NAS Is More with Seagate

NAS DRIVE PARTNER GUIDE
By 2020, digital bits will rival the number of stars in the universe. Our digital universe is doubling in size every two years, so it’s essential that data can be captured, analyzed, and archived—anytime and anywhere.

Network Attached Storage (NAS) is the ideally suited solution. An independent network device with its own IP address, NAS is a server-based storage system that enables file sharing among multiple users. Applications include backup and recovery, virtualization, cloud storage, disaster recovery, and multimedia. Best planned as a onetime capital expense, NAS solutions can start small yet scale easily as data increases.

With global revenues for SME NAS devices expected to grow nearly 50% annually through 2018¹, this guide shows how the forward-looking features of Seagate’s NAS drive portfolio make it the superior choice for your customers—delivering peace of mind well into tomorrow.

¹ Technavio 2014-2018 NAS Enterprise Revenue

USING THIS GUIDE

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- Look for this icon to explore additional online content
- Look for this icon to discover content exclusive to Seagate Partners
- For comments about this guide, email us at spp.feedback@seagate.com
NASsessing the Situation: Choosing the Right HDD Is Crucial

All HDDs look fairly similar in appearance, but what’s inside your NAS enclosure matters more than ever.

Installing Desktop HDDs over NAS-optimized HDDs has some striking disadvantages that can be detrimental to business data, negating any short-term cost savings.

» Continue
Desktop HDDs vs. NAS-Optimized HDDs

**Desktop HDDs**

*Good for the everyday user, but not for NAS*

- Built to read and write small-block and random data transfers typical of day-to-day computing, surfing, and document creation
- Designed for on/off usage throughout the day or night but not 24x7 always-on applications
- Ideal as a single drive or paired with another drive in a desktop or laptop system
- Purpose designed for standard power, acoustics, performance, and capacity for everyday computing

**NAS-Optimized HDDs**

*Specifically optimized for 24x7 reliability*

- Always-on, 24/7/365
- Specially tuned to perform reliably under varied workloads
- Equipped with firmware to deliver a sustained data rate and high performance random IOPS
- Designed for reliable performance in multi-drive systems with rotational vibration tolerance and RAID support
- Incorporate low power and quiet acoustics to minimize office-noise level

In short, NAS-optimized HDDs provide the 24-hour reliability and sustainable performance that today’s demanding workloads and long-term archival storage require.
NASignment Ready: The Seagate NAS Drive Portfolio

Offering the world’s broadest NAS portfolio, Seagate drives support applications in small offices, medium-size businesses, and large enterprises. All of our NAS drives are optimized for maximum reliability and built strong for ambitious applications.

Simply put, Seagate delivers more than terabytes – we provide unparalleled peace of mind.

» Continue
# Precision Designed for the Best Value

## Introduction

### Desktop HDDs vs. NAS-Optimized HDDs

## The Seagate Portfolio

### The Seagate Advantage

### Assessing Customers’ NAS Needs

### Seagate NAS Case Studies

## Technical Specifications

### TARGET

<table>
<thead>
<tr>
<th>NAS HDD</th>
<th>ENTERPRISE NAS HDD</th>
<th>ENTERPRISE CAPACITY HDD</th>
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<tbody>
<tr>
<td>Consumer/SOHO</td>
<td>Small to Medium-Size Businesses, Creative Professionals</td>
<td>Large Enterprise, Service Providers</td>
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### CAPACITY

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### DESIGNED FOR

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<tr>
<td>1- to 8-bay towers</td>
<td>Tower or rackmount enclosures</td>
<td>Tower or rackmount enclosures</td>
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### APPLICATIONS

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<th>ENTERPRISE NAS HDD</th>
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<tr>
<td>Media center, backup and recovery, media consolidation, remote access</td>
<td>Backup and disaster recovery, virtualization, collaboration, auxiliary storage, cloud-based storage, remote access</td>
<td>Traditional data centers, cloud data centers</td>
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### WORKLOAD RATE

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<tr>
<td>180TB/Year</td>
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<td>550TB/Year</td>
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### LIMITED WARRANTY

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<td>3 years</td>
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### PREMIUM FEATURES

