Contact: Tim Bieda freenas@ex0r.de

Realtek vs. Intel network card Quick Bench in a FreeNAS Enviroment

Sorry for my english!
German: Ich kann das ganze gerne auch noch mal in Deutsch veröffentlichen. Einfach an die Adresse in der Kopfzeile schreiben.

NAS System:

Hardware:
AsRock QC-5000
8GB DDR3-1600 (-64MB Graphic Mem)
AMD A4-5000 APU
Full Hardware AES-NI Support
Realtek Onboard Chip, no jumbo packets, standard MTU
-and-
Intel EXPI9301CTBLK PRO1000 PCIe x1 in PCIe x16 Slot (yep this works)
Samsung S840Pro 256GB SSD

Software:
Freenas 9.3 Stable
Samba CIF Share (Samba is single threaded)
No autotune features
Full Disc Encryption

Network:
Switch: FritzBox 7490 (yeah yeah...i know...)
no other loads in the network
Ca. 10m Cat 7 network cable
Cat. 6A patchpanel
Cat 6 network outlets
Cat 6 and cat 5e patchcables (<=3m)

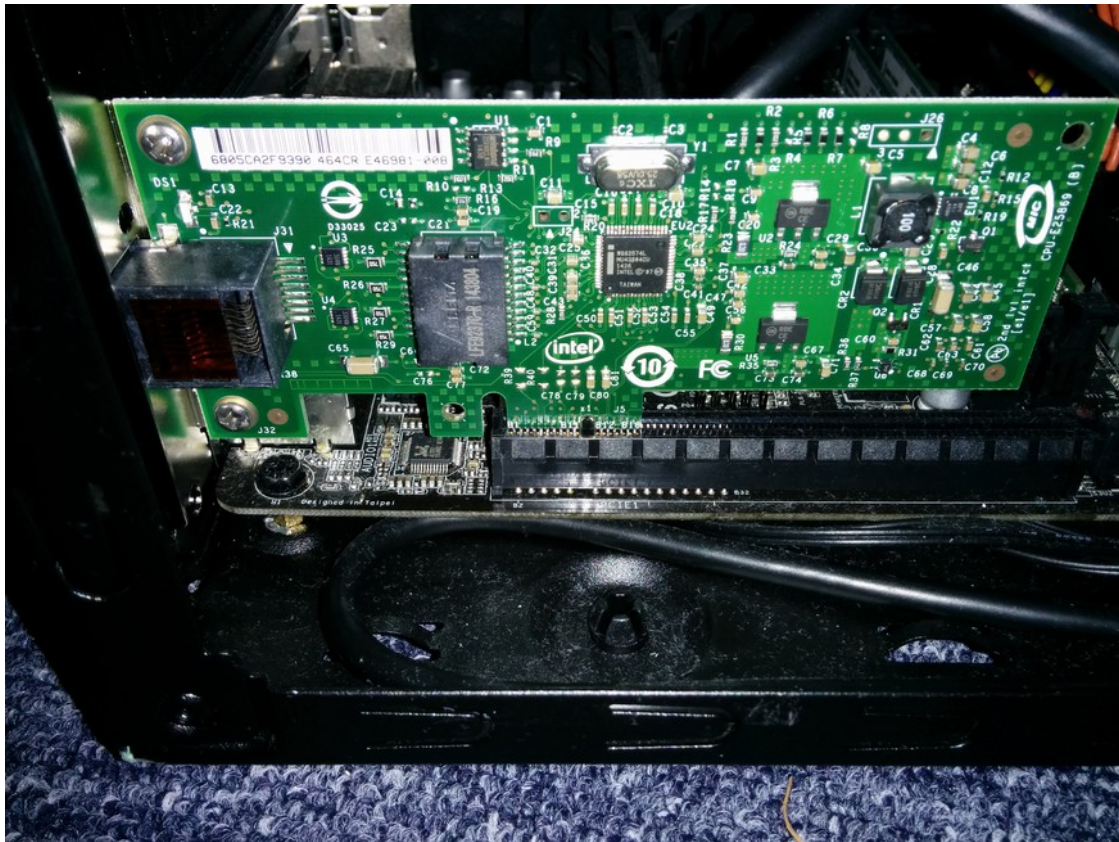Client System
Lenovo Thinkpad T430s
8GB RAM
Samsung S830 128GB SSD
Directly attached to a network outlet

