service (background process)
 - Spooler: name of process that sends print data to a printer
 - **del /q %SystemRoot%\system32\spool\printers*.***
 - command line utility: delete any print jobs stuck in print queue
 - **NET START Spooler**
 - NET: command-line utility
 - START: starts a service (background process)
 - Spooler: name of process that sends print data to a printer

Follow Up Batch file

- Create a text file RestartSpooler.cmd

@echo off

turn off echoing commands to screen

echo Stopping the print spooler

Output to screen *Stopping the print spooler*

NET STOP Spooler

command to stop the print spooler

echo Deleting all print jobs

Output to screen *Deleting all print jobs*

del /q %SystemRoot%\system32\spool\printers*.*

echo.

output to screen a blank line

command to delete any print jobs

echo Starting the print spooler

Output to screen *Starting the print spooler*

NET START Spooler

command to start the print spooler

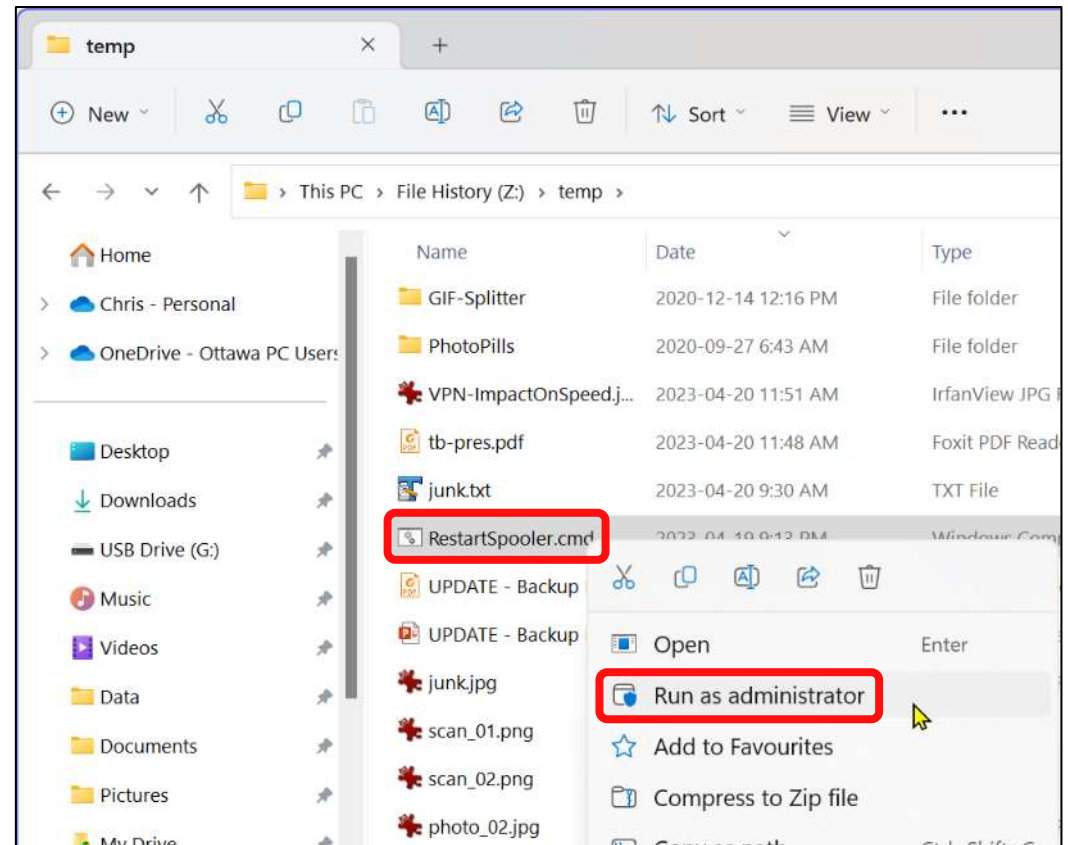
timeout 5

pause for 5 seconds

Only red lines strictly required

Follow Up Run batch file in File Explorer

- Right-click *RestartSpooler.cmd*
 - or whatever you named the batch file
- Click *Run as administrator*
 - to stop/start services you must be an administrator



