

Drobo Best Practices: Crafting a Digital Asset Management Strategy



We strongly urge you to follow these guidelines to safeguard your data.

Drobo storage products provide fully automated data protection for safely storing digital content. In a normal state your data is inherently protected against drive failure, making Drobo ideal for use as “primary” storage. Although Drobo provides redundancy, it is only part of a reliable digital asset management strategy. There are additional risk factors beyond a single drive failure that all customers should be aware of. Additional risk factors include, but are not limited to, accidental file deletion, multiple simultaneous drive failures, file system corruption, viruses, theft, power surges, fire, flood, software and hardware malfunction, earthquakes and of course curious toddlers. Following best practices and carefully analyzing your digital asset management strategy for risk will help to maximize the safety of your data.

Keeping data truly safe involves the dedication of time, effort and money. Drobo storage products significantly reduce all three of these by offering unprecedented simplicity and self-management. Yet, every customer’s needs are different. There is no one size fits all strategy. However, the pay off for maintaining data integrity and uptime is easily quantifiable. How much would you pay to recover your data if it was suddenly lost or inaccessible?

Digital asset management strategies will vary with your needs. For instance, a medium-sized business with 5,000 employees will have vastly different requirements from a home office with two employees. The strategies outlined in this document should be considered a starting point for Data Robotics customers. (There are a number of very detailed publications on the topic of digital asset management that are widely available for further reference.)

Best practices for digital asset management include a minimum of THREE critical elements:

1. No single point of failure
 - a. Your data should exist in a minimum of two separate geographic locations
 - b. You’re only as safe as your latest backup
 - c. Failures can occur both in hardware and software
2. Regularly check to ensure all software and firmware is up to date and functioning properly
3. Regularly check to ensure all hardware is functioning properly
4. Regularly check the integrity of your backup

Of course you need the right hardware and software too. Think of Drobo, DroboShare and DroboPro as the cornerstone(s) of your bridge to digital asset management peace of mind, although perhaps not the entire bridge. Building a bridge takes time and the right tool set. Very few bridges are identical, as unique situations call for unique solutions. The following sections in this document are aimed at helping you construct that bridge.

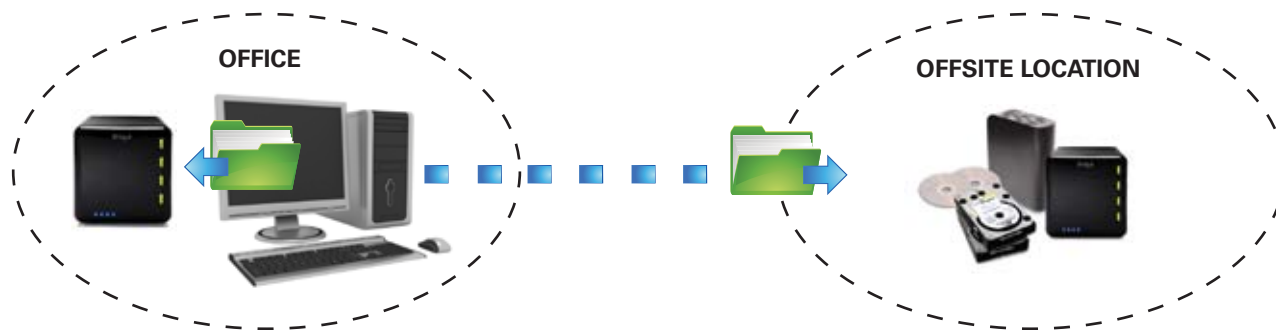
1. No Single Point of Failure

a. Your data should exist in a minimum of two separate geographic locations

Here are some of the ways you can integrate Drobo storage products into your digital asset management strategy to help protect against a single point of failure:

