

Apple Mac to QNAP NAS Thunderbolt connection breaks after waking computer from sleep

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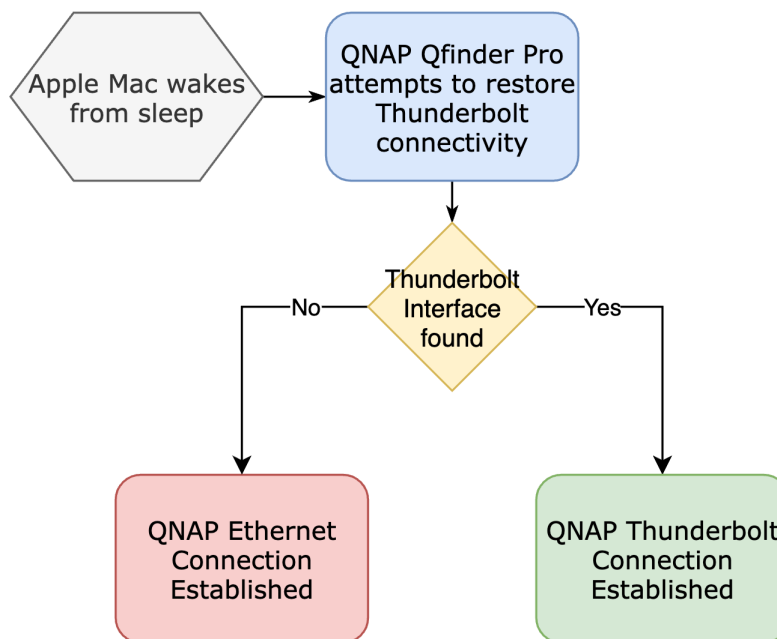
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Problem Statement

QNAP is a network array storage (NAS) vendor that manufactures various products lines with Thunderbolt 3 capability. This allows for very high transfer speeds between Thunderbolt 3 equipped computers (e.g. Apple Macs) and QNAP NAS devices.

For many years, Apple customers with QNAP NAS devices have suffered from a problem whereby when you wake up a computer from sleep, the Thunderbolt connection didn't restore. This issue was submitted to both Apple and QNAP resulting in no workable solution. The only known workaround was to physically disconnect the Thunderbolt cable between your computer and the QNAP NAS device. Alternatively, you could also reboot your Mac or QNAP device.



Typically Thunderbolt interface is not found and defaults to slower Ethernet Connection.

