Synology®

A NEW NAS Experience

a white paper

Increase Productivity While Reducing Costs:

A Small Business Guide to Data Storage Solutions

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Introduction:

In today's business climate, one that is inundated with continually -evolving technology, it's a necessity to stay ahead of the curve and utilize smarter and more efficient technologies that increases productivity. The challenge lies in ensuring the technology adopted is correct for the situation, fulfills needs of the users, saves time, and doesn't negatively impact the bottom line.

Over time, solutions once thought to be accessible only to enterprises have become increasingly more available to small and medium sized business. Centralized storage, once historically out-of reach for small and medium sized businesses, is now affordable and tailored to their specific needs. By centralizing storage, small businesses are able to control file sharing, backup, remote access, and several other facets of a digital office environment.

For small and medium sized businesses that often have limited IT resources, network attached storage (NAS) is the ideal solution to take advantage of centralized storage benefits. With NAS, users save time by automating tasks with quick access to files both in and out of the office. The system administrator increases productivity by consolidating resources, saving money and time on maintenance, while having the reassurance of Redundant Array of Independent Disks (RAID) redundancy for the organization's critical data.

Synology Disk and Rack Stations are network-attached storage solutions that are ideally suited for small and medium sized businesses. Implemented as a primary office server, Synology NAS boasts powerful features designed to increase productivity by saving time, resources, and streamlining file-sharing and backup tasks.

What is NAS?:

Network-attached storage, or NAS, is a self-contained computer on a network which functions similarly to a server. Often used in small and medium sized businesses, NAS fills a void between direct-attached storage and enterprise-level servers. While features differ among brands, common features include a file and print server, RAID backup target, and media-hosting service.

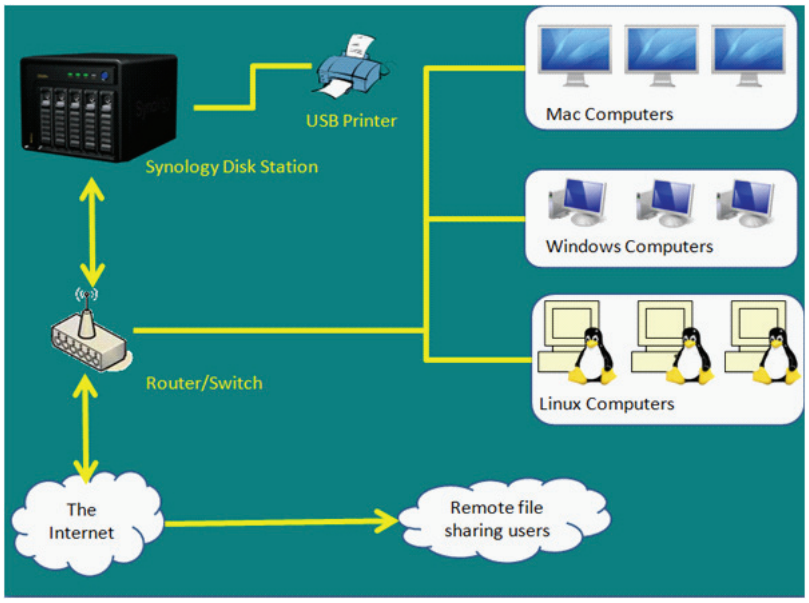
Productivity for Users:

Small and medium size business employees will be empowered when they have technology that is easy to learn and use, functions quickly, and runs with minimal downtime. Basic server functionality like file and print sharing, remote access, and backup capabilities allow users to maintain a high level of productivity as their data is secure and easy to share and distribute. Synology Disk Stations give users the freedom centralized storage provides with an intuitive interface to interact with their data.

File Serving

As the core feature that differentiates NAS from simple storage, file serving is essential to businesses of any size. In many offices, there are both Windows and Mac based operating systems. Different job functions may require different types of OS's that are more suited to that function, while remaining accessible on the network and to file sharing.(See Figure 1). Synology Disk Stations natively support a variety of platforms, including Windows, Mac, and Linux. Files are shared through a variety of protocols, including Samba/CIFS, AFP, FTP, NFS, and HTTP/HTTPS.

Figure 1



Management of users is often a mundane and time consuming endeavor. There are simple solutions to the monotony and time waste of common management tasks: automation. Wizards for frequently-performed actions increase efficiency and free up time for more

important work. Synology Disk Station Manager 2.1 includes several wizards including new user creation and permission settings that increase productivity by minimizing time spent on repetitive tasks.