Follow Up Output from Batch file

@echo off

① echo Stopping the print spooler

② **NET STOP Spooler**

③ echo Deleting all print jobs

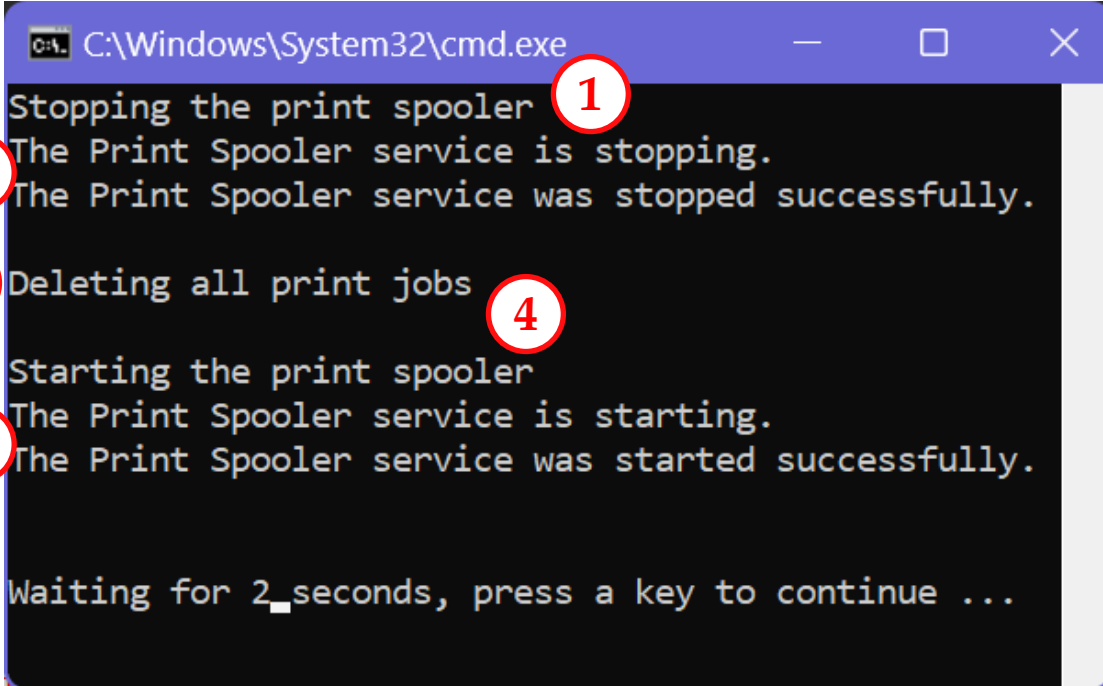
del /q %SystemRoot%\system32\spool\printers*.*

④ echo.

⑤ echo Starting the print spooler

⑥ **NET START Spooler**

⑦ timeout 5



```
C:\Windows\System32\cmd.exe

Stopping the print spooler ①
The Print Spooler service is stopping.
The Print Spooler service was stopped successfully.

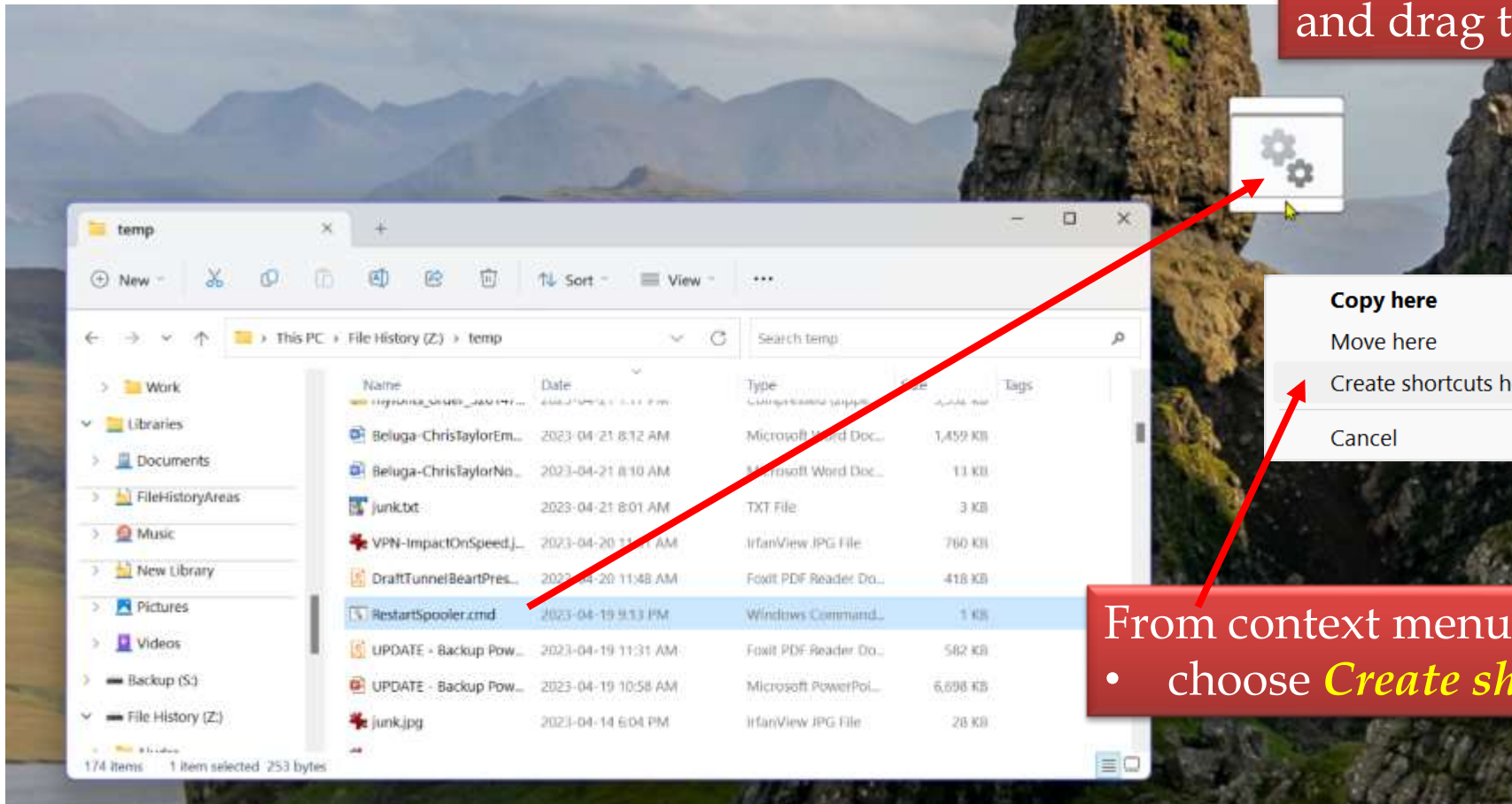
Deleting all print jobs ③
Starting the print spooler ⑤
The Print Spooler service is starting.
The Print Spooler service was started successfully.

Waiting for 2 seconds, press a key to continue ...
```