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Pictures from system and the intel Card
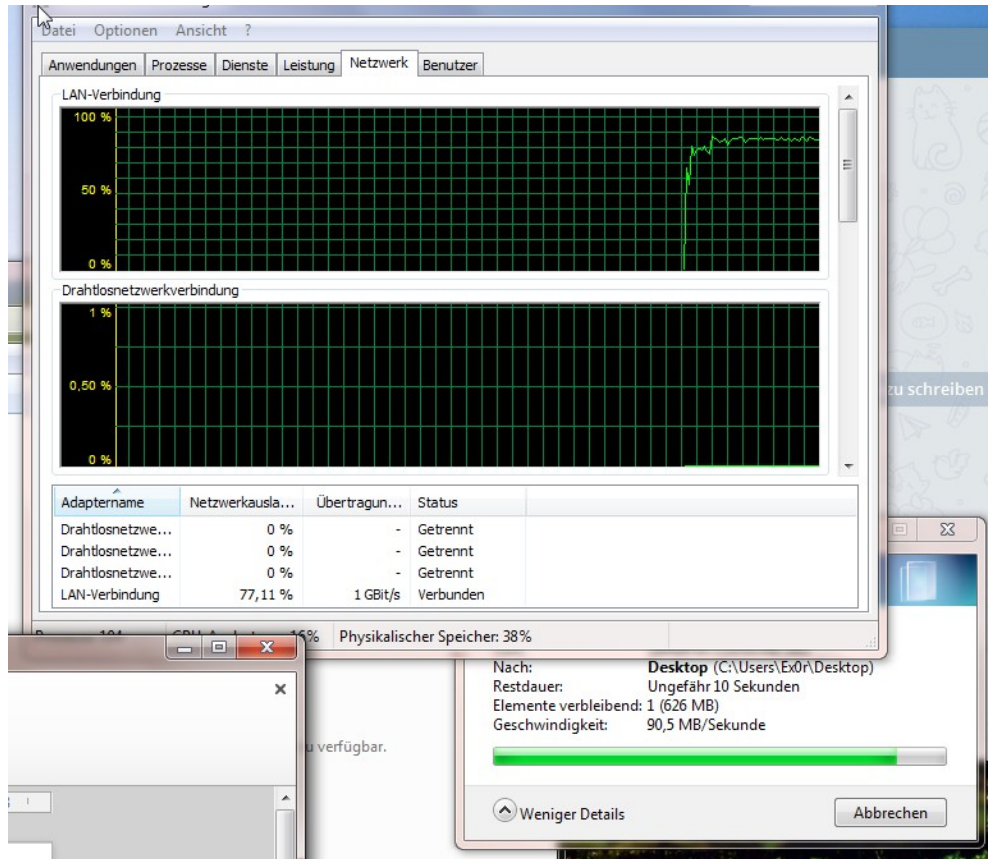
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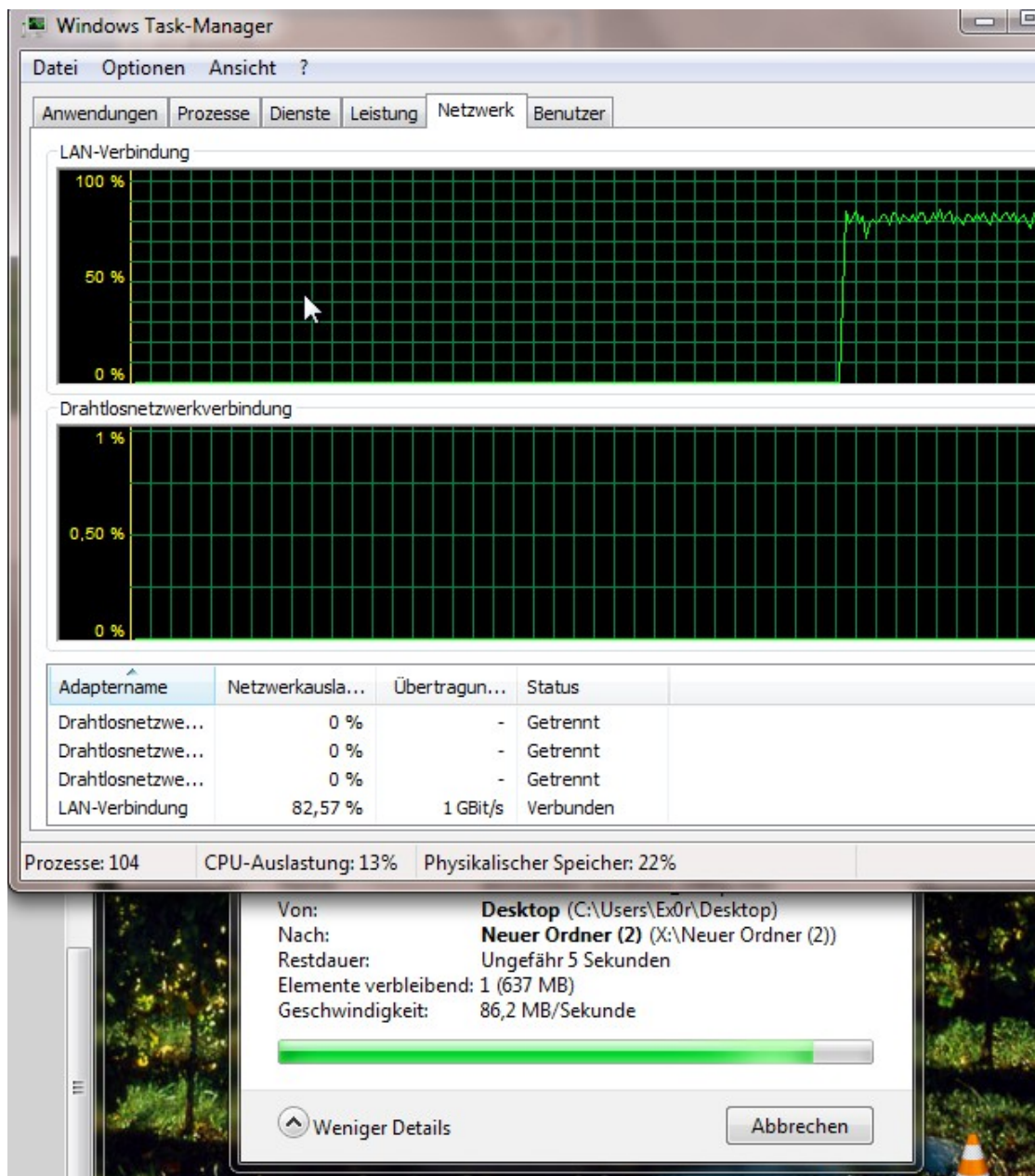
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NAS to Thinkpad, 6.18GB mkv

