



is this 2.5 gb ethernet - Device-2: Realtek RTL8111/8168/8211/8411 PCI Express Gigabit Ethernet...



No, neither of these devices is a 2.5 Gb Ethernet adapter. They are both Gigabit Ethernet (1 Gbps) controllers.

Tapdra Realtek Rtl8111 Gigabit Ethernet Card for...

\$41.56

Walmart - Feilan Ltd

This is a standard Gigabit (1000 Mbps) controller. The "2.5 GT/s" you see in the PCIe info refers to the bus transfer speed of the PCI Express Gen 1 x1 slot it's plugged into, not the network speed. Your current link state confirms it is running at its maximum of 1000 Mbps [User Snippet].

Ax88179 Usb 3.0 Gigabit Rj45 Ethernet Lan Adapter...

\$15.99

eBay - eshopseller666

5.0 (1)

This is a USB 3.0 to Gigabit (1000 Mbps) Ethernet chip. While the USB 3.0 interface itself supports up to 5 Gb/s, the actual network port is limited to 1 Gbps.

Summary of Capabilities:

- Device-2: Max 1 Gbps (Realtek Gigabit).
- Device-3: Max 1 Gbps (ASIX Gigabit).

If you were looking for 2.5 Gb speeds, you would need a device with a different chipset, such as the Realtek RTL8125 or the ASIX AX88279.

Are you trying to upgrade your network speed to 2.5 Gb, and if so, do you already have a 2.5 Gb switch or router to support it?

14 sites

StarTech.com USB-C to Gigabit Ethernet Adapter - A+ Office Supply

StarTech.com USB-C to Gigabit Ethernet Adapter - USB 3.0 - USB 3.0 Type C ASIX - AX88179 - 1 Port(s) - 1 - Twisted Pair - 10/100/1...

A+ Office Supply



Amazon.com: Asix Ax88179

USB to Ethernet Adapter, 1000Mbps Plug and Play Ethernet Adapter with USB 3.0, Driver Free, RJ45 LAN Network Dongle Compatible wit...

Amazon.com

Ask anything





Upgrading to **2.5 Gb Ethernet** is a solid move for future-proofing, but as your current logs show, your hardware is still capping you at **1 Gbps**. Since you don't have a 2.5G router yet, you'll need to upgrade a few specific components to actually see those speeds. [↗](#)

### 1. Upgrade Your PC (The "Bottleneck" in your logs)

The **Realtek RTL8168** in your list is strictly a **1 Gbps** card. To hit 2.5 Gb, you need a new **PCIe Network Interface Card (NIC)**. [↗](#)

- **Best Value Option:** The TP-Link TX201 is a popular, affordable 2.5G PCIe card (~\$30) that uses the newer [Realtek RTL8125 chipset](#).
- **Alternative:** If you have an extra USB 3.0 port and don't want to open your PC, look for a **USB-to-2.5G Ethernet Adapter**. Note that these can sometimes be less stable than a dedicated PCIe card. [↗](#)

### 2. Choose a 2.5G Router or Switch [↗](#)

To connect your devices at 2.5G speeds, your "hub" must also support it. [↗](#)

- **The Budget Path (Switch):** If you already have a 1 Gb router and don't want to replace it yet, buy a cheap **2.5G Unmanaged Switch** like the TP-Link TL-SG105-M2 (~\$60). Plug the 2.5G switch into your current router, then plug your 2.5G-capable PC into the switch. Devices on the switch can talk to each other at 2.5 Gb.
- **The Full Upgrade (Router):** If you're ready for a new router, look for models with **2.5G WAN and LAN ports**.
  - **WiFi 7 Value:** [TP-Link Archer BE230](#) (~\$100-120).
  - **Gaming/Performance:** [Asus RT-BE82U](#) or [TP-Link Archer AX55 Pro](#). [↗](#)

TP-Link Archer BE230 Wi-Fi 7 Router	ASUS RT-BE82U BE6500 Wireless Dua...	Archer Ax55 Pro Ax3000 WiFi 6 Router...
\$139.99	\$169.99 <del>\$199.99</del>	\$119.99
4.8 (1.1K)	4.7 (231)	4.7 (4.3K)