Follow Up Create a shortcut for batch file

- Saves having to find your batch file when you need it

Right-click
RestartSpooler.cmd
and drag to desktop

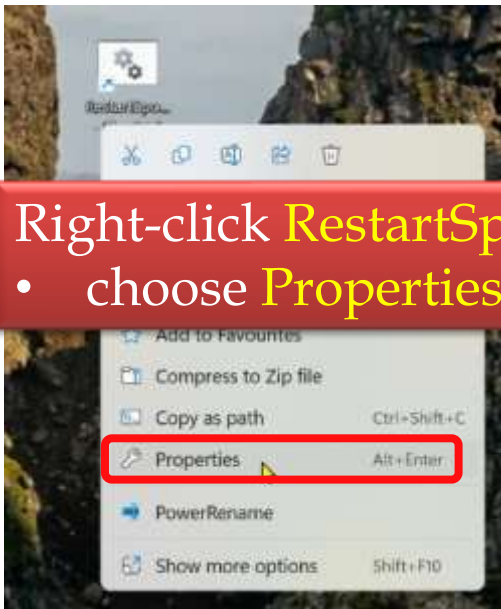


From context menu

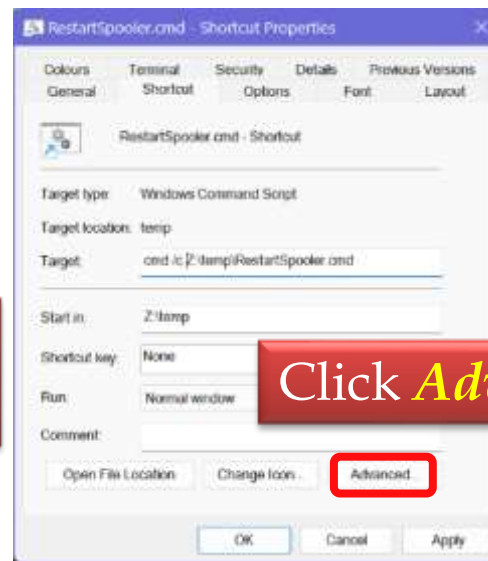
- choose **Create shortcuts here**

Follow Up Run shortcut as Administrator

- The shortcut will run the batch file as *Standard user*
- Stopping/starting services can only be done by *Administrators*