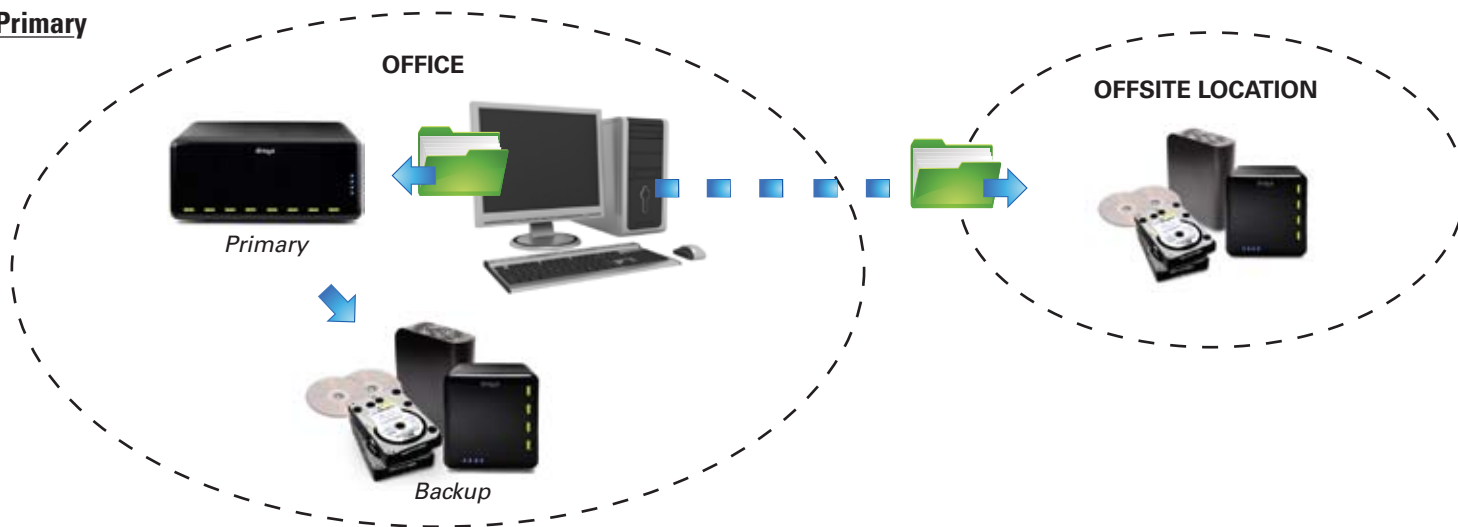
Diagrams are for illustrative purposes only. Drobo and DroboPro are shown but either may be substituted with Drobo, DroboPro and/or Drobo and DroboShare according to your specific requirements.

Backup



The host computer is used for primary storage and regularly backed up to a Drobo and additional storage medium onsite. Periodic offsite storage is also managed either automatically through software or manually by carrying disk packs or other storage offsite.

Primary



In this example, DroboPro is used for primary storage (files are accessed directly off of DroboPro rather than the host's internal hard drive(s)). This DroboPro is regularly backed up to another local DroboPro and additional storage medium onsite. Periodic offsite storage is also managed either automatically through software or manually by carrying disk packs or other storage offsite.

Note: Please keep in mind the philosophy of digital asset management and remember there's no one size fits all solution. For instance, if you're operating on a limited budget, simply burning your most critical data to DVDs and keeping one copy of those DVDs onsite and one copy offsite is better than nothing.

b. You're only as safe as your latest backup

What good is backup hardware if the files on it are out of date? The best way to ensure they are up to date is to make the backup process as simple and painless as possible. Drobo storage products work with most software backup applications, data tools and offsite storage solutions on the market so please use whatever you are used to and trust to help complete building your bridge to a safer digital asset management strategy. Drobo Dashboard v1.3.0 and later also includes a feature called DroboCopy which can be used to copy folders and files to direct and network attached storage. DroboCopy can be scheduled to run automatically (as long as Dashboard is running). It is a free, easy to use and convenient tool that can satisfy a critical component of best practices enabling you to ensure your data exists in more than a single location.

If you do not currently have any software backup solution, please see the end of this document for a list of some of the software that is most popular with Data Robotics customers by operating system.

c. Failures can occur both in hardware and software

Data loss can result from failures at the hardware level (i.e. you drop your Drobo out the 22nd floor window) and at the software level (i.e. a file system corruption). Routinely verifying and error-checking all data and file systems is a critical part of best practices for all systems. Please note the tools and utilities you use will vary by operating system, but every major operating system comes pre-loaded with at least basic disk checking tools.

This is another reason why its important to keep at least two distinct (and preferably geographically separate) copies of your data. For example, if for some reason your operating system crashes in the midst of an operation, it could cause file system corruption resulting in data loss even though your hard disks are physically healthy. Many customers unfortunately underestimate this particular type of data risk.

Some customers even routinely backup their data with multiple backup application suites. Why do this? This would prove well worth the time and effort in a case where your backup restoration encountered an error or bug (which is unfortunately not as unusual as it sounds).

What's a Disk Pack?

A "disk pack" is the set of disks you use in Drobo. You should always keep your disk pack together as a set. (Unlike traditional RAID, however, you do not have to worry about the order of those disks within a disk pack!) Once you safely shut your Drobo or DroboPro down, you can safely remove all of the drives for the purposes of moving the unit* or archiving the drives. If you have multiple disk packs, just be sure to keep the disk packs separated. Many customers will have two sets of disk packs for a single Drobo that they update regularly, one set onsite and one set offsite.