Client Access Licenses (CALs) are another costly burden that is alleviated with a Synology Disk Station. Instead of paying for each user on the system, Synology Disk Stations free businesses from additional licensing costs that drive the total cost of the system up by including all server and user licenses in the initial hardware purchase price. Multiple users on a Synology Disk Station are handled with ease. The number of concurrent connections varies depending on which Synology Disk Station is used. Current models support a minimum of 32 connections while larger systems support up to 512.

A common method of data storage and backup has historically been by using direct-attached storage (DAS) which is often just an external hard drive attached to each workstation. With a centralized file server the need for DAS is eradicated, decreasing dependence on individual workstations need to be active in order to share data on the network. Instead of “islands” of data spread around the office, fragmenting and risking files to non-RAID storage, the small or medium size business reaps the benefits of reliable storage accessible from anywhere at any time.

Connecting to Synology Disk Stations require only a few easy initial steps. Within the Disk Station Manager 2.1 software, users can be created through a simple wizard. Once users are created then the Disk Station can be mapped as a drive within Windows and used as any other hard drive. In Apple and Linux environments, a quick “Connect to Server” command gives the user access to the shared space. To facilitate the connection, Synology Disk Stations support a variety of networking protocols including SMB/CIFS, AFP, FTP, and NFS.

Remote File Sharing

The ability to access data from anywhere with an internet connection is essential for the modern office where mobile capabilities are a must. Whether the sales team needs access to collateral from another time zone, a reviewer needs product photos, or a customer needs the latest software update, the ability to share files with anyone, anywhere is advantageous to a small business. Employees are able to be more productive because they have access to all company data at all times and are never stuck without an important document or have to cancel a sales pitch because of a forgotten presentation.

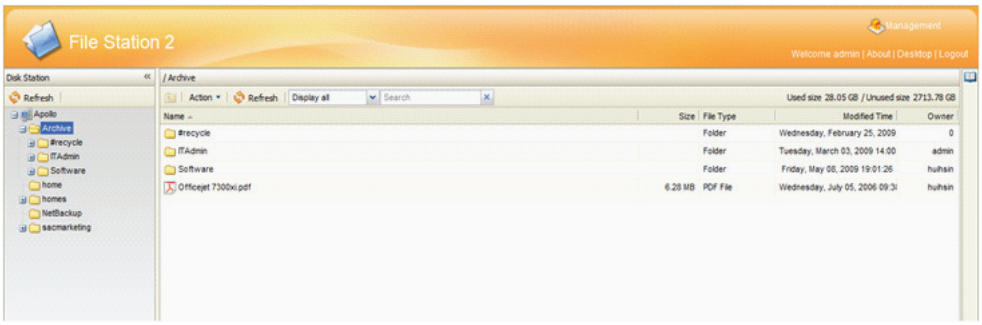


Figure 2

File Station 2, a feature of Disk Station Manager 2.1, makes data easily accessible through any browser over a HTTP or secure HTTPS connection. Data can also be shared through advanced features of the included FTP server.

Another benefit of remote access with a Disk Station is the ability to easily share data with multiple customers around a familiar home folder structure. Much like a “My Documents” folder in a Windows® environment, the Home Folder is an automatically generated, individually privatized folder. Simply creating an individual account on the Synology Disk Station will create a home folder, making it easy to share large files in an efficient, private manner with several users.

Printer Sharing

Although the paperless office is becoming more of an attainable reality, there are still items that require documents to be in print. A printer can be directly connected to a Synology Disk Station via USB and attached to the network. Using Synology Assistant or traditional Windows/Mac Control panels, it is simple to map a connection to the shared printer for everyone in the office.

Sharing a printer allows budget-conscious small and medium sized businesses to minimize IT purchases and maintenance cost while sharing resources.

Backup

The loss of data can be crippling to any business, but especially to small and medium sized businesses that have fewer resources available to recoup the losses. With storage more affordable than ever, there is no reason that businesses from one to one thou-

sand people don't employ redundant backup solutions. There is nothing more important than a company's digital assets and with minimal initial effort, the peace of mind in having a secure data backup is invaluable.

Figure 3

Synology Data Replicator 3, included with every Synology Disk Station, makes setting up a data backup and recovery plan easy. Backups can be performed three ways; Immediate, Sync, and Scheduled. See Figure 4 for detailed information. Centralized backup also reduces hardware overhead per employee, saves time finding and shuffling external USB drives, and makes it easy for the user to find or recover data without using IT resources.