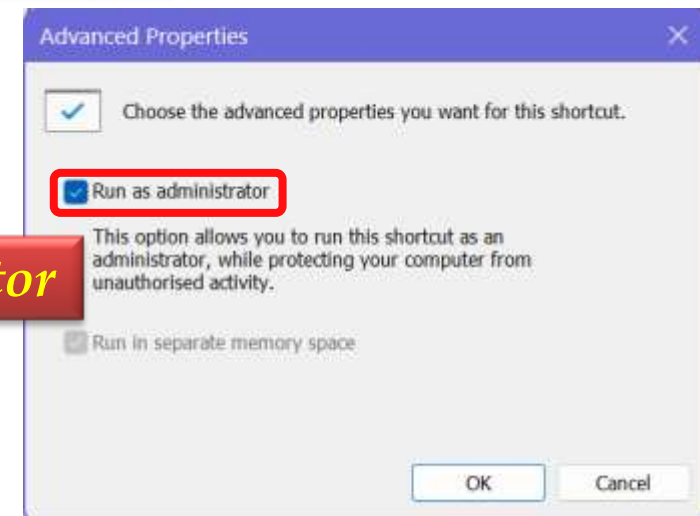


Right-click **RestartSpooler** shortcut
• choose **Properties**



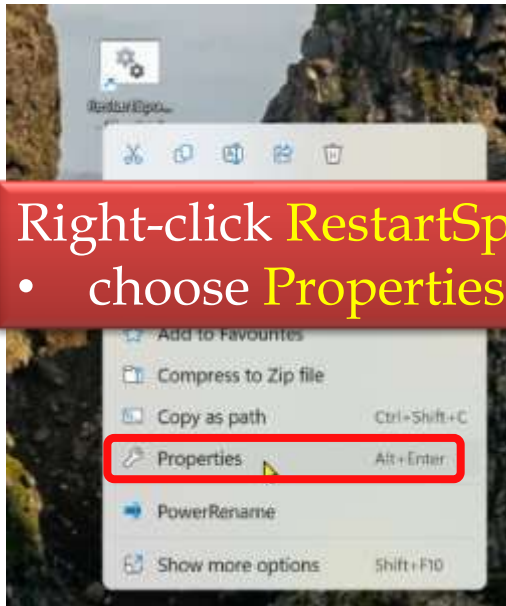
Click **Advanced**

Select **Run as administrator**



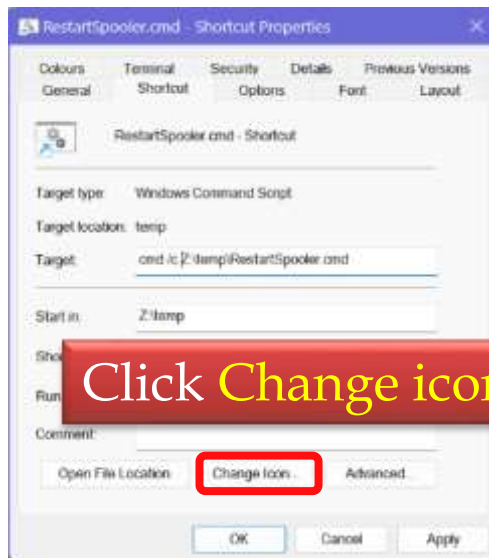
Follow Up Optionally - change icon

- Why not give the shortcut a better icon?

