Synology®

A NEW NAS Experience

Backup in a Data Driven World:

Affordable Backup Options for
Home and SMB

September 2009

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Introduction

In today's digital world, everyone has data that needs to be safely stored and backed up. For many, this means a manual copy to an external hard drive that still runs the risk of drive failure. Automatic, redundant backup keeps documents, photos, critical business data, and all other files safe from drive failure and frees the user from manual backups. From home users with one computer to a system administrator with an office-full, backup is a need that every level of computer user has a need for.

For most, a backup solution involves manually copying files to an external USB hard drive with a frequency of "when I remember to." This is obviously not an ideal solution for anyone, but until recently the alternative options were slim. With affordable network-attached storage (NAS) options on the market the convenience of automated backup is available to everyone. As NAS devices continue to adapt to users' preferences, NAS like Synology Disk Stations support multiple platforms simultaneously providing Mac, PC, and Linux computers to access and reap the benefit if network-attached storage.

Synology Disk Stations and firmware Disk Station Manager 2.2 don't just offer accessible backup, but make it easy to schedule automatic backups from any computer locally, or over the internet. For PCs, Synology offers Data Replicator 3, a free backup client that makes it simple to ensure your data is safe. New to Disk Station Manager 2.2 is the ability to integrate seamlessly with Apple Time Machine®, giving Mac users the chance to have regular, redundant backup of their most 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 and back target, Synology NAS boasts powerful features designed to increase productivity by saving time, resources, and streamline file-sharing.

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.

Backup Methods and Features

## *Windows® Backup Client - Data Replicator 3*

When performed manually, the most common reason backups are not effective is users forget to copy files to an external drive. With a tool like Synology Data Replicator 3, the burden of manual file copying and trying to recall is the latest version of a file has been backed up, is lifted from the users' shoulders.
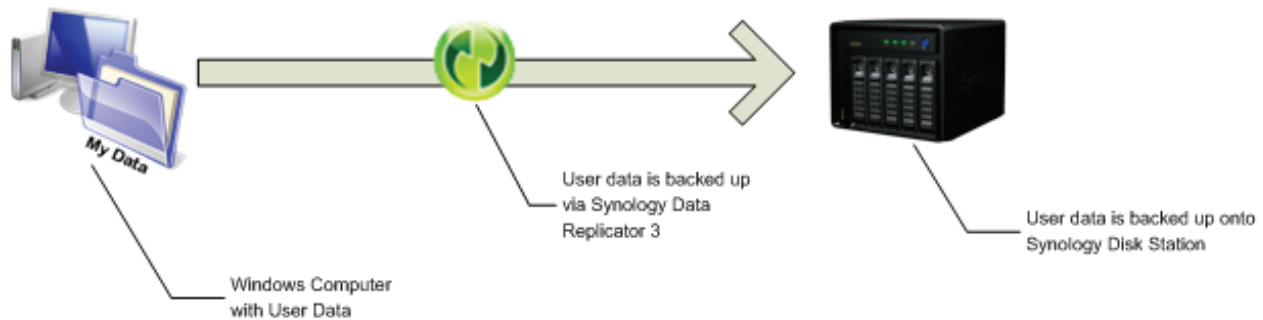
Data Replicator 3 can be easily set to automatically backup specified folders on a Windows computer to a RAID configured Synology Disk Station to protect against forget-ful users and disk failure in one step. By simply scheduling Data Replicator 3 for daily, weekly, or monthly backup data can be redundantly stored for maximum protection. In addition to scheduled backup Data Replicator 3 provides the option to immediately back up if important files should not wait until the next automatic cycle or the system can auto-matically sync when files are created or changed. For Windows XP® and higher, files can be backed up while open, which is a must-have feature for Outlook®v Mail folders and frequently-used documents or projects.