I always tried to take a screenshot at the 10 seconds mark. What we see here is a very good score (lets say 90MB/s) with the realtek Chipset. So lets test the other direction:
Same File

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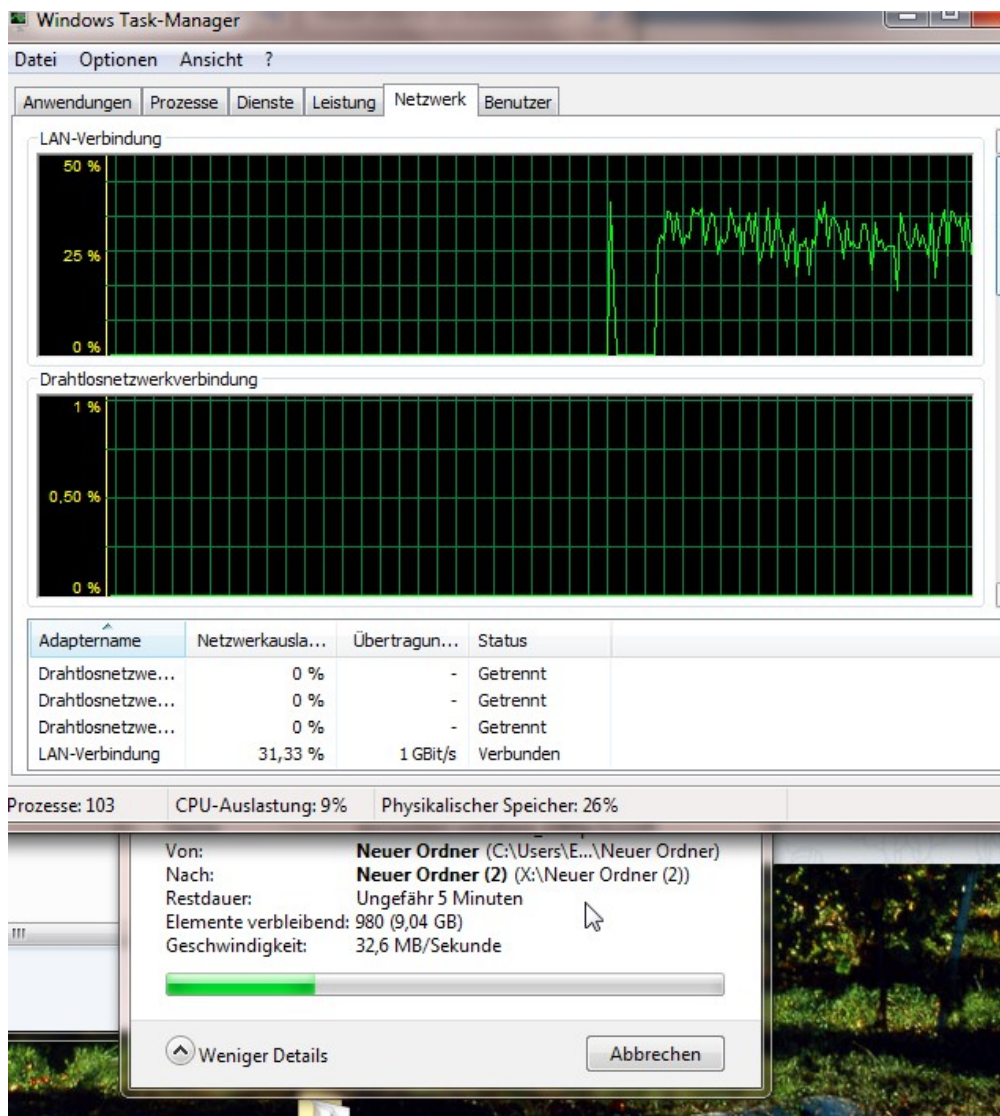
Thinkpad to NAS:

Well...again...very good. A network card load up to 80% with a freeBSD based system ist far more then we could expect from such a cheap system on a chip (SOC).

Now some harder tasks...
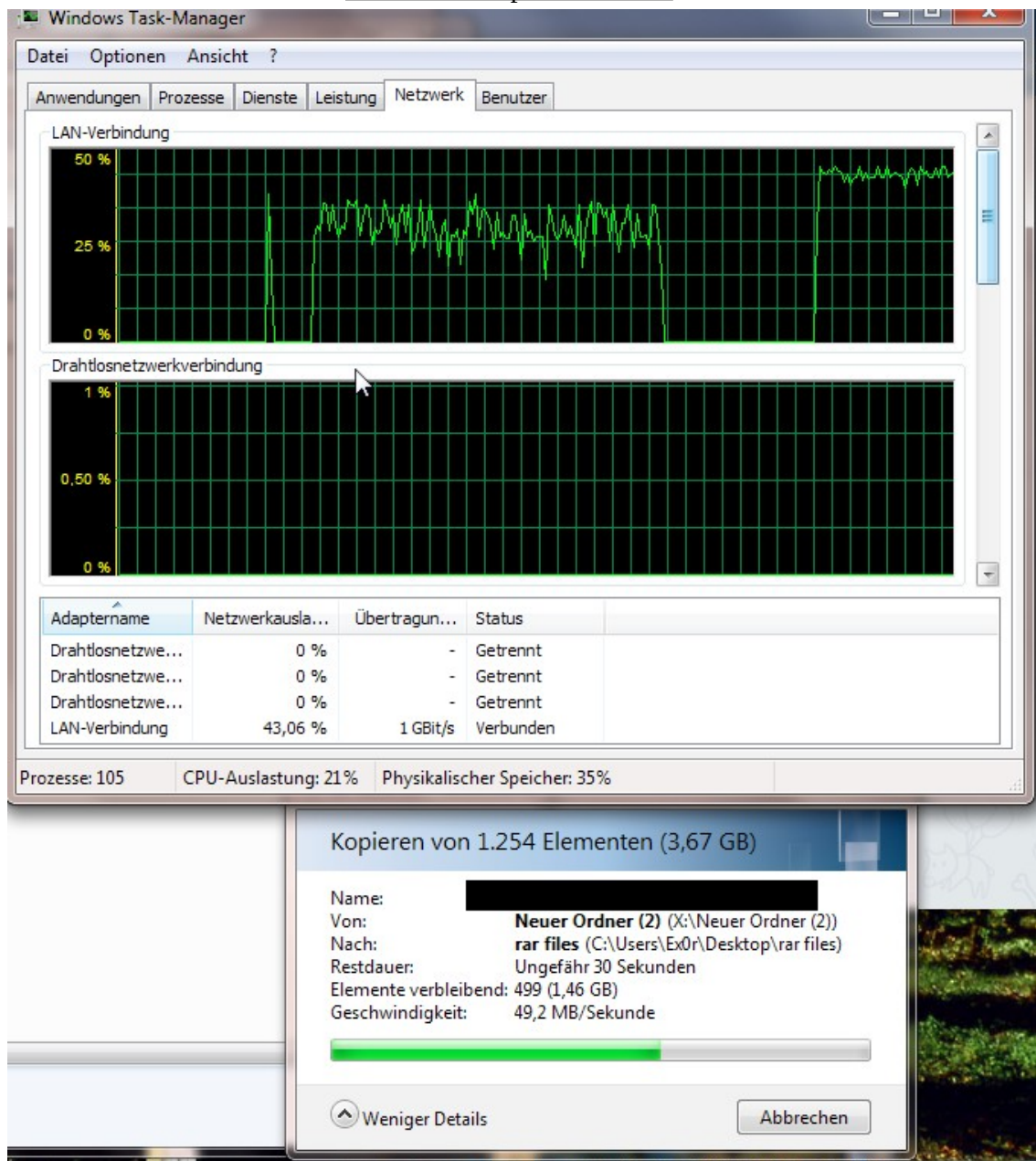
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<u>Thinkpad to NAS: 3MB Files:</u>

