

Embedding Paragon NTFS for Linux into NAS

Best Practices

Doc Highlights

This document touches upon the problem system builders of NAS servers are facing, exactly the need of providing full-fledged support for the NTFS file system under Linux based devices. Moreover it exposes a number of requirements, critical for these devices that are crucial for a potential solution. As a problem addresser comes out Paragon Software with its unique technology UFSD™ (Universal File System Driver) that enables not only to provide support for NTFS under a Linux based NAS, but take the most of the driver on particular hardware, thus matching the performance of Linux-native file systems.

Problem

The desire for low-cost, highly integrated, easily managed network storage is the reason that network attached storage (NAS) servers as well as routers with storage features are the choice of more and more small and medium-sized companies. Even home users have already appreciated all benefits they can offer. It's not a surprise that this market segment tends to be one of the most rapidly developing these days. Embedded system builders are desperately fighting for their customer, each looking for the ways to make its own device better and more efficient than the other competitors do. And actually there are some ways to achieve this at least as for its software side.

In pursuit of cutting overheads, Linux has been chosen by the overwhelming majority of system builders as a platform for their embedded solutions. Well, it's free, stable, and really modest to the system resources, one more thing to cut cost price. However, this option has its drawbacks, and the most critical is a naughty limitation to OS-native file systems. If you want to be competitive and versatile, you desperately need full support for the most popular file systems implemented into your solution.

That's where come up developers of file system drivers, every serious system builder of NAS should cooperate with. As for a Linux based NAS, it's of course the necessity to support the Windows best file system – NTFS. Moreover, it's not just enough to add support for this or that file system, it's crucial to have this file system operate on particular hardware to the full, where the most important parameters are:

- Quick mount time;
- Fast Samba and NFS file/folder browsing;
- Low system requirements;
- Minimal size of the module.

Solution

Paragon Software is a world-wide acknowledged developer of file system drivers, drive partitioning, and disaster recovery solutions. With UFSD (Universal File System Driver), an original technology that enables to establish read-write access to the so-called popular file systems (NTFS, FAT16/32, Ext2/Ex3FS, HFS+, etc.) under operating systems that cannot do it by default (e.g. NTFS for Linux or Mac, ExtFS or HFS+ for Windows, etc.), the company has managed to address this problem in the most

efficient way. Moreover, especially for embedded system builders, Paragon has offered advanced performance tuning for each particular hardware environment, involving:

- Improvement of the read/write performance;
- Cutting of the mount/un-mount operation time;
- Reduction of the CPU utilization;
- Improvement of file/directory enumeration that affects the HDD indexing and browsing;
- And more...

Actually Paragon Software today is the only company that can boast this option.

That's why more and more embedded system builders are coming to Paragon Software to equip their Linux based NAS with a reliable and effective NTFS driver. By now, the company has got a significant record of successful implementation of the NTFS for Linux driver into different types of NAS. With the Paragon's driver aboard these devices become more competitive and versatile, exactly what their developers striving for.