### 3. Check Your Cables

- **Cat5e** is technically enough for 2.5G over typical home distances.
- **Cat6** is recommended if you're buying new cables or running longer lines to ensure maximum stability. [↗](#)

These guides and forum discussions explain how to upgrade your PC and network hardware for 2.5 Gb Ethernet speeds:

Supercharge Your Network:



Upgrading to 2.5 gigabit



AI Mode ▾ All Images Videos News More ▾


 11 sites

#### NICGIGA 2.5 G Base-T PCIe Network Adapter, Realtek RTL8125B ...

Product Summary: NICGIGA 2.5G Base-T PCIe Network Adapter, Realtek RTL8125B 2.5Gbps/1Gbps/100Mbps PCI Express Gigabit Network Card...

 Amazon.com ▾



#### AX3000 Multi-Gigabit Wi-Fi 6 Router with Two 2.5G Ports

Archer AX55 Pro \* AX3000 Wi-Fi 6 Everything at High Speed. \* Two 2.5 Gbps Ports Lightning-Fast. Wired Connections. \* 160 MHz Channe...

 www.tp-link.com ▾


#### How to get gigabit speeds? | Page 2

Oct 7, 2022 — If you want to be able to utilize the router's 2.5 Gbps port, it is as simple as getting a switch with at least one 2.5 Gbps inter...

 IP Cam Talk · Eli the Computer Guy ▾

[Show all](#)

moving large files between computers on your local network (like a NAS)

Moving large files locally is the best reason to **upgrade to 2.5 Gb Ethernet**, as it increases your real-world transfer speeds from ~110 MB/s to roughly **280 MB/s**. [↗](#)

Since you already have a PC with a 1 Gbps port and a NAS, here is the most efficient way to set up your high-speed "fast lane" without needing a new router:

### 1. Hardware Needed for 2.5 Gb Local Transfers [↗](#)

- **The Switch:** Instead of a router, get a dedicated **2.5 Gb unmanaged switch**. Affordable options include the TP-Link TL-SG105-M2 (\$50) or the Grandstream GWN7700M (\$38).
- **The PC Card:** Since your current Realtek port is only 1 Gbps, you'll need a **2.5 Gb PCIe card** like the TP-Link TX201 (~\$27) for your desktop.
- **The NAS Port:** Ensure your NAS has a 2.5 Gb port. Many newer models like the [Asustor AS5402T](#) come with them built-in. If your NAS only has 1 Gb, you may be able to use a **USB-to-2.5G adapter** (common for Synology or QNAP systems) to bypass the limit. [↗](#)

### 2. The Setup (No Router Required)

1. Connect your **existing router** to one port on the new **2.5G Switch**. This provides internet to everything on the switch.
2. Plug your **PC (with the new 2.5G card)** and your **NAS** into the other ports on the **2.5G Switch**.
3. **Result:** When you move files between the PC and NAS, the data stays on the 2.5G



an all-flash setup. [↗](#)

Explore how to boost local file transfer speeds using 2.5 Gb Ethernet switches and network cards, and consider drive speeds as a key performance factor.

### How to Get the Best Transfer Speeds from Your NAS Device

Aug 14, 2023 — Most consumer devices do not support 10 GbE...

How-To Geek [⋮](#)



### [SOLVED] - 2 computers 1 nas | Tom's Hardware Forum

Sep 17, 2020 — gggplaya said: I don't think you need 10GbE because the hard drives will likely be the...

Tom's Hardware [⋮](#)



**Next Step:** Do you already have a NAS, or are you looking for recommendations for one that natively supports 2.5 Gb speeds?



12 sites

### How to Get the Best Transfer Speeds from Your NAS Device

Aug 14, 2023 — Most consumer devices do not support 10 GbE networking. So, you should probably buy a 2.5 Gbps switch, which will provide transfer...