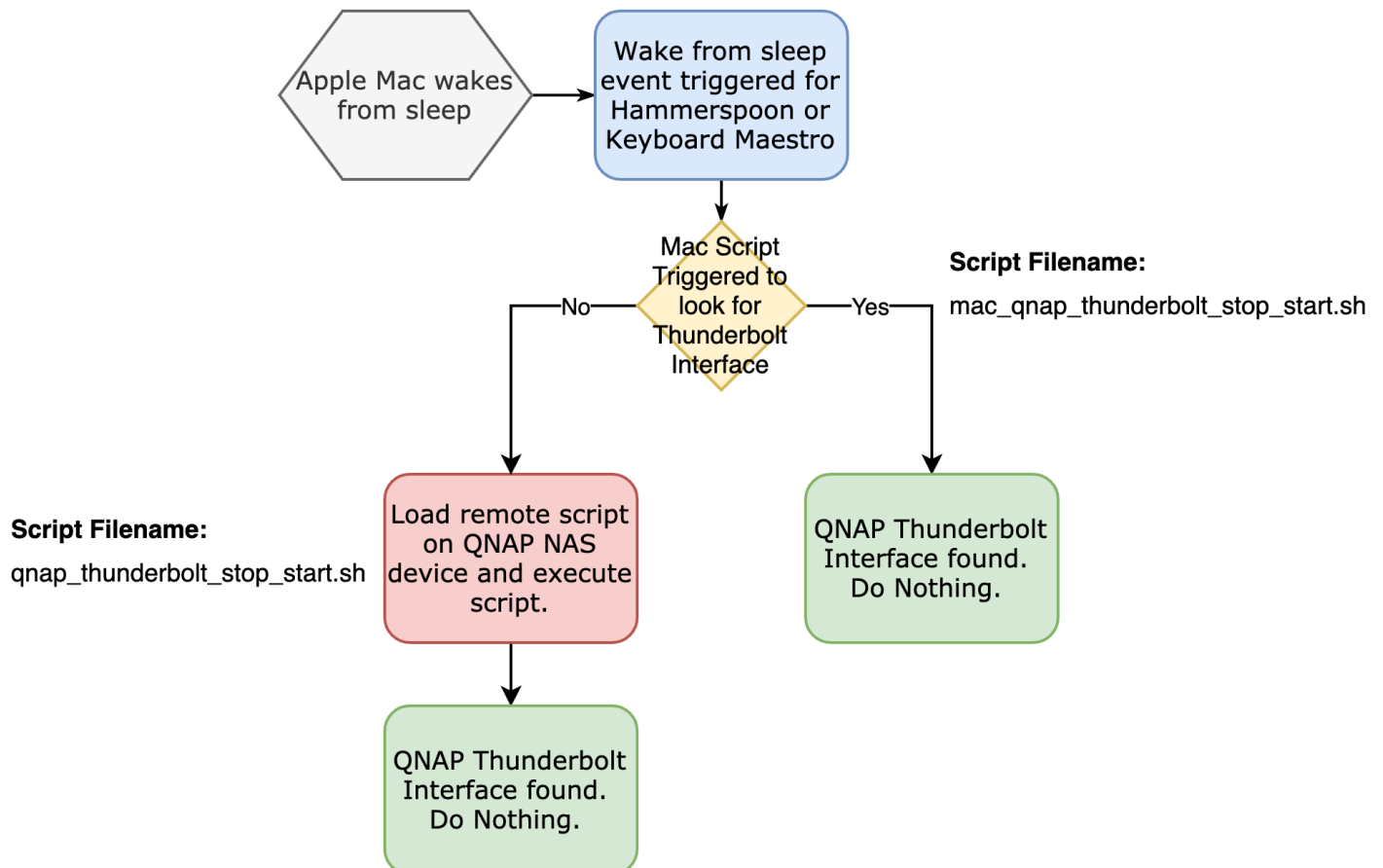
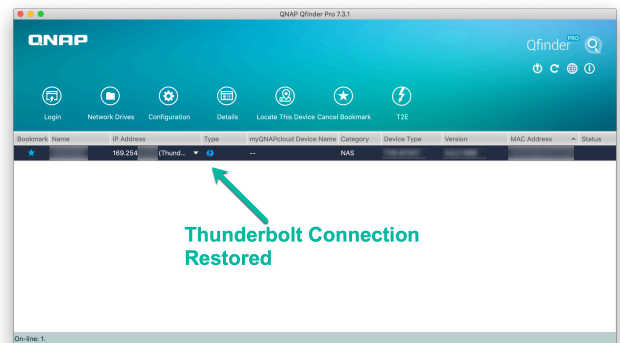
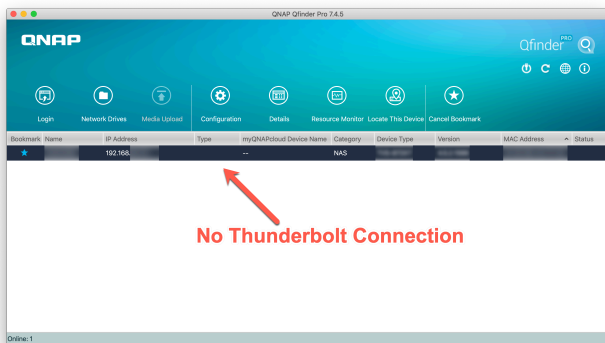
To resolve, end-user must unplug the thunderbolt cable and/or reboot Apple Mac or QNAP device.

Solution

A fully automated solution was developed to fully restore the Thunderbolt connectivity between an Apple Mac and a QNAP NAS device upon wake up from sleep. The process is outlined below via two bash scripts that are triggered when computer wakes up from sleep.

Apple Mac wake from sleep
QNAP QFinder Pro cannot find Thunderbolt connectivity

Apple Mac after auto script execution
QNAP QFinder Pro is now able to restore Thunderbolt connectivity