Ca. 30 to 40% Load and ca. 30MB/s. Again: Don't blame Realtek for this. Windows' filesystems simply doesn't like smalls files and wants to check all of them. Tested with hundreds of 3MB 7z Files.

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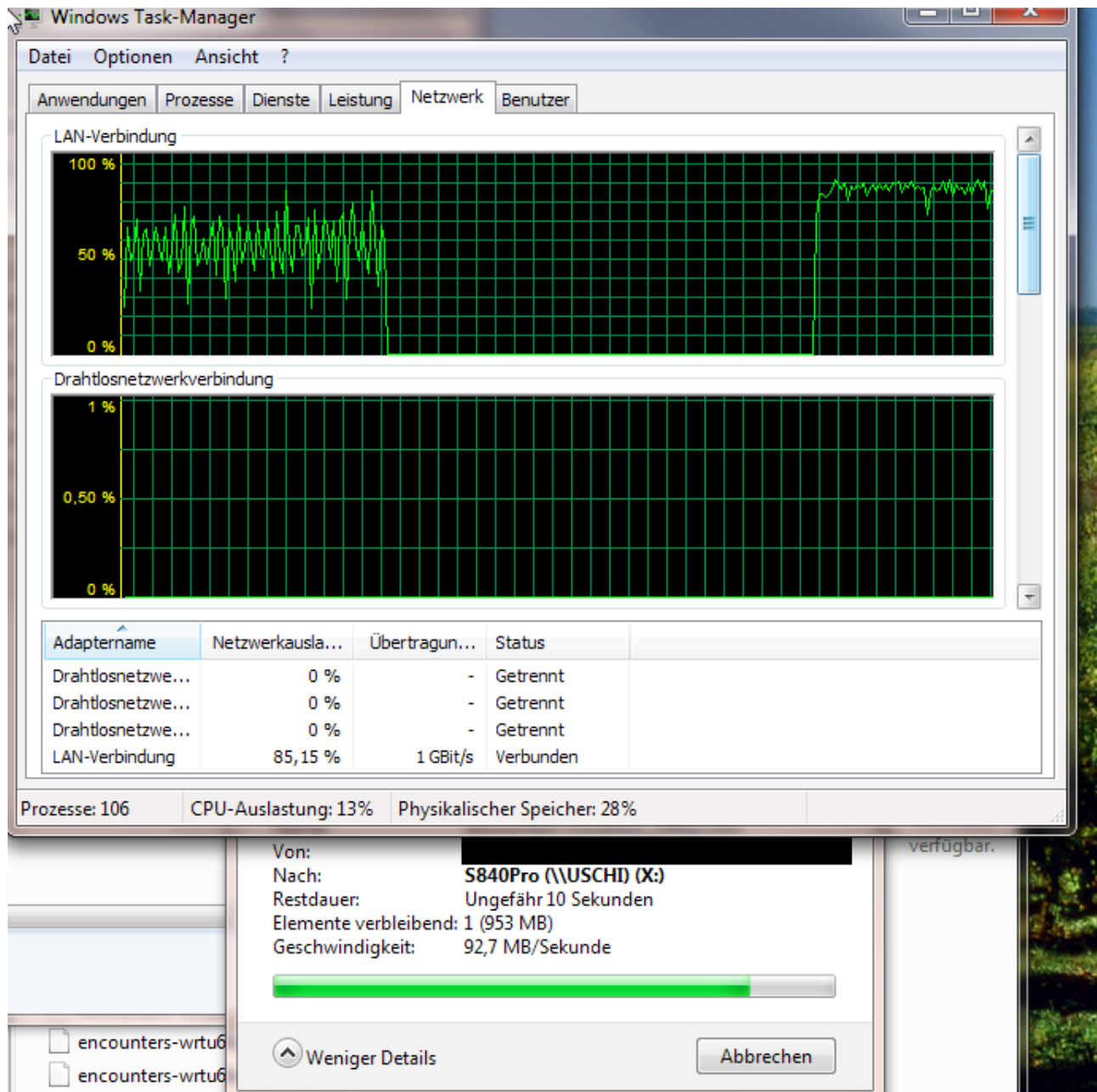
NAS to Thinkpad 3M Files:

Well...this was a bit suprising. A lot faster then the other way round.

An now all the tests with the Intel Nic. Realtek deactivated in UEFI

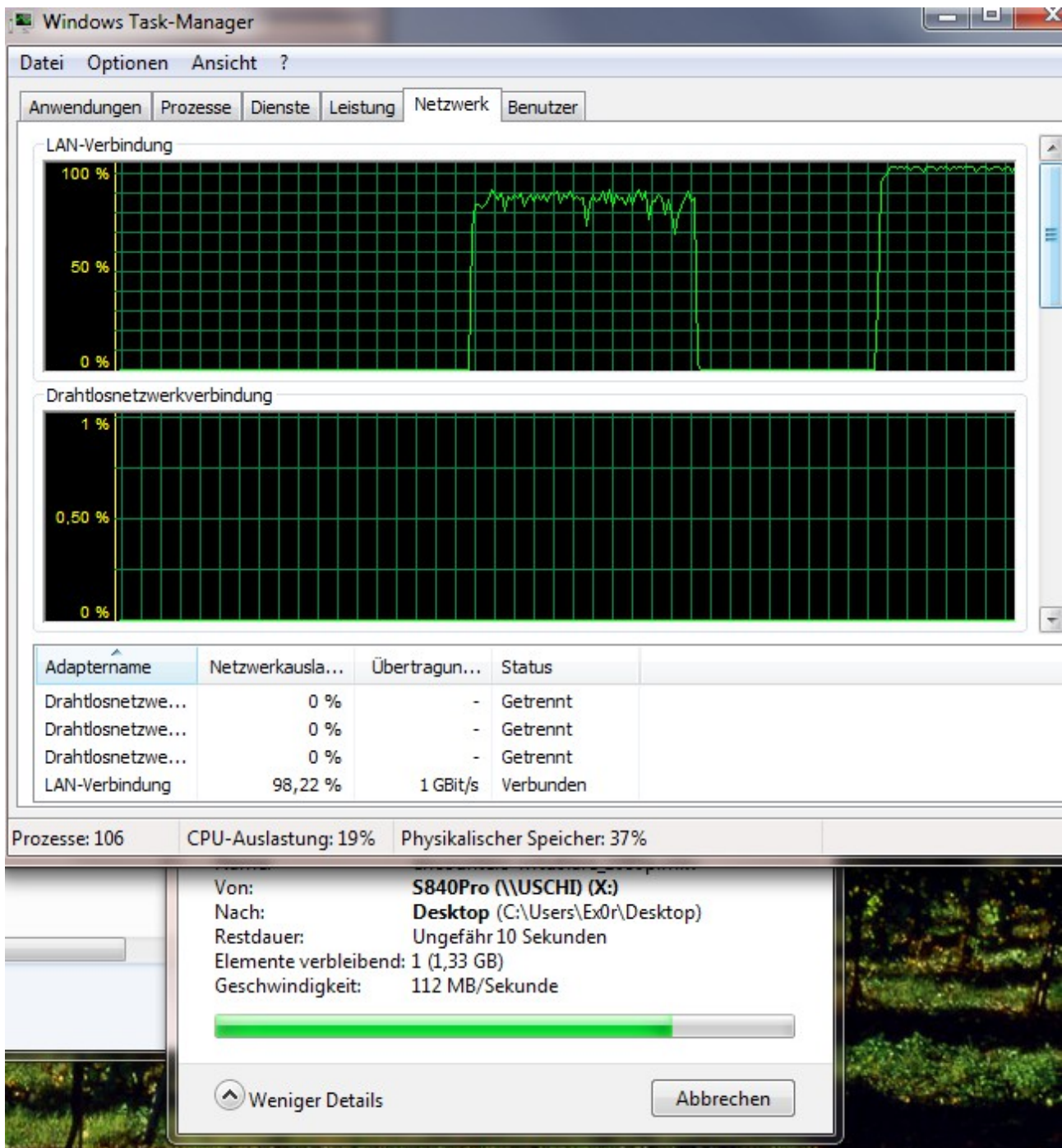Contact: Tim Bieda freenas@ex0r.de

Thinkpad to NAS:

93MB/s vs 86MB/s well not bad, but not that much..