How-To Geek [⋮](#)



### Trying to get 2.5gbe transfer rate between two PCs ... - Reddit

Aug 17, 2023 — Honestly, looking at your little graphic there... If you only have 2 PC's with 2.5Gbe, and everything else is legacy gigabit you c...

Reddit [⋮](#)



### Why is nas file transfer limited to 120mbs? - Facebook

Nov 6, 2025 — You would have to be able to read and write at least 1.25 GB per second to saturate that network. 2.5gb is The Sweet spot in my op...

Facebook [⋮](#)



Show all

I have two ASUSTOR AS5202T NASes. Each has two 2.5 Gb Ethernet. Can I or Should I Agregate. They ... [↕](#)

You **can** technically aggregate the two 2.5 Gb Ethernet ports on your **Asustor AS5202T** NAS units, but given that they have mechanical hard drives and you want to move large files, you **should not** use traditional link aggregation (LACP) if you primarily access the NAS from a single computer. Instead, you should use **SMB Multichannel**. [↗](#)

### Why Link Aggregation (LACP) is not ideal for your use case

Traditional link aggregation (using a managed switch that supports LACP) is designed for multi-user environments, not single clients. [↗](#)

- **Single Client Bottleneck:** With LACP, a single file transfer (session) is still limited to the speed of a single link, which is **2.5 Gbps** (~280 MB/s). You won't get the combined 5 Gbps speed (~560 MB/s) for one large file transfer.



speeds for a single file transfer. [↗](#)

- **How it Works:** SMB Multichannel is a feature of the SMB protocol (used by Windows and modern macOS) that allows a client to use multiple network connections to a single server (your NAS).
- **Setup:** The best part is that it often doesn't require a special managed switch. You just need to connect both 2.5 Gb ports on the NAS to your (currently 1 Gbps) switch, or even better, a new **2.5 GbE or multi-gig switch**, and ensure SMB Multichannel is enabled in the NAS settings.
- **Benefit:** This allows a single client computer (once upgraded with a 2.5 GbE NIC, as discussed previously) to potentially utilize the full combined bandwidth of both ports, although you'll still be limited by the mechanical drive speeds. [↗](#)

### Summary

1. **Do not use LACP Link Aggregation** for single-client speed improvements.
2. **Enable SMB Multichannel** in your Asustor ADM settings for the best potential single-client performance with large files.
3. **Upgrade your PC's Ethernet** to 2.5 GbE (or higher) to take advantage of the NAS's ports.
4. **Consider a multi-gig switch** to connect everything at 2.5 Gb speeds or higher. [↗](#)



9 sites ⋮

#### Link Aggregation question. : r/homelab - Reddit

Nov 17, 2020 — Comments Section \* rst-2cv. • 5y ago • Edited 5y ago. If the link aggregation protocol being used by the NAS is LACP (IEEE 802.3ad...

Reddit ⋮

#### Dual 2.5Gb to achieve full 5Gb : r/asustor - Reddit

Dec 30, 2023 — Just a heads up, if you check the box on the SMB tab for Multiple channels, it will bond them and create a 5Gb link. That's it. No...

Reddit ⋮

#### Cheapest way to use 5Gbps Asustor NAS networking? - Reddit

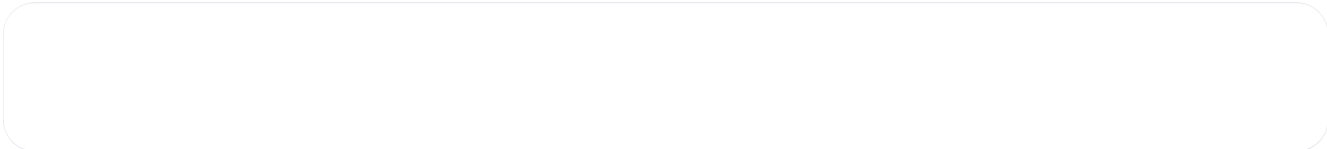
Nov 30, 2021 — How many clients? If you only have one or two and you connect over smb protocol, you do not want to aggregate links as link aggreg...