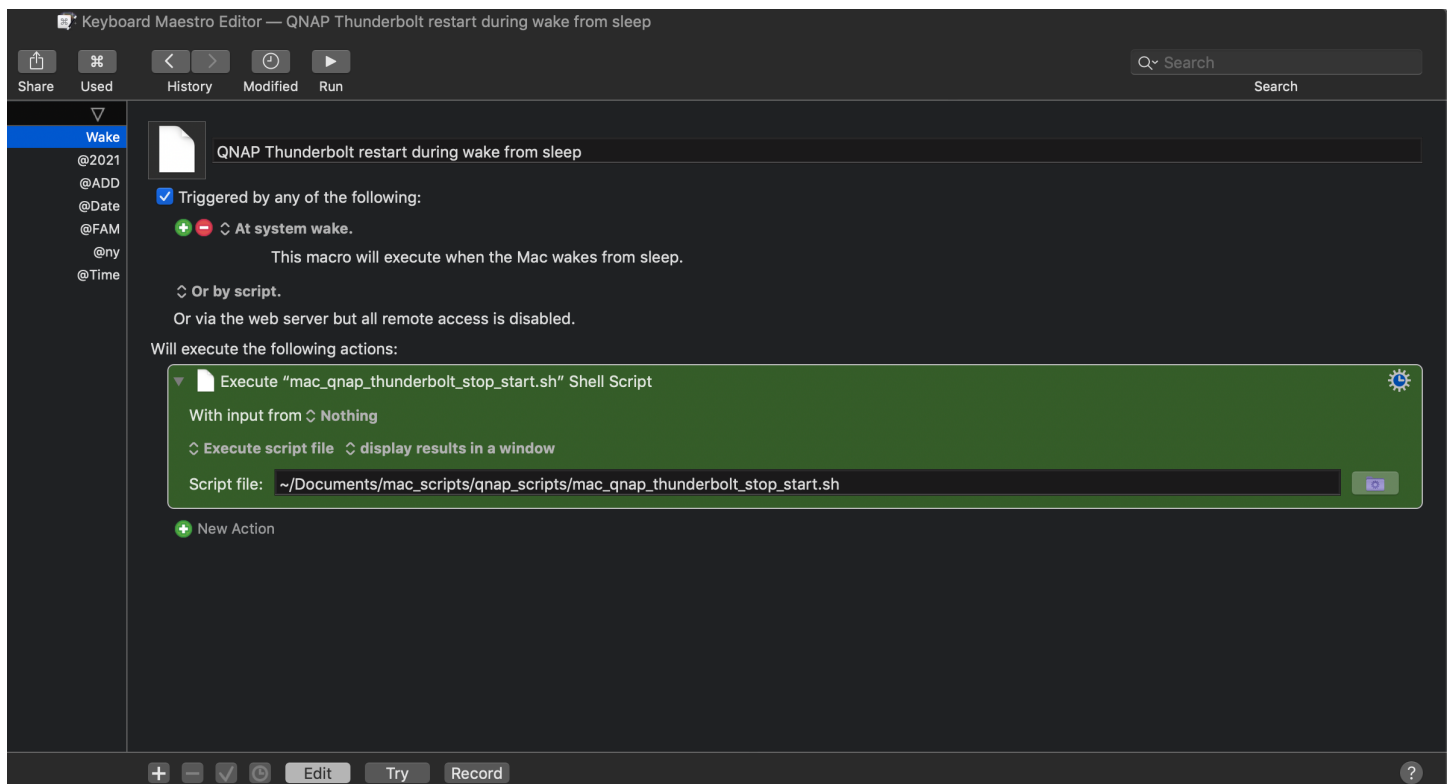


Automation of scripts

There are many ways to trigger the automation of scripts when Wake from Sleep event is triggered. Below are two applications that can support the wake from sleep event and can execute scripts automatically. *In addition, an assumption is that you have already setup your QNAP administrator SSH account for public/private key authentication or any other desired secured method.*

- Hammerspoon (open source via MIT License):
 - Description: “This is a tool for powerful automation of OS X. At its core, Hammerspoon is just a bridge between the operating system and a Lua scripting engine. What gives Hammerspoon its power is a set of extensions that expose specific pieces of system functionality, to the user.”
 - URL: <https://www.hammerspoon.org/>
 - Trigger Module Event:
 - API: systemDidWake
 - URL: <https://www.hammerspoon.org/docs/hs.caffeinate.watcher.html#systemDidWake>
- Keyboard Maestro (commercial software):
 - Description: “Automate applications or web sites, text or images, simple or complex, on command or scheduled. You can automate virtually anything.”
 - URL: <https://www.keyboardmaestro.com/main/>

For purposes of an actual working process, below is the working configuration for executing the bash scripts.



Scripts

Place both scripts on any desired folder within your Mac.

Filename: mac_qnap_thunderbolt_stop_start.sh

```
sleep 10s
ping -c1 [[169.254.X.XXX]]
if [ "$?" != "0" ];then
echo ""
echo "*****"
echo "QNAP Thunderbolt is not reachable, restarting QNAP Thunderbolt Interface..."
echo "*****"
echo ""
cd ~
cd Documents/mac_scripts/qnap_scripts/
scp qnap_thunderbolt_stop_start.sh [[admin account]]@[[192.168.XX.XXX]]:/root/local_scripts
ssh [[admin account]]@[[192.168.XX.XXX]]"/root/local_scripts/qnap_thunderbolt_stop_start.sh"
echo ""
echo "*****"
echo "QNAP Thunderbolt interface restarted. Ping will be attempted again"
echo "*****"
echo ""
ping -c1 [[169.254.X.XXX]]
else
echo ""
echo "*****"
echo "QNAP Thunderbolt interface is reachable, no need to restart"
echo "*****"
echo ""
fi
```

Update Script as follows:

- **[[admin account]]** -> QNAP Administrator Account. You must have already setup your account for public/private key authentication or any other desired secured method.
- **[[192.168.XX.XXX]]** -> IP Address of your QNAP Ethernet interface
- **[[169.254.X.XXX]]** -> IP Address of your QNAP Thunderbolt interface

Filename: qnap_thunderbolt_stop_start.sh

```
/etc/init.d/thunderbolt.sh stop
sleep 3s
/etc/init.d/thunderbolt.sh start
```

The MIT License for Scripts

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