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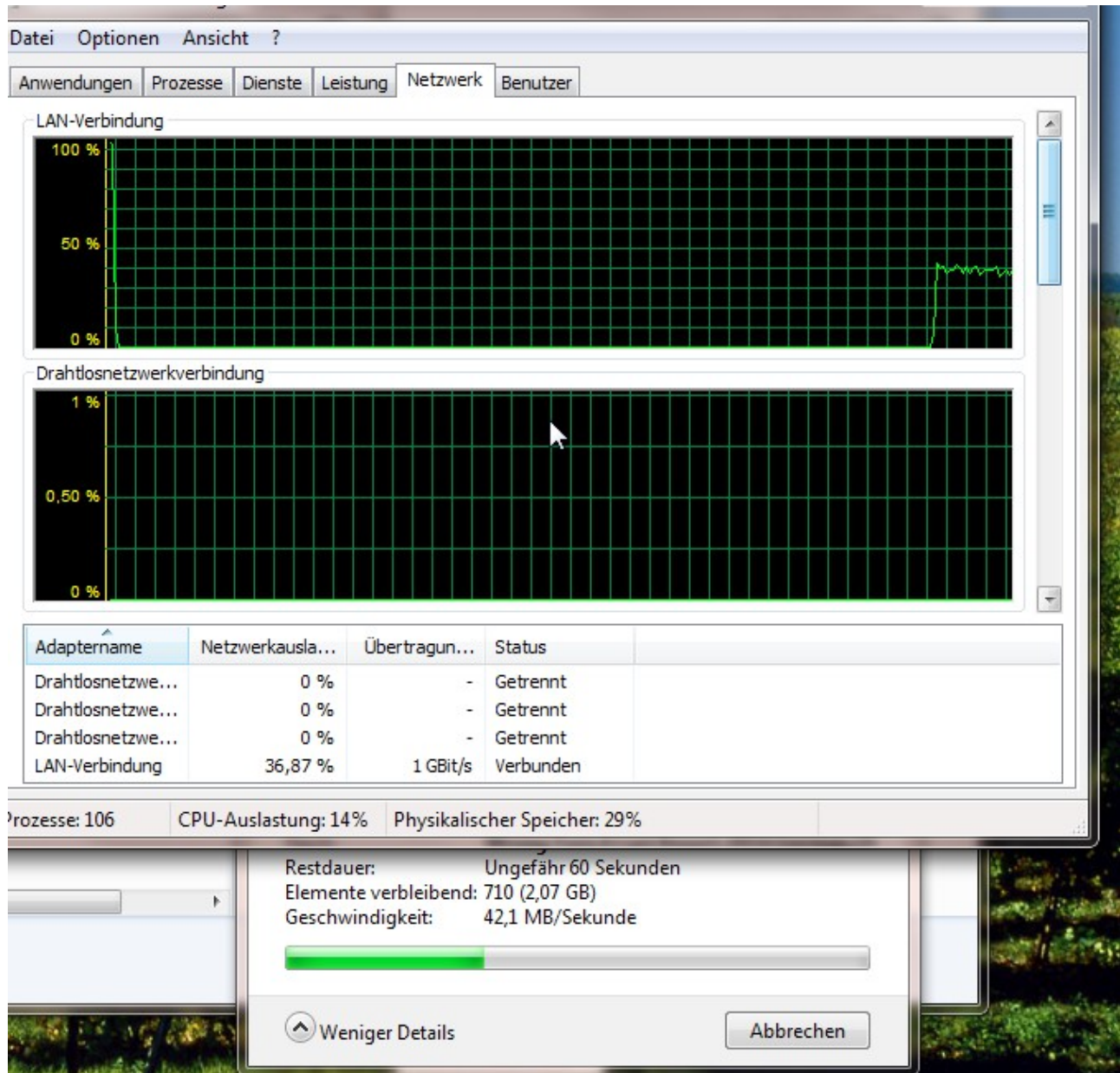
NAS to Thinkpad (wow):