Reddit ⋮

Show all

### My NASes use Rockstor on NFS

If you are running **Rockstor** (Linux-based) and using **NFS** for file sharing, the rules change significantly compared to standard Asustor firmware. [↗](#)



AI Mode ▾ All Images Videos News More ▾



- **Bonding/LACP:** Even if you bond the two 2.5G ports on your NAS, a single NFS transfer between your PC and the NAS will **still stay on a single 2.5G path**. It will not combine to 5G for one file Red Hat Customer Portal - Bonding.
- **The Drive Bottleneck:** Since you have **mechanical HDDs**, a single 2.5G link (280 MB/s) is already faster than what a single HDD can usually provide (150-200 MB/s). Even in a RAID mirror, your drives will likely "max out" before the 2.5G network does. [👉](#)

## 2. How to use both ports with Rockstor

Since you are using Rockstor (based on openSUSE), you have two main options for those dual ports: [👉](#)

- **Option A: Active-Backup (Redundancy)**  
If one cable fails or one port on your future switch dies, the NAS stays online. This doesn't increase speed, but it increases reliability. You can set this up in the **Rockstor WebUI** under the **Network** tab.
- **Option B: Separate Networks (Isolation)**  
You could put one 2.5G port on a dedicated "Storage Network" (just for backups between the two NASes) and the other on your "Home Network" (for your PC). This ensures that if you are syncing files between the two AS5202T units, it doesn't slow down your PC's access. [👉](#)

## 3. The Better Way to Speed Up NFS

If you want the fastest performance on Rockstor with NFS:

1. **Skip Bonding:** It adds complexity (and requires a managed switch) for almost no gain in your specific setup.
2. **Enable Jumbo Frames:** If your future 2.5G switch and your PC support it, set **MTU to 9000** on both the NAS and PC. This reduces CPU overhead and can squeeze more performance out of mechanical drives over NFS.
3. **Optimize Export Options:** In Rockstor, ensure your NFS exports use `async` if you value speed over absolute data safety during a power outage, or use `sync` with an SSD cache (Log device). [👉](#)

**Summary for your AS5202T:** Since your drives are the bottleneck and NFS doesn't "stripe" across links like SMB Multichannel does, **keep it simple**. Use one 2.5G port for your main traffic and use the second port only if you want a dedicated "sync link" directly between the two NASes.

**Next Step:** Are you planning to sync data *between* the two NAS units (e.g., for backup), or is each one serving different files to your PC?



 19 sites

### Why I Love Rockstor on our Storinators

Sep 29, 2015 — So to sum up, Rockstor is a solid Btrfs+Linux-powered NAS appliance that has a wonderfully talented and hardworking development te



AI Mode ▾ All Images Videos News More ▾



Gaming trends

Show all

sync data between the two NAS units

Since you are syncing between two **AS5202T** units running **Rockstor**, you have a unique opportunity to create a "**High-Speed Sync Tunnel**" that bypasses your main network traffic entirely.

### 1. The "Direct-Connect" Strategy (No Switch Needed)

Because you have two ports on each NAS, you can use one port for your regular network and the second port for a **direct 2.5 Gb connection** between the two units.

- **Physical Connection:** Plug a Cat6 cable directly from **Port 2** of NAS-A into **Port 2** of NAS-B.
- **IP Configuration:** Assign these ports a different static IP subnet (e.g., `10.0.0.1` and `10.0.0.2`).
- **The Benefit:** When you run your sync (via `rsync`, `btrfs send/receive`, or Rockstor's replication), point the destination to the `10.0.0.x` address. The data will fly across that dedicated 2.5G cable without eating up bandwidth on your main router/switch or affecting your PC's internet speed.

### 2. Why not "Aggregate" here?

Aggregation (Bonding) is overkill for this for two reasons:

1. **Complexity:** LACP bonding usually requires a managed switch. A direct cable is free and faster to set up.
2. **The HDD Bottleneck:** Your **mechanical drives** are the speed limit. A single 2.5G port handles ~280 MB/s. Most mechanical drives in a NAS top out at ~180-220 MB/s. Adding a second 2.5G link (to make 5G) won't make the physical spinning platters move data any faster.

