SHOW NOTES

@mjkabir Notes

https://shownotes.app/show/4jndc

16 TB Media Backup for My M1 Mac Mini

As I started using my Sony A7R V camera, the photos are taking a toll on my local storage infrastructure. I have exhausted my 2TB Mac Mini M1 disk and almost exhausted a 4TB external Samsung drive. I have been trying to compile all my photos from early 2000 to 2024, and so this local backup of mostly family photos and videos is taking a massive toll on my storage infrastructure.

So, I created an SSD solution using RAID 0 (zero) for maximum storage. Here is how I did it.

TABLE OF CONTENTS

AI AGENTS HAVEN'T YET REVIEWED THIS NOTE!

MiniPro RAID V4 USB-C (10Gbps) Dual Bay Enclosure

The MiniPro RAID V4 is a durable dual-drive storage system with the latest USB-C connection, making it compatible with all USB and Thunderbolt 3 & 4 devices. Its design includes an aluminum body encased in a silicone sleeve for added protection and impact resistance.

This enclosure offers integrated RAID hardware with flexible storage management options, including RAID 0, 1, JBOD, and BIG modes. The MiniPro RAID V4 also provides a USB-C hub port for daisy-chaining additional MiniPro devices or connecting other USB-C devices, along with a USB-A port for seamless connection of more USB devices.

Overall, the MiniPro RAID V4 is designed to be a reliable and versatile storage solution, catering to the needs of professionals requiring dependable storage or individuals seeking data on-the-go.
203 days 21 hrs ago

8TB SAMSUNG 870 QVO SATA III SSD - 2 Units

The SAMSUNG 870 QVO SATA III SSD is a high-capacity 2.5-inch internal solid-state drive offering an impressive 8TB storage. Designed for IT professionals, content creators, and everyday users, this SSD is an excellent choice for upgrading their desktop PC or laptop memory and storage.

With its SATA III interface, the 870 QVO provides fast and reliable performance, making it ideal for storing and accessing large files, such as high-resolution photos, videos, and games.

Additionally, the drive's 2.5-inch form factor and 7mm height make it compatible with a wide range of devices, ensuring easy installation and broad compatibility. The SAMSUNG 870 QVO SATA III SSD is a versatile and dependable storage solution for various computing needs.
203 days 21 hrs ago

RAID 0 - for max storage

My goal is not redundancy but mostly a large SSD-based storage media. So I decided to use RAID-0 to have max performance with two 8TB Samsung SSDs.

202 days ago

RAID BASICS

RAID (Redundant Array of Independent Disks) is a data storage technology that combines multiple physical disk drives into a single logical unit to improve performance, reliability, or both. Here are explanations of RAID levels 0 to 5:

RAID 0 (Striping): Data is divided into blocks and distributed across multiple disks. This increases performance, as multiple disks can read and write data simultaneously. However, there is no redundancy, so losing one disk can result in total data loss.

RAID 1 (Mirroring): Data is duplicated and stored on multiple disks. This provides redundancy, as data remains accessible if one disk fails. However, since the same data is stored on each disk, only half of the total storage capacity is available for use.

RAID 2: RAID 2 uses bit-level striping with error-correcting code (ECC) across multiple disks. This is rarely used in practice.

RAID 3: RAID 3 uses byte-level striping with parity information distributed across multiple disks. The parity information allows data to be reconstructed if one disk fails. However, it requires synchronized spinning of all disks, which can impact performance.

RAID 4: RAID 4 is similar to RAID 3 but uses block-level striping and is optimized for large reads and writes. However, it suffers from poor performance for small data requests due to the need for synchronized spinning of all disks.

RAID 5 (Striping with Parity): RAID 5 distributes data and parity information across multiple block disks. It offers both redundancy and performance. If one disk fails, data can be reconstructed using the parity information stored across the other disks. It can handle small data requests efficiently but has some overhead for calculating parity information.

Actual Setup Steps

Once I got the enclosure and two SSD disks via Amazon Prime, here is what I did in less than 5 minutes:

202 days ago