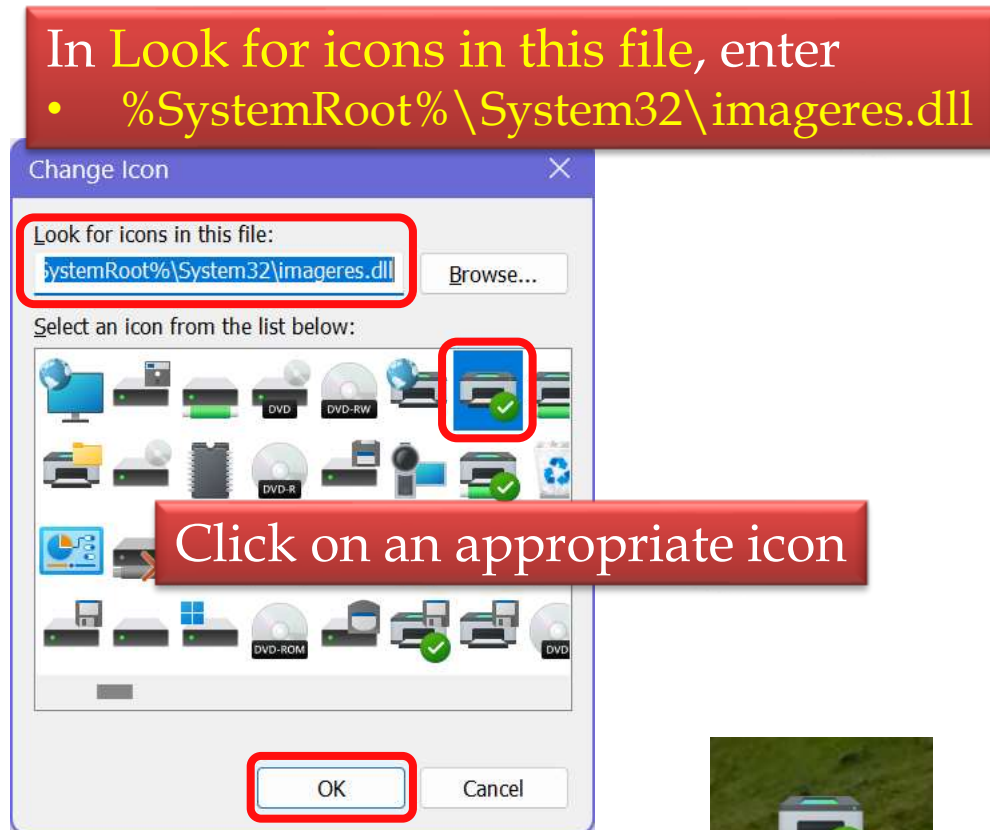


Right-click **RestartSpooler** shortcut

- choose **Properties**



Click **Change icon**



In **Look for icons in this file**, enter

- %SystemRoot%\System32\imageres.dll**

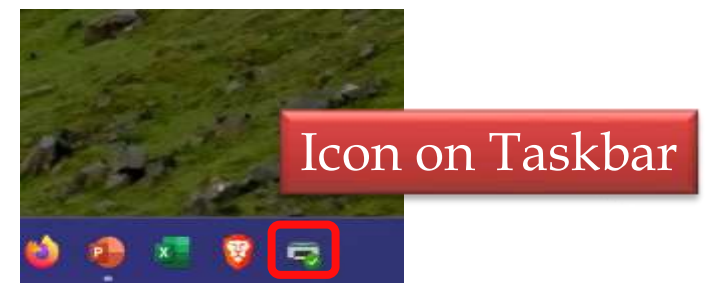
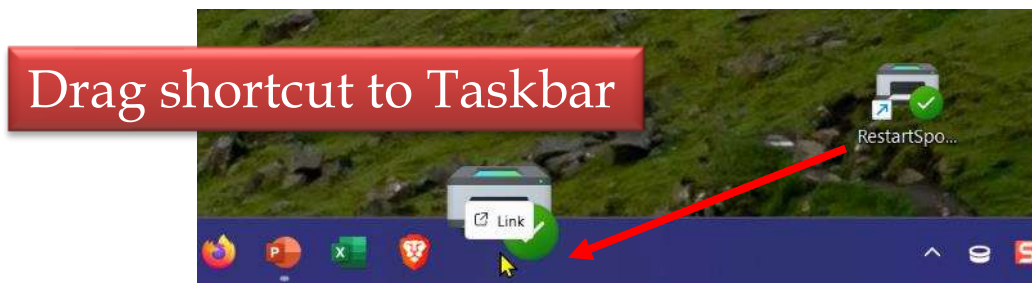
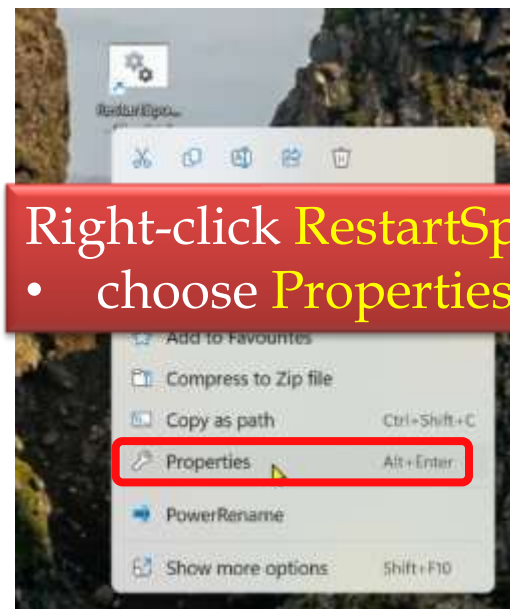
Click on an appropriate icon

Click **OK**



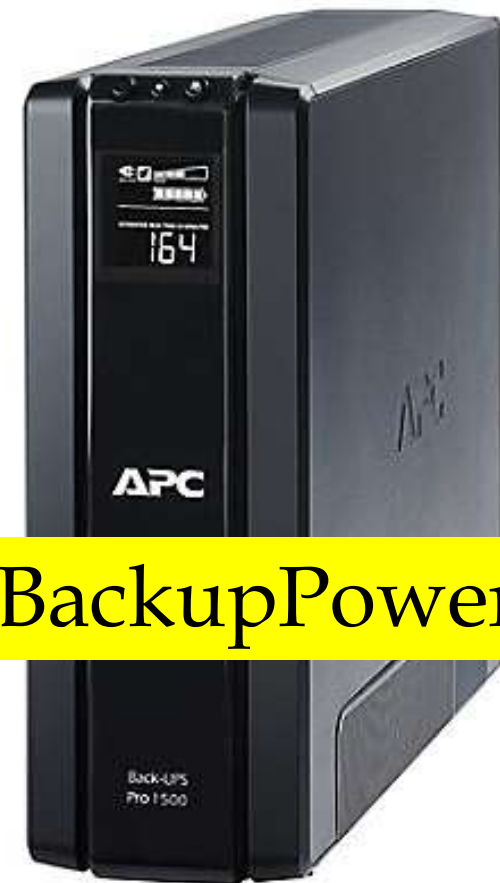
Follow Up Pin batch file to Taskbar

- Useful as Taskbar is (usually) visible – (desktop isn't)
- Batch files can't be pinned to Taskbar