For a system administrator, Data Replicator 3 saves time and worry. In addition to rou-tinely backing up an entire offices' data, with Windows ADS support in Disk Station Man-ager 2.2, all users on a network will have automatically generated privatized folders on the Disk Station that their backups target toward. For those frequently out of the office, DR3 can also be set to automatically find the backup server upon return and secure files that have been created or changed since the last sync.
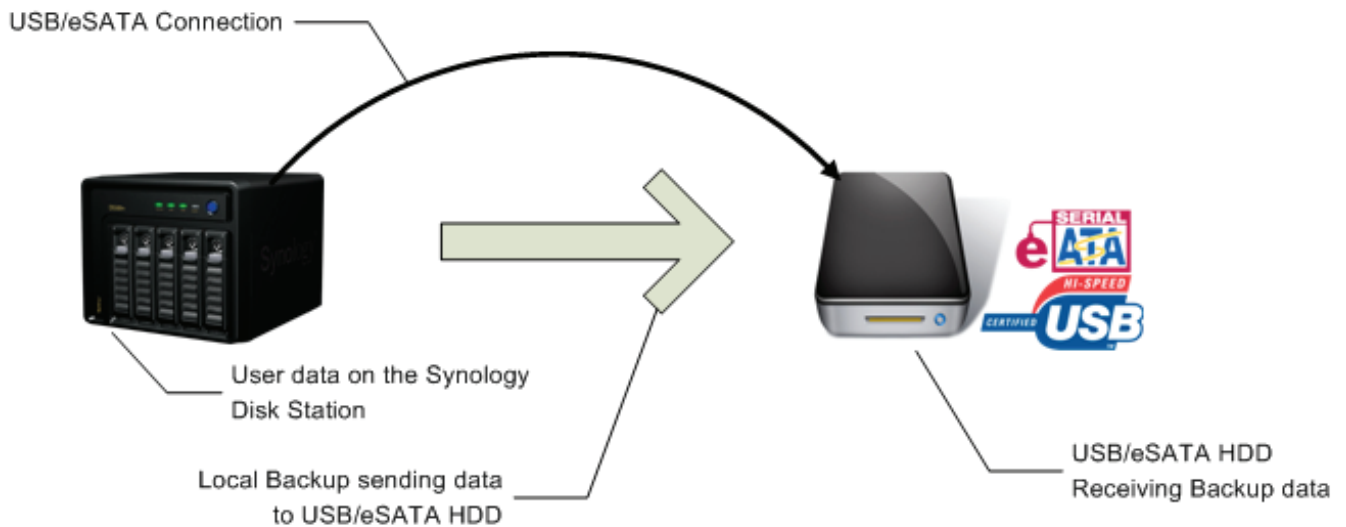
Mac Backup with Time Machine® Integration
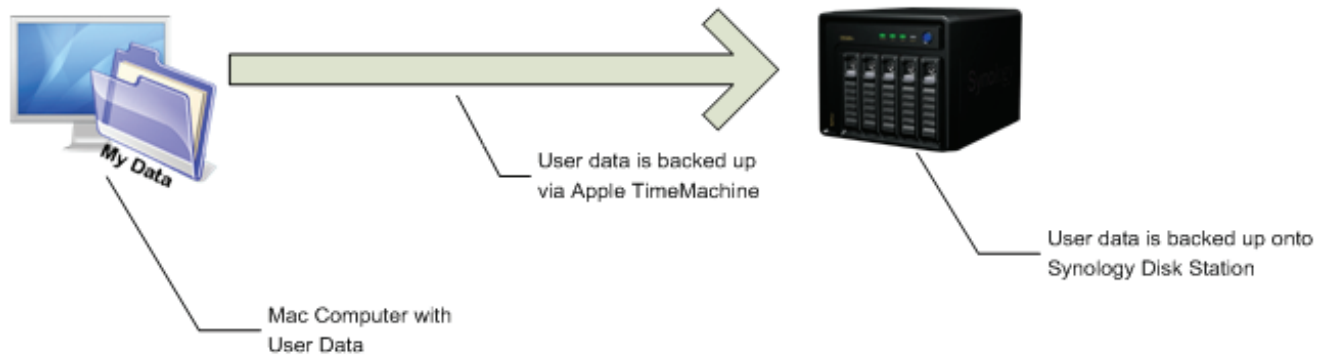
Synology Disk Stations don't stop at providing support for Windows-based computers because with Disk Station Manager 2.2, native Apple Time Machine support is standard. For Mac users that want the peace of mind automatic, redundant backup provides and want to use the built-in backup client Apple Time Machine, any Synology Disk Station will appear as an available volume Time Machine can use as a backup target. This is done without having to alter the parameters of the operating system (Leopard and above) or without the use of other hardware, making it a fast and easy solution to data backup and recovery.

To configure Time Machine to target a Synology Disk Station, simply enable Time Machine Server with Disk Station Manager 2.2 and select the destination folder. Then enable Time Machine service in Leopard and choose the destination folder you choose within DSM 2.2 as the target. Backups can then be scheduled with the standard Time Machine interface.

Local Backup

System administrators that require a portable backup solution used to use tape devices and were forced to constantly change the tape and store offsite. An easier solution is to use attach a USB or eSATA external drive to a Synology Disk Station and schedule automatic backups. 2 external drives can be cycled and physically stored offsite to provide separate backups in case of theft or natural disaster. As with other methods of backup with Synology Disk Stations, the local backup may be scheduled during off hours to system resources are not used during high-traffic times and backups will complete in a timely manner.