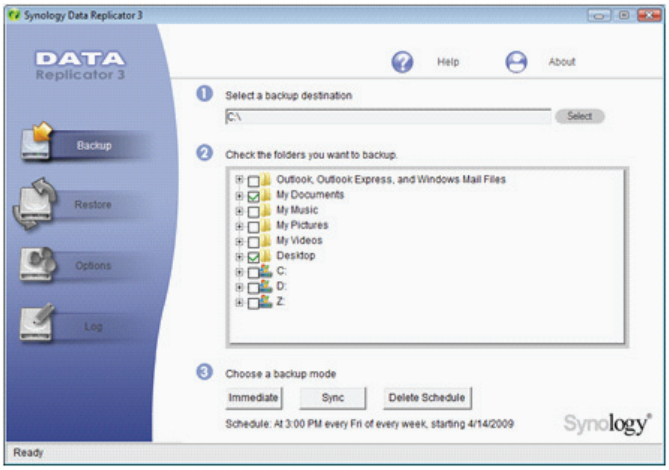


Figure 4

Backup Options with Synology Data Replicator 3	
Immediate	Performs a one time backup of specified folders immediately.
Sync	In Sync mode, Data Replicator 3 monitors changes to backed up folders and syncs with the Synology NAS for real time backup.
Scheduled	Backups can be scheduled by week, day, and time to automatically backup data to a Synology Disk Station.

After a quick installation on each Windows Computer, Disk Replicator 3 will automatically find the network-attached Synology Disk Station. Next, simply configure the Scheduled Backup, select the folders to be backed up, and the click the "Auto Startup with Windows" option. Versioning options may even be configured to the individual users' requirements. With automatic network backup, the user will not be burdened by data loss due to infrequent backups will be a problem of the past.

While the user may not even realize the backup is running in the background at the regularly schedule time, the IT administrator can rest assured that the company's data is safe within a RAID configuration on a Synology NAS.

Real World Scenario

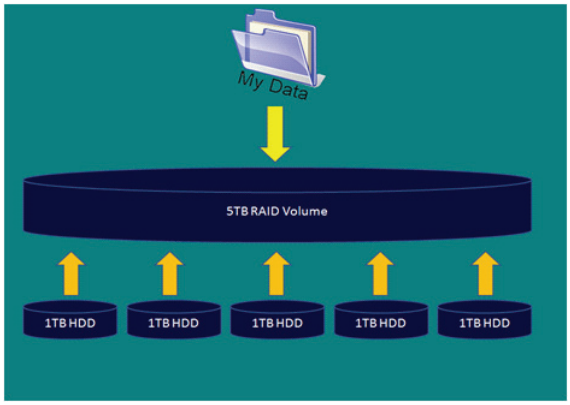
A small architecture firm needs to share data both within the company and with customers while securing against loss of the extremely large files they create and manage. Due to project deadlines this must be a quick, efficient, and secure process where one client cannot access another client's data. This firm utilizes several different functions of the Synology Disk Station within the office including file and print sharing, backup, and remote access. With File Station 2, remote access is also used with clients to share large files such as proposals, sketches, and blueprints that are not capable of being sent through email. Using the "home" function, the firm can automatically create privatized folders on the Disk Station for each client. This allows their clients to login and download the data that they need to conduct their business, from anywhere in the world.

At their office the data being shared is secured in a RAID 5 configuration to protect against disk failure and regular backups of each workstation automatically occur to ensure the backed up data is up to date. This gives the firm the peace-of-mind provided by data security and redundancy while allowing for safe transfer of data to clients to speed up their business.

Productivity for IT Managers:

IT solutions that require minimal attention give the IT Manager more time to streamline and improve other aspects in the company network. Well-designed, intuitive, and reliable are three qualities that successful IT Managers look for in network hardware. The advantage of NAS is the variety of functions that these devices are able to perform, replacing several other pieces of IT hardware. Cutting down the number of units to be attended allows the IT Manager to be more efficient and therefore more productive.