UPDATE

Inverters, UPS's, Backup Power Sources & So Much More



See: 20230426_BackupPower.pdf

Bob Walker

Follow Up VPN & network speed

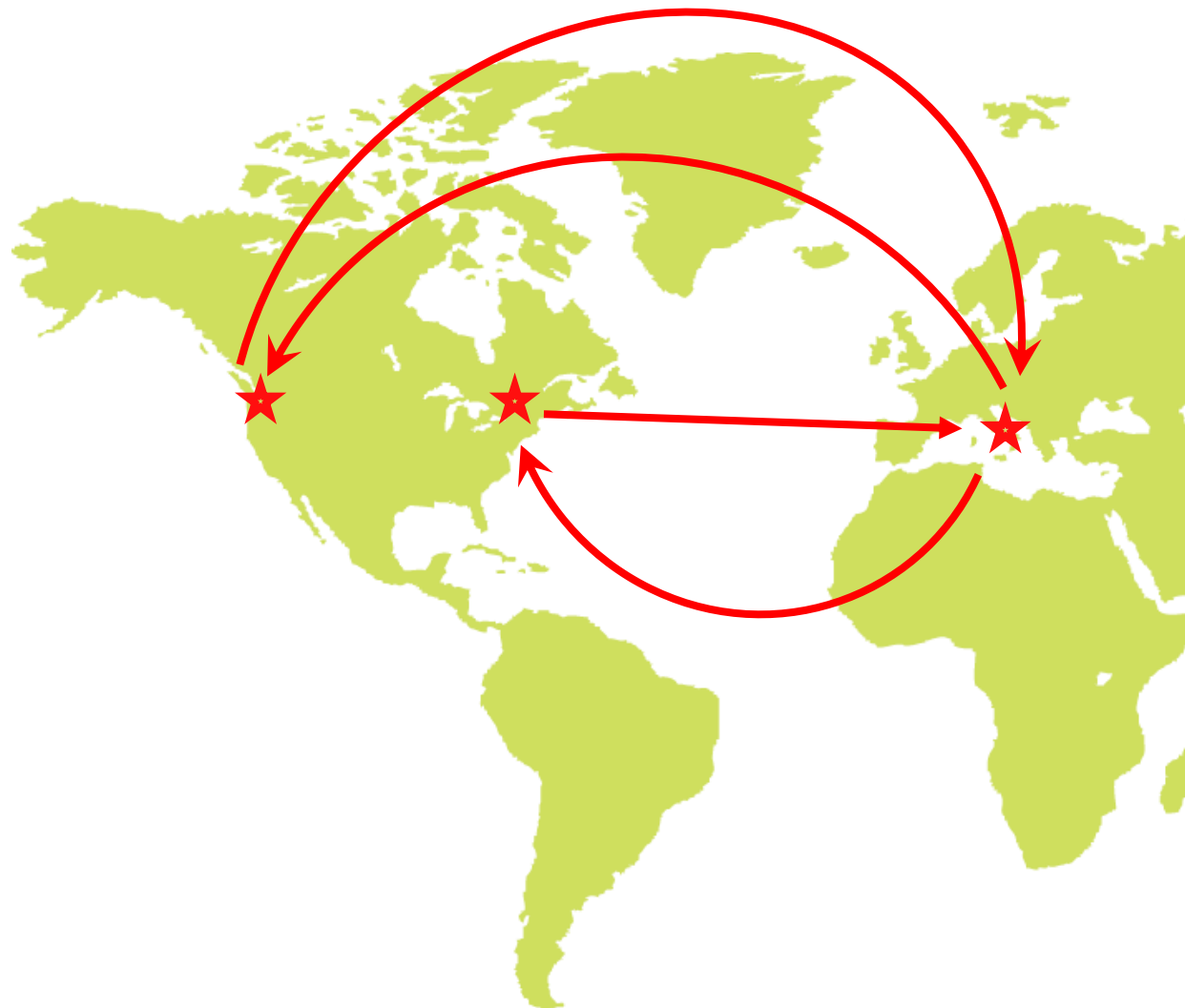


- 2023-04-19 Q&A
 - how does using a VPN affect speed on the Internet?
- Tested using
 - VPN
 - TunnelBear VPN (<https://www.tunnelbear.com/>)
 - Internet speed testers
 - Speedtest by Ookla (<https://www.speedtest.net/>)
 - used Microsoft Store app rather than website
 - some tests using CIRA Internet Performance website (<https://performance.circa.ca>)



Traffic with VPN

if using CIRA Internet Performance Test



My computer in Ottawa
VPN server in Rome
CIRA server in Vancouver
• no servers outside Canada

1. traffic encrypted at my computer in Ottawa and sent to VPN server in Rome

2. traffic decrypted and sent over open Internet to CIRA server in Vancouver

3. traffic sent from CIRA server in Vancouver to VPN server in Rome

4. traffic encrypted and sent to my computer in Ottawa



Traffic with VPN

if using Speedtest



Used Speedtest for most testing

- minimized long hops
- likely fewer variables

My computer in Ottawa
VPN server in Rome
Speedtest server in Rome
• servers around the world