USB/eSATA Connection

User data on the Synology
Disk Station

Local Backup sending data
to USB/eSATA HDD

USB/eSATA HDD
Receiving Backup data

Implementing a local backup strategy requires little effort in exchange for the peace of mind it provides system administrators. First, a USB or eSATA drive is attached to a Disk Station and formatted for use within Disk Station Manager 2.2. Then, launch the backup wizard in DSM 2.2 and set the Disk Station to backup the selected data from the Disk Station to the USB or eSATA drive. Automatic schedules may now be set, saving both the user and administrator time and hassle.

Network Backup

Beyond automatic backups and RAID configurations and for those who are unable to manually transport an external drive offsite, network back over a LAN or the internet is an ideal solution to offsite backup. Whether sitting directly next to the source Disk Station, in another room at the office, or in an entirely different building, backup across a LAN is pain-

less with Synology Disk Stations. Creating a wholly separate redundant copy of critical company data provides yet another layer of security for those files that simply cannot be lost.
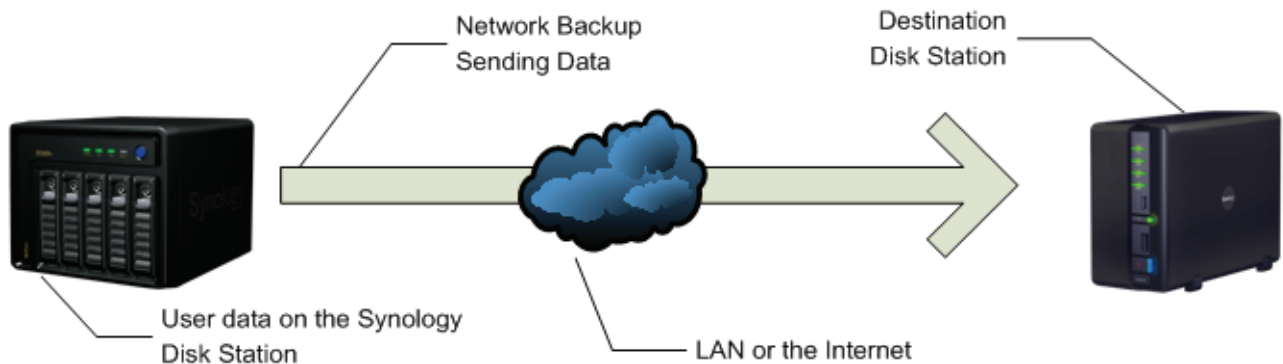
To setup a network backup over the LAN or the internet, begin by enabling Network Back-up Service in Disk Station Manager 2.2 on each Disk Station. On the source Disk Station, start the backup wizard and target the destination Disk Station via its IP address if over the LAN. If connecting over the internet, ensure the correct ports are forwarded and enter the WAN IP. Once the 2 are connected, the administrator is able to set an automatic backup schedule, encryption method, block analysis method, and whether or not to delete the data on the destination if it is deleted from the source.

Backup Via rsync Protocol

Similar to the network backup functionality, system administrators that prefer to back up to a Unix/Linux environment or in some cases a Windows server, the rsync protocol is sup-ported in Synology Disk Stations. The network backup function built-in to Disk Station Manager 2.2 is based on rsync, but for a more customizable backup solution veteran Unix/Linux administrators can route their Synology Disk Stations over the LAN or internet to target any server with rsync capability. As an aging system can be recommissioned as the target server, it has the potential to save a system administrator time and money.

Rsync is configured the same way as the network backup feature is connected; the admin-istrator just needs the Module name, IP address, username, and password of the destina-tion rsync server. The customizing comes when the module must be programmed on the destination server, but for any experienced system administrator this should be an easy

task.

Summary

Personal computers aren't the only means by which to create data anymore. The proliferation of digital cameras, smart phones, netbooks, and other portable devices have integrated data creation into almost every seam of the modern world. In a report from 2007, research firm IDC estimates there was 161 million terabytes of data was created in 2006, up from just 5 million in 2003. As that number continues to rise, the need for a reliable, easy-to-use backup solution will as well.

Losing a file to hard drive failure is no longer a viable excuse as there are affordable options on the market to integrate with almost any type of source. Synology Disk Stations offer automated backup solutions, file serving capability, media streaming, remote access, and much more to both home users and in business environments. As the amount of data each of us is responsible for creating continues to grow, it is important we have a reliable system in place to ensure that data will be around for as long as we need.

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