

# ReadyNAS® Introduces the Next Generation of Storage

# Table of Contents

READYNAS INTRODUCES THE NEXT GENERATION OF STORAGE.....	3
READYNAS COMMITMENT TO LEADERSHIP.....	3

## READYNAS® INTRODUCES THE NEXT GENERATION OF STORAGE

One of the most significant fundamental changes in ReadyNAS® OS 6 is the file system adoption of BTRFS (pronounced “Butter FS”). BTRFS was first developed by Oracle in 2007 to overcome scalability issues that existed with other files systems such as EXT. Similar to many other file systems, BTRFS is a GPL-licensed file system with a community of active developers maintaining and enhancing the core code.

ReadyNAS implementation of BTRFS is designed for:

- Large files and file systems
- Simplified administration
- Integrated volume management
- Snapshots
- Checksums for data and meta-data

FEATURES	BENEFITS
Built-in data integrity: checksums of data and meta-data	Detects data and file system corruption, improving overall stability.
File and sub volume snapshots	Create lightweight copies/clones of files or entire directory structures with minimal additional disk space requirements. This feature is especially useful in combination with virtualization technologies for storing virtual machine images.
Online defragmentation	Avoids fragmentation when lots of small files are created and deleted in quick succession and thus improves the overall file system performance by reducing disk seeks.
Online data compression	Improved storage capacity and reduced disk I/O operations.
Scrubbing with error correction	Finds and fixes file system corruptions.
Built-in storage pools	No need for additional LVM, thus improving performance.
Provisioning	Ability to grow and shrink a volume.

## READYNAS COMMITMENT TO LEADERSHIP

File system technology will always continue to evolve. Recently the industry experienced a shift from EXT3 to EXT4; now innovation is moving in the direction of BTRFS. As we move from generation to generation, users gain the benefits of better data protection, higher scalability, and improved performance. ReadyNAS joins Oracle and SUSE as the first major commercial products to ship using BTRFS:

- Oracle’s Unbreakable Enterprise Kernel Release 2 was included in Oracle Linux 5 and 6 (March 2012)
- SUSE’s Linux Enterprise Server 11 Service Pack 2 (Jan 2013)

As a tested and production-ready file system, ReadyNAS users can now benefit from this major advancement with the peace of mind that comes from knowing the largest and most trusted vendors in the industry have already endorsed the technology.

For more information on ReadyNAS OS 6’s new features, visit [www.netgear.com/ReadyNAS](http://www.netgear.com/ReadyNAS)

**Notes:**

BTRFS Features (Benefits)

[www.oracle.com/us/technologies/linux/btrfs-features-1405320.pdf](http://www.oracle.com/us/technologies/linux/btrfs-features-1405320.pdf)

Oracle Linux (Versions 5 and 6) both support BTRFS in their production distribution (March 2012)

[www.oracle.com/us/technologies/linux/product/features/index.html](http://www.oracle.com/us/technologies/linux/product/features/index.html)

[oss.oracle.com/ol6/docs/RELEASE-NOTES-UEK2-en.html](http://oss.oracle.com/ol6/docs/RELEASE-NOTES-UEK2-en.html) Part of Unbreakable Enterprise Kernel Release 2

This is a key feature in Oracle's "Unbreakable Enterprise Kernel"

SUSE Linux Enterprise Server 11 also introduced support for BTRFS in Service Pack 2. (Jan 2013)

[www.suse.com/releasenotes/x86\\_64/SUSE-SLES/11-SP2](http://www.suse.com/releasenotes/x86_64/SUSE-SLES/11-SP2)