1. traffic encrypted at my computer in Ottawa and sent to VPN server in Rome

2. traffic decrypted and sent over open Internet to Speedtest server in Rome

3. traffic sent from Speedtest server in Rome to VPN server in Rome

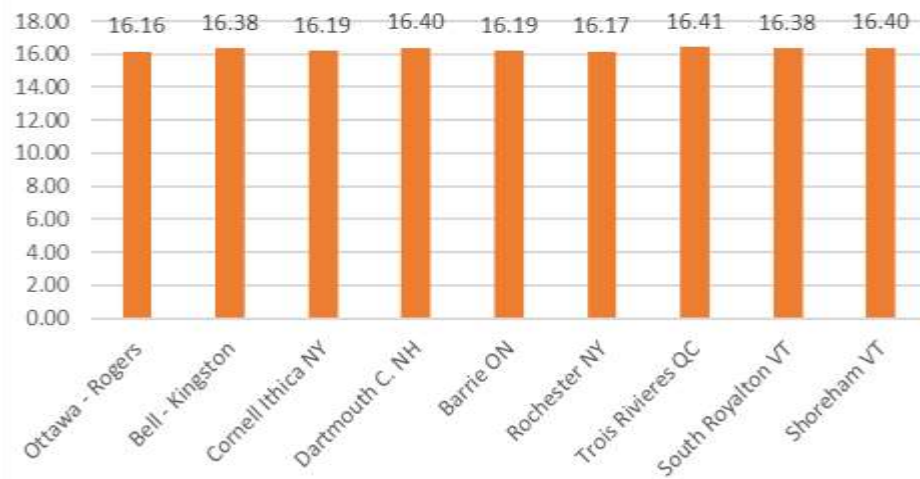
4. traffic encrypted and sent to my computer in Ottawa

Follow Up Upload speed



TunnelBear

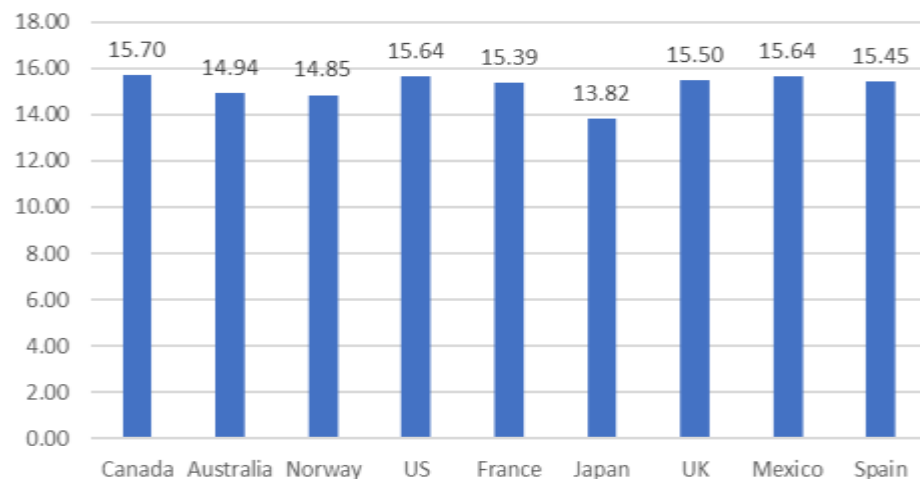
Upload speed - No VPN



No VPN

- could only select Speedtest server within a few hundred Km of Ottawa
- average upload 16.3 mbps

Upload speed - VPN



With VPN

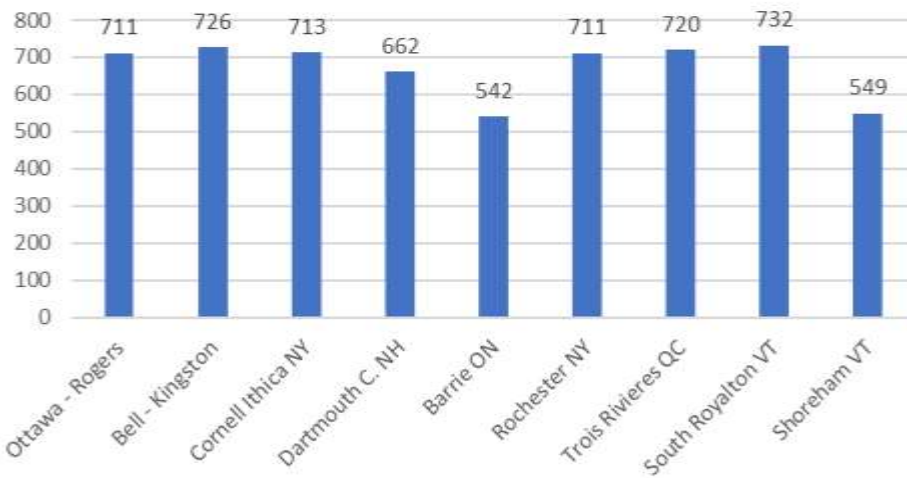
- Speedtest server within target country
- average upload 15.21 mbps