### 3. Making the Sync Faster on Rockstor

Since Rockstor uses **BTRFS**, don't just use standard tools. Use the power of the filesystem:

- **BTRFS Send/Receive:** If you are syncing entire shares, this is significantly faster than `rsync` because it only sends the changed blocks at the filesystem level. You can set this up through the Rockstor Replication tool.
- **Compression:** Ensure **Zstd compression** is enabled on your shares. It reduces the amount of data that actually needs to be written to the mechanical disks, often making the sync feel faster than the network limit.

### 4. Summary Recommendation

AI Mode ▾ All Images Videos News More ▾



yes

To set up the **Direct-Connect Sync Tunnel** (Port 2 to Port 2) in **Rockstor**, follow these steps. This ensures your heavy sync traffic stays off your main network.

## 1. Identify the Interfaces

In the **Rockstor WebUI**, go to **System > Network**.

- **Port 1:** Should already be connected to your router/switch (e.g., `eth0` or `enp1s0`). **Leave this alone.**
- **Port 2:** This is the second 2.5 Gb port (e.g., `eth1` or `enp2s0`). It should show as "Disconnected" until you plug the cable directly between the two NAS units.

## 2. Configure Static IPs (The "Sync Lane")

You must give these ports IPs on a **different subnet** than your home network (if your home is `192.168.1.x`, use `10.0.0.x`).

### On NAS-A:

1. Click the **Edit** (pencil) icon next to the second interface.
2. Set **IPv4 Configuration** to **Static**.
3. **IP Address:** `10.0.0.1`
4. **Netmask:** `255.255.255.0`
5. **Gateway:** Leave **Blank** (Crucial: Adding a gateway here will break your internet access).
6. Save/Submit.

### On NAS-B:

1. Repeat the steps for the second interface.
2. **IP Address:** `10.0.0.2`
3. **Netmask:** `255.255.255.0`
4. **Gateway:** Leave **Blank**.

## 3. Verify the Connection

Go to **System > Dashboard** or use the **Shell** on one NAS and try to ping the other:

```
bash
ping 10.0.0.2
```

AI Mode ▾ All Images Videos News More ▾



- **Rockstor replication:** when adding a replication Appliance in the webui, use the IP `10.0.0.2` (or `.1`) instead of the main network IP.
- **Rsync:** If using scripts, use `rsync -avz /source/ user@10.0.0.2:/destination/`.

### Why this beats "Aggregation":

- **Efficiency:** It completely bypasses your router's CPU.
- **Simplicity:** No need for a managed switch or complex LACP (802.3ad) bonding configuration in Linux.
- **Speed:** Since it's a direct 2.5 Gb link, it's already faster than your **mechanical HDDs** can read or write (~200MB/s vs the link's ~280MB/s).

**Smart Strategy:** Since you are using Rockstor, ensure your BTRFS pools are healthy. If you have multiple drives, using **RAID10** in Rockstor will significantly increase your read/write speeds, helping you get closer to saturating that 2.5 Gb link.

**Next Step:** Are you comfortable using the Rockstor WebUI for this, or would you prefer the specific `nmc li` (Network Manager) commands to do this via the terminal?



### Rockstor WebUI - I have RAID0

Since you are using **RAID0**, your mechanical HDDs are actually fast enough to saturate a **2.5 Gb link**. Two modern HDDs in RAID0 can easily hit **300–400 MB/s**, which is higher than the **280 MB/s** limit of a single 2.5 GbE port.

However, even with RAID0, **do not aggregate** (LACP). In Rockstor/Linux, aggregation doesn't magically combine two 2.5 Gb links into one 5 Gb pipe for a single sync task; it just allows two separate tasks to run at 2.5 Gb each.

Here is how to set up your **High-Speed Sync Lane** in the **Rockstor WebUI**:

#### 1. Configure the Private "Sync Lane"

Connect a Cat6 cable directly between the **Port 2** of both NAS units.