Pooof! 112MB/s vs 90MB/s. Any Questions? We clearly maxed out gigabit here. Every big file pushes the nic to their limit (99.5%).
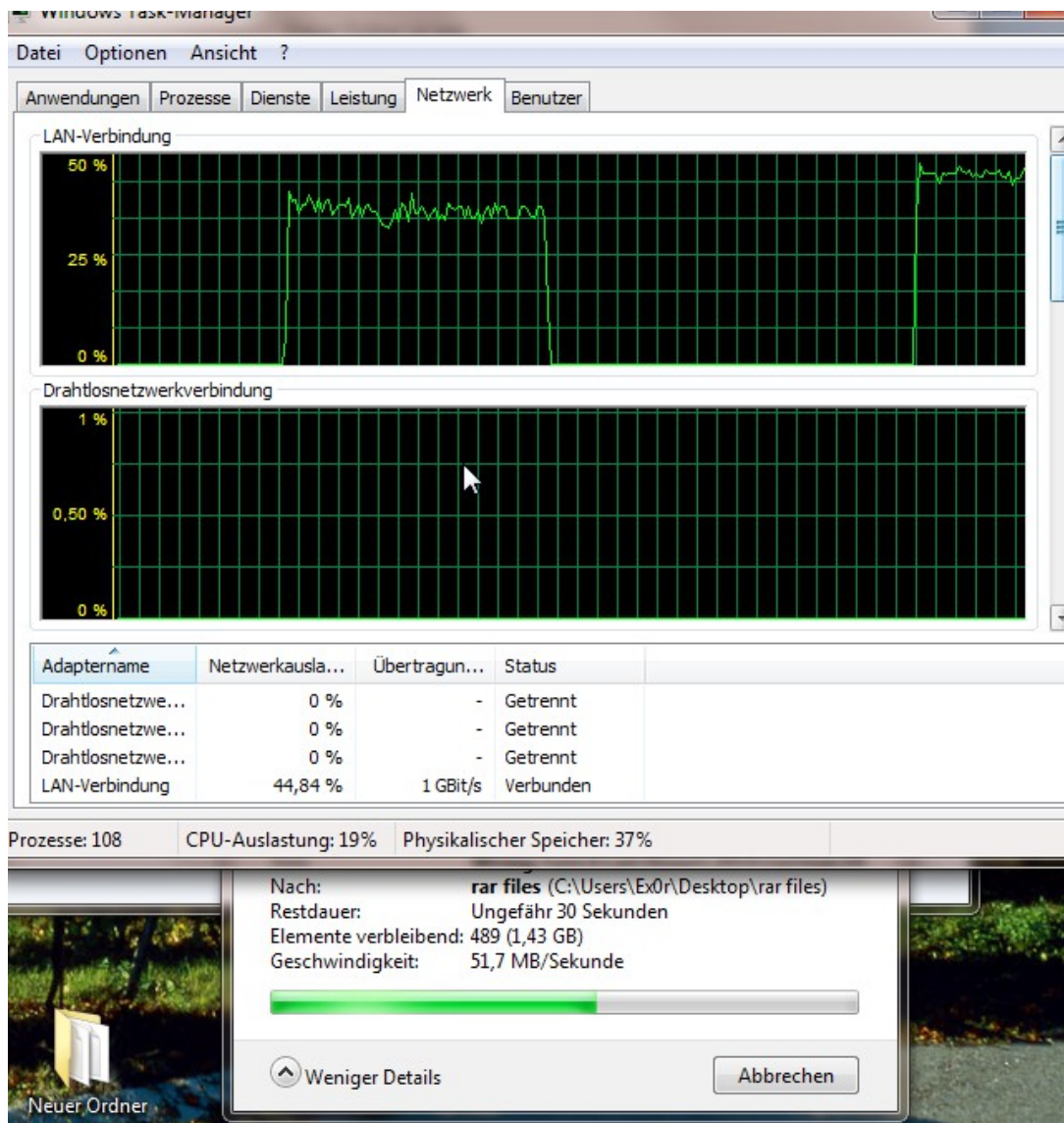
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I noticed great improvements on smaller files, too:

<u>Thinkpad to Nas 3M Files:</u>

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NAS to Thinkpad 3M Files:

Conclusion

If you are a standard home user and don't want to „waste" 24€ don't change your running system. But if you are driving a freenas system with enough processor power to max out gigabit give it a try. In **my** system the Intel card performs outstanding well. If you hope to improve your 30MB/s FreeNAS System to 100MB/s: Forget it. But if you are a sys admin and have to deal with some sereous traffic and/or IOPs than intel is your friend.