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<th>NAS HDD</th>
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<td>NASWorks™ firmware</td>
<td>NASWorks™ firmware</td>
<td>Enterprise firmware</td>
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<td>Dual-plane balance</td>
<td>RV sensors</td>
<td>RV sensors</td>
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<td>Error recovery for RAID</td>
<td>Top cover attached motor</td>
<td>Top cover attached motor</td>
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<td>RAID Rebuild™ Technology</td>
<td>Lower power</td>
<td>Agile performance settings</td>
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<td>SATA 6Gb/s</td>
<td>SATA 6Gb/s</td>
<td>SATA 6Gb/s, 12Gb/s SAS</td>
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<td>1M-hr MTBF</td>
<td>1.2M-hr MTBF</td>
<td>2M-hr MTBF</td>
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<td>Rescue Data Recovery Services</td>
<td>Rescue Data Recovery Services</td>
<td>Self-encryption models</td>
</tr>
<tr>
<td>Highest-performance heads/media</td>
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Take a closer look at the full Seagate NAS Drive Portfolio and dive deeper into their features.
Seagate NAS drives are designed to meet the demands of multi-drive applications while simultaneously delivering reliable performance 24x7. And our premium features – tailored to drive type – go even further, proving that no one has your back like Seagate.
The Seagate Advantage
Premium Features for Today’s Ambitious Business

DUAL-PLANE BALANCE
For multi-drive applications, NASWorks utilizes dual-plane balance to dampen drive vibration, making the drive motor more reliable in 1- to 8-bay arrays. For larger environments, Seagate enterprise-class drives offer additional features to better displace the effects of vibration, further improving drive reliability.

NAS ERROR RECOVERY CONTROLS
Seagate NASWorks™ firmware helps to ensure that drives remain active in a RAID environment. When data recovery is unsuccessful within seven seconds, the drive notifies the RAID to help rebuild a specific piece of data using backups, thus avoiding a full drive rebuild.

ADVANCED POWER MANAGEMENT
NASWorks provides 24/7 operation profiles and appropriate sleep or standby modes to maximize power conservation, minimize time-to-data, and improve overall reliability and performance.

RAID REBUILD
The Seagate RAID Rebuild™ technology’s partial failure copy feature helps the host rapidly extract as much data from a failed read command as possible before resorting to a RAID recovery. With far less data to recreate, this type of RAID recovery is much faster and less error-prone.
The Seagate Advantage
Premium Features for Today’s Ambitious Business

RV SENSORS
Mounted on the HDD PCBA, these accelerometers measure external vibration the drive is being subjected to (e.g. fans, acoustic interruptions, rack vibration) and provide a proportional output for sustainable high performance in any environment.

7200-RPM SPINDLE SPEED
Seagate leverages 7200-RPM spindle speeds to build not only high capacity NAS drives but also deliver faster performance for those who need that extra burst of speed in their data.

WORKLOAD RATE LIMIT (WRL)
Seagate specifies a WRL – the maximum read/write workload (also in terabytes per year) – each HDD is designed to accommodate. Enterprise-class drives feature a WRL of 300TB to 550TB/year. Specialty-tuned drives, including NAS, archive, video, and surveillance families, are rated for 180TB/year. Seagate’s client portfolio (desktop and laptop HDDs) has a workload rate limit of 55TB/year, which is still a formidable amount of data within the client market segment.

KEY COMPETITIVE DIFFERENTIATOR
If data is unintentionally deleted or corrupted by viruses, or you experience hardware failure our Rescue Data Recovery Service Plan – an optional feature – provides a fast and easy recovery process within 15 days. Seagate leads the industry in data recovery with a 90% success rate!
These key questions will help determine which Seagate NAS drive will best support your customers’ tower or rackmount NAS enclosure – NAS HDD, Enterprise NAS HDD or Enterprise Capacity HDD.
Assess Your Customers’ NAS Needs

1. HOW MANY DRIVES WILL BE INSTALLED INTO THE TOWER OR RACKMOUNT ENCLOSURE?
Choosing the right drive starts with your NAS form factor. A simple 1 to 8-bay tower will do nicely with the NAS HDD but more bays/drives will need a drive designed for higher vibrations, like Enterprise NAS HDDs or Enterprise Capacity HDDs. Determining the data workload can further help decide which type is best.

2. HOW MUCH DATA WILL BE WRITTEN TO THE DRIVE?
Seagate NAS drives have data Workload Rate Limits starting at 180TB-written-per-year, perfect for the home or small office environment where primary uses include storage, long-term backups, and multimedia server. But the more data written, the stronger your storage needs to be. Enterprise NAS HDDs are built for demanding business needs, while Enterprise Capacity HDDs are built for both demanding and extremely high-data environments.

SeaTools can help you determine and monitor the amount of data being written to the disk drives

3. HOW MUCH DATA NEEDS TO BE STORED TODAY? HOW MUCH IS IT EXPECTED TO GROW?
It’s wise for customers to plan for NAS that meets both current needs and anticipates some level of future growth. A smart one-time capital expenditure for NAS can save customers in the long-term.