Follow Up Download speed



TunnelBear

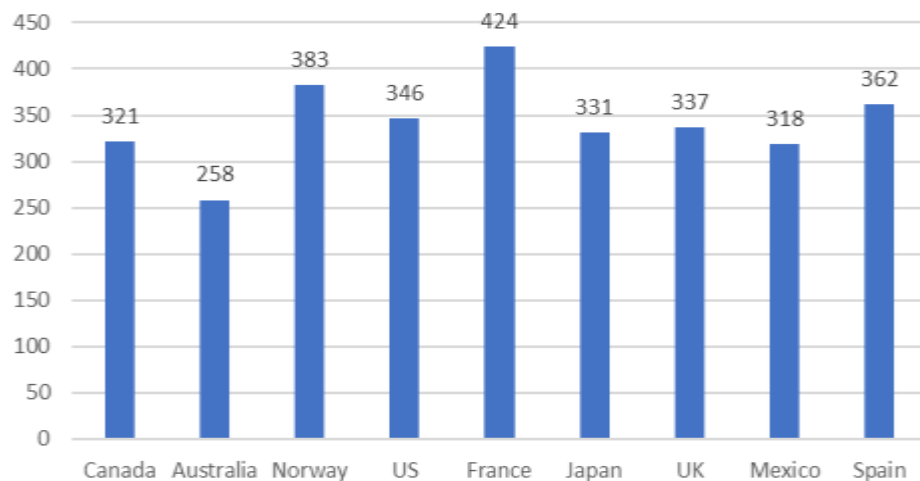
Download speed - No VPN



No VPN

- could only select Speedtest server within a few hundred Km of Ottawa
- average download 674 mbps

Download speed - VPN



With VPN

- Speedtest server within target country
- average download 342 bps

Follow Up Conclusions



- Upload speeds
 - largely not impacted
 - without VPN: average 16.3 mbps
 - with VPN: average 15.21 bps (6.7% slower)
- Download speeds
 - *significantly impacted*
 - without VPN: average 674 mbps
 - with VPN: average 342 bps (49% slower)
- It doesn't make a lot of sense to me to have asymmetric performance differences
 - is it due to relatively slow upload speeds vs download speeds?

Follow Up Performance issues

- Advice on slow network performance problems from folks at TunnelBear
- Might seem like speed should be a simple matter
- In reality lots of things to consider:
 - bandwidth limits and latency form the foundations
 - server distance
 - speed of your own network
 - protocol type that you use

Follow Up Performance issues

- Try resetting the Windows firewall to its default settings
 - at Start menu search for *Control Panel*
 - select *Windows Firewall*
 - click *Restore Defaults* in the left column
 - check to see if issues persist
- Try switching the VPN protocol
 - run TunnelBear app & make sure TunnelBear is *Off* in top bar
 - in the TunnelBear app, go to *Settings > Connection > VPN Protocol*
 - protocol should be set to *Auto*
 - try switching to another protocol (*WireGuard* , *OpenVPN* or *IKEv2*)
 - reconnect TunnelBear and see if slow behaviour persists (test each protocol)
 - if problems persist, switch the protocol back to *Auto*

Follow Up Performance issues

- Reset the DNS cache
 - run Command Prompt as administrator
 - type **ipconfig /flushdns** and press the Enter key
 - should get a message: *Successfully flushed the DNS Cache*
- Make sure there aren't any proxy server settings interfering
 - run Command Prompt as administrator
 - type the following command and hit [enter]: *netsh winhttp reset proxy*
 - restart computer and see if the problem persists
- If problems persist, check & update your network drivers
 - right-click Start menu and choose *Device Manager*
 - expand *Network adapters* to view your adapters/drivers
 - right-click each adapter and choose *Update driver*
 - choose the option *Search automatically for drivers*
 - disable and enable the TunnelBear adapter

Follow Up Thanks!

- Thanks to the folks at TunnelBear
 - for giving me a free week of unlimited VPN when I quickly ran out of my monthly free 2 GB
 - for answering all my pestering questions when I wanted nitty-gritty details
 - for providing advice on how to troubleshoot network performance problems
 - for being easy to chat with





**Any other:
Questions
Comments
Shares?**

Members' Favourites

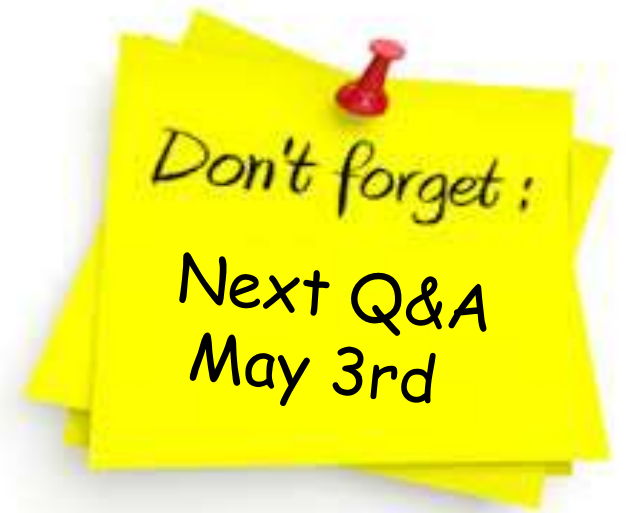
May 10, 2022

Share any computer-related
item with your fellow members

10-20 minute presentation

*Reserve your presentation slot:
SuggestionBox@opcug.ca*





**Send your questions,
answers, and topics
you wish to share to:**

SuggestionBox@opcug.ca