

# NAS vs. Desktop

Marketing Bulletin

## Evaluating HDDs for NAS Applications

When choosing the right drive for any application, there are many factors to take into consideration, including what the drive will be used for, what applications it will run, what requirements the environment will place on the drive, and what levels of capacity, performance, reliability or speed will be needed. With more data streaming into homes and small businesses than ever, there is greater demand for simple, centralized NAS storage arrays, but the demands on a drive in these systems are high. Enter the Seagate® NAS HDD, the first Seagate drive purpose-built for 1- to 5-bay NAS arrays.

Traditionally, small NAS solutions employed desktop drives, but they demanded more than a typical desktop HDD could reliably deliver. Those demands include NAS error recovery controls, drive vibration and advanced power management features, all of which are addressed with Seagate NASWorks™ technology. By choosing Seagate NAS HDD with NASWorks, you can expect more reliable performance from your 1- to 5-bay NAS systems.

### **NAS Error Recovery Controls**

Seagate NASWorks helps to ensure drives remain active in a RAID environment. For example, in a typical desktop environment, if a drive needs to rebuild data, it can take 20 seconds or longer. In a typical NAS application, if the drive takes longer than seven seconds to recover data, the RAID assumes the drive dropped out of the array and will start the time-consuming task of rebuilding the entire drive. With NASWorks, however, the drive will stop trying to recover data within seven seconds. Instead, the drive will notify the RAID that it needs help rebuilding a specific piece of data. The RAID can help correct that data from backups, and a full drive rebuild is avoided.



## Dual-Plane Balance

Traditional desktop drives emit small levels of vibration because of their rotating magnetic platters. For laptop and desktop systems, the vibration of a single drive has little effect on a system. However, if the same desktop drive is integrated into a multi-drive environment like a NAS box, the effects are amplified and can cause reductions in performance. For multi-drive applications, NASWorks helps dampen drive vibrations with dual-plane balance. By better balancing the drive motor, drive vibration is minimized, making it more reliable in 1- to 5-bay environments. (For larger environments, Seagate enterprise-class drives offer additional features to better displace the effects of vibration, further improving drive reliability.)

## Advanced Power Management

Finally, desktop drives are built to run in profiles that are somewhat parallel to your own workweek. That is, they're expected to run on and off for multiple hours at a time, but not 24x7. NAS environments demand more and expect ready access to data. For that reason, NASWorks provides 24x7 operation profiles and advanced power management modes to help drives go into the appropriate sleep or standby mode; this maximizes power conservation, minimizes time-to-data and improves overall reliability and performance.

To avoid frustration and improve performance and reliability in multi-drive applications, choose drives that support these features. You can see performance improvement and better overall health in your NAS solution with Seagate NAS HDDs supported by NASWorks.

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