4. HOW MANY USERS WILL NEED ACCESS TO THE SYSTEM? WHAT FILE TYPES ARE TRADITIONALLY STORED AND ACCESSED?
The number of users or teams accessing a NAS system will impact the amount of data to be stored and thus, your customers’ drive selection. Additionally, knowing how data will be utilized – virtualization, collaboration, remote access, or managing large multimedia files – will determine drive size. For large data requirements, Seagate offers the world’s broadest NAS portfolio.

Guide customers in selecting the right Seagate NAS drive for their business needs with our Partner Program Sales Card
NASsociate Story: How Aspen 82 Uses Seagate NAS Drives

Aspen 82, the only 24x7 television station in the famous Colorado ski town, needed a better solution for storing and retrieving high-quality video content, one that’s built for reliability should disaster strike.

Today, thanks to a properly powered, central NAS system equipped with Seagate drives, this little company was saved from being buried under an avalanche of footage, elevating Aspen 82 to new heights.

“We’ve done it right – the right [Seagate NAS] drives in the right box with the right cloud backup. This has given us peace of mind that we’ve never had before.”

– JOEL LEE, ASPEN 82

See how Seagate Enterprise NAS HDDs have elevated Aspen 82’s video production capabilities by delivering reliable, networked storage for large files.
NASsociate Story:
Seagate NAS Drives Ensure the Music Never Dies

In addition to regular gigs as an electronic music DJ, Quinton Du Preez’s Qube Studio maintains a thriving London-based business doing post-production work, sound design, mixing, and other audio services.

Though a small independent, Du Preez realized he needed to handle client data and improve workflow collaboration like a large player. Centralization and reliability were the two storage priorities Du Preez had cued up first, especially as his archives serve as a potential revenue source. Seagate Enterprise NAS HDDs proved the seamless segue to creating a stellar NAS mix for Qube Studio.

“This storage makeover [with Seagate Enterprise NAS HDD] has opened up my business to a new level of collaboration … it’s easy to see everything we already have, and we never have to do this triple backup stuff anymore.”

– QUINTON DU PREEZ, THE UNDERCOVER BROTHER AND QUBE STUDIO

Seagate NAS Enterprise HDDs have brought Qube Studio greater security, more productive collaboration, time-saving centralization, and the “big company” service clients expect.
NASsortment of Resources: Benefit from Being a Seagate Partner

With any web-enabled device, you can access a wealth of resources regarding Seagate NAS systems, drives, and more. Some content is curated below, and upon signing up for access to the Seagate Partner website, there’s even more to discover.

**Data Sheets**
- Enterprise NAS HDD
- NAS HDD
- Enterprise Capacity 3.5 HDD (8TB only)
- Enterprise Capacity 3.5 HDD (6TB only) product description

**NAS Hard Drive Portfolio**

**SRS Rescue Brochure**

**Partner Sales Cards**
- Enterprise NAS HDD
- NAS HDD

**Quick Reference Guide: Specialty Drives**

**Workload Rate Limit Tech Brief**

**Seatools Download**

**Storage Review Article: Pick the Right Drive for the Job**

**Training**
- Seagate & Synology Present: Network Attached Storage and New Streams of Revenue
- Enterprise Capacity 3.5 HDD
- Enterprise NAS HDD
- NAS HDD

**Compatible NAS Systems List**

**Videos**
- Right Drive, Right Job
- Drives Built for Reliability

**Case Studies**
- Aspen82
- Bangalore City Corporation Schools
- Webmasters
- Pookie Photo
- DiverDD

**NAS HDD Product Photos**
- 6TB
- 3TB
- 4TB
- 2TB

**Enterprise NAS HDD Product Photos:**
- 8TB
- 3TB
- 5TB
- 2TB
- 4TB

**Creative Assets**
- NAS HDD and Rescue Services Email Template
- Online Banners
  - NAS HDD Static Banners
  - NAS HDD Flash Banners

Introduction

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Seagate NAS Case Studies

Technical Specifications

While this Seagate Partner Guide serves to provide a solid overview of our NAS drive portfolio, for complete technical specifications, please consult the following data sheets:

- DATA SHEETS: NAS HDD
- DATA SHEETS: ENTERPRISE NAS HDD
- DATA SHEETS: ENTERPRISE CAPACITY HDD

For more information about Seagate NAS drives, visit: www.seagate.com