Figure 5

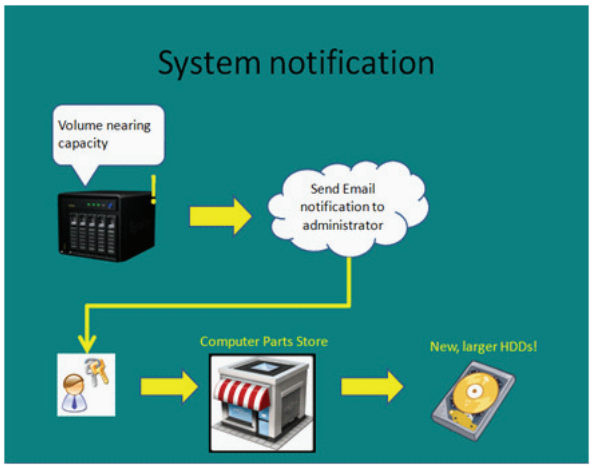


Reliability with RAID

The advantage centralized storage provides isn't worth much if a drive fails and a company's data is lost. The repercussions of RAID-less storage can result in lost time, money, even clients. Synology Disk Stations are capable of several RAID configurations relative to the number of drive bays in the model including Basic, JBOD, RAID-0/1/5/5+HotSpare/6.

With Synology Disk Station Manager 2.1, creating RAID volumes in a variety of configurations takes just a few clicks. Within the DSM 2.1 Management Interface, the IT Manager simply chooses Storage --> Volume and is presented with the Volume Manager wizard. From here it is just a matter of choosing which type of RAID configuration is ideal for the data being stored and the volume is created automatically.

Figure 6



The no-hassle creation process saves the IT Managers time and saves the company money. Because RAID functionality is built into DSM 2.1 the company does not have to purchase RAID cards as in a standard PC server setup.

System Notification

One of the most important functions of an IT Manager is the ability to recover and restore data in the event of a drive failure. Time lost after the failure translates into data loss for the small or medium sized business. Disk Station Manager 2.1 boasts an email notification feature to alert the IT Admin if one of over 50 different events occurs, examples include: backup failure, disk error, volume is nearing capacity, and backup succeeded.

Free manual reviews of log files, drive health analysis, fan and backup checks, System Notification is yet another way IT Managers reclaim time to increase productivity. Traditional server software does not have the level of integration Disk Station Manager 2.1 enjoys as the feature is built in to the same system that created, manages, and monitors the volume.

Disk Station Manager 2.1

The best hardware on the market is useless if you don't have the software to utilize its potential. A management interface should not only be intuitively-designed, but offer a full suite of integrated applications, advanced features, and take little time to become familiar with. All Synology Disk Stations come bundled with Disk Station Manager 2.1, an AJAX-based Management Interface that brings storage to life.

Figure 7

Disk Station Manager 2.1 Features	
File Station 2	Print Server
Local Backup	Surveillance Station 2
Encrypted Network Backup	Encrypted FTP
Mail Server	Website Hosting
Download Station 2	Photo Station 3
Audio Station	iTunes® Server
UPnP Service	RAID Management
User Home Folder Creation	Windows® ADS Support
AJAX-based Interface	Application Privelege Control

Most standard PC server software requires the user to buy additional applications to conduct backup, create RAID sets, or host a website, drastically increasing the total cost of the server. Even once all of these add-ons have been acquired, they may not all integrate with one another, causing conflict and possible inoperability of some functions of the server. With DSM 2.1 the user can start taking advantage of the software right away. Right out of the box, the IT Manager only needs to install a hard drive and the DSM firmware to access the full suite of features.

Real World Scenario

The IT Administrator of a small business often wears many hats in addition to keeping the office up and running. In fact, so many small and medium sized businesses have such limited IT resources the IT Manager could be anyone in the office that has some relevant knowledge. This is why ensuring data is stored quickly and securely is more important than ever. Synology NAS provides the small business with RAID so secure against data loss by disk failure and System Notification alerts in case something does go wrong, the company will minimize downtime and recover as much information as possible.

For the average small and medium sized company, enterprise level technology is well out of their price range. Synology NAS with Disk Station Manager 2.1 make common enterprise features available at an affordable price. Beyond file sharing and backup, features like Surveillance Station, Photo Station 3, and website hosting are all included. The integration of these and more into every Synology NAS makes it an ideal choice for small and medium sized businesses to enjoy these features without breaking the bank.

Summary:

Employees in small and medium sized businesses often do the work that might be split amongst several at an enterprise level company. Due to the flexible roles within a business, employees must be as efficient and productive as possible. The role of technology in the workplace is to increase productivity, not add to the workload. This is the reason Synology Disk Stations are easy to setup, configure, and use. Disk Station Manager 2.1 is designed to give users access to powerful office features through an intuitive interface that requires little or no training time to learn.

For technology to be valuable to a small or medium sized business, it must also be an affordable, worthwhile investment. Synology Disk Stations are able to grow with the company with several expansion options when additional storage is required. Growing as the company does extends the effective lifetime of Synology Disk Station, making it a valuable solution for both today and the future.

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