1. Log into **NAS-A** WebUI.
2. Navigate to **System > Network**.
3. Identify the second 2.5 Gb interface (likely `eth1` or `enp2s0`). Click the **Pencil icon** (Edit).
4. **Mode:** Static.
5. **IP Address:** `10.0.0.1`
6. **Netmask:** `255.255.255.0`
7. **Gateway:** **LEAVE EMPTY**. (If you put a gateway here, Rockstor will try to send internet

AI Mode ▾ All Images Videos News More ▾



## 2. Click **Add Remote Appliance**.

3. For the **IP/Hostname**, enter `10.0.0.2` (the private IP of NAS-B).
4. Follow the prompts to exchange SSH keys.
5. When you create a **Replication Task**, ensure you select the **Share** on your RAID0 pool.

## 3. Why RAID0 + 2.5 Gb is the "Sweet Spot"

- **The Math:** A single 2.5 Gb link caps at **~280 MB/s**. Your RAID0 mechanical array can likely do **~350 MB/s**.
- **The Bottle Neck:** You will finally be limited by the **2.5 Gb network port** rather than the drives. This is the best-case scenario for performance.
- **The Risk Reminder:** Since you are using RAID0, if **one** drive fails in either NAS, **all data on that NAS is lost**. Ensure your sync is a "backup" and not your only copy of the data.

### Pro Tip for Rockstor Performance:

In the WebUI, go to your **Pool** settings and ensure **Compression** is set to **Zstd**. BTRFS will compress data before it hits the network/disk, which can actually push your "effective" transfer speed even higher than 280 MB/s for compressible files.

**Next Step:** Do you need help verifying if the two NAS units are actually talking to each other over that new 10.0.0.x private line before you start the sync?



yes

To verify that your two **AS5202T** units are communicating over the new **10.0.0.x** "sync lane," follow these steps.

## 1. Check Status in the Rockstor WebUI

1. Navigate to **System > Network** on both NAS units.
2. Locate the second interface (e.g., `eth1`).
3. Ensure the **Status** shows as **Connected** or **Up**. If it says "Disconnected," check the physical cable between the two NAS units. [🔗](#)

## 2. Verify Connectivity via Terminal (The Most Reliable Way)

Since Rockstor doesn't have a built-in "Ping" button in the WebUI, you should use the terminal (SSH into the NAS or use the local console).

1. **Log into NAS-A** (10.0.0.1) via SSH or console.
2. **Ping NAS-B** by typing the following command:



(Note: Replace `eth1` with the actual name of your 2.5 Gb interface found in the WebUI).

### 3. Interpret the Results:

- **Success:** You will see lines like `64 bytes from 10.0.0.2: icmp_seq=1 ttl=64 time=0.123 ms`. This means the "fast lane" is working.
- **Failure:** If you see `Destination Host Unreachable`, there is a configuration error (likely a typo in the IP or Subnet Mask).

### 3. Verify the Route

To ensure Rockstor knows to use the 2.5 Gb cable for the 10.0.0.x traffic, run this command:

```
bash
ip route get 10.0.0.2
```

Use code with caution.

It should respond with something like `10.0.0.2 dev eth1 src 10.0.0.1`. This confirms that traffic destined for the other NAS will stay on the direct cable and not try to go through your router.

### Troubleshooting Tips

- **No Gateway:** Ensure you left the **Gateway** field empty for the 10.0.0.x interfaces. If you added one, it can cause "IP conflicts" or routing loops.
- **Firewall:** Rockstor's default firewall usually allows ICMP (ping) between local interfaces, but if it fails, double-check that you haven't set overly restrictive rules in **System > Services > Firewall**.

**Next Step:** Once you've confirmed the ping works, are you ready to set up the **BTRFS Replication** task to start moving data?



5 sites

#### Network — Rockstor documentation

Rockstor supports basic network configuration from the Web-UI. Network interfaces can be configured with DHCP or Static IP configu...

Rockstor

#### Using command line tools to test and verify network connectivity

Sep 23, 2021 — so now that we have an IP address set up in our system let's talk about using some command line troubleshooting tools and when I'm...

YouTube · David Dalton



How to check the network connection between two computers?

AI Mode ▾ All Images Videos News More ▾