Disk Pack

*Move without drives inserted.

2. Regularly check to ensure all software and firmware is up to date and functioning properly

Each Drobo storage product comes with two sets of software 1) the firmware preloaded onto the Drobo storage product and 2) Drobo Dashboard. It is critical to keep these updated. Drobo Dashboard can be used to automatically keep both sets of software up to date or the software packages can manually be downloaded from www.drobo.com/support.

Please also be sure to keep your computer's BIOS/EFI, operating system and other software up to date as well. Pay particular attention to any Service Packs (SP) (or "Dot Updates" on OS X such as 10.5.x) for your operating system. Finally, please note that occasionally even hard drives need to have their firmware updated in order to function properly. For instance, early model 1.5TB Seagate drives released in 2009 required a firmware update released by their manufacturer ([Data Robotics Knowledgebase Article ID 0235](#)). After purchasing new drives and periodically thereafter please check your hard drive manufacturer's website for any possible firmware updates. Data Robotics may also publish such information from time to time on www.drobo.com/support and on its RSS feed www.drobo.com/support/feed. Remember to disconnect Drobo prior to performing updates, this helps prevent file system corruption.

3. Regularly check to ensure all hardware is functioning properly

When it comes to keeping storage hardware healthy, just follow some basic rules:

- 1) Always protect Drobo from power surges by connecting it and the host computer to a surge protector and if possible, an uninterruptible power supply (UPS).
- 2) Make sure Drobo is in a well-ventilated area and the back of Drobo is not against a wall (to allow for proper airflow for the fan). Also periodically check and clean off any large accumulations of easily accessible dust with a dry rag (do not use any cleaning solutions or water) when the unit is disconnected and powered off.
- 3) Be attentive for any changes to the types of noises the hard drives are making. Loud clicking noises are often a good sign that's its time to invest in a spare drive.
- 4) Ensure all cabling is firmly attached. Do not use a hub for any USB or FireWire connections.
- 5) When you want to disconnect or turn off your Drobo, please properly shutdown the unit. Please remember to either use the "Standby" command in Drobo Dashboard or the appropriate feature to disconnect/eject external storage in your host's operating system.

*If you have physically moved Drobo, ensure all drives are properly seated before re-connecting the data/power cables.

Staying Informed: Product Registration and RSS Feeds

To make sure you receive the latest information on all important updates, please ensure your Drobo product is registered at www.drobo.com/register and your contact information including product serial number(s), name, email, address and best contact phone number is up to date. Also, please consider subscribing to the Data Robotics Drobo Support RSS Feed at www.drobo.com/support/feed for all of the latest information as it is released.

DroboCare: Extend Your Peace of Mind

You can extend your hardware service and phone support coverage up to three (3) years from your original purchase date through DroboCare. Please see www.drobo.com/drobocare for more information.

Lists of popular backup software and offsite solutions

Below is just a small sample of some of the most popular software solutions Data Robotics customers use in conjunction with their Drobo products. Suggestions for local backup, file synchronization, online, remote / offsite backup and bootable image backups are provided below for each operating system. We've also noted whether the software is generally considered "Local" "Offsite" or can do both "Local and Offsite." This is a great place to start your research if you're looking for new or additional software:

Windows	OS X
Acronis True Image (Local)	Apple OS X Leopard's Time Machine (Local)
Carbonite.com (Offsite)	Bombich Software's Carbon Copy Cloner (Local)
Code 42 Crashplan (Local and Offsite)	Carbonite.com (Offsite)
Genie-Soft Backup Manager (Local)	Code 42 Crashplan (Local and Offsite)
JungleDisk – Powered by Amazon S3 (Offsite)	Dropbox (Getdropbox.com) (Offsite)
Memeo Backup (Local and Offsite)	Econ Technologies Chronosync (Local)
Microsoft SyncToy for Windows (Local)	EMC Retrospect (Local)
Microsoft Windows Backup (Local)	JungleDisk – Powered by Amazon S3 (Offsite)
Mozy.com (Offsite)	Memeo Backup (Local and Offsite)
NTI Backup Now and Shadow (Local)	Mozy.com (Offsite)
Symantec Backup Exec (Local)	ShirtPocket Software SuperDuper! (Local)

Useful links

Documentation	User's Guide Help for PC & Mac	http://www.drobo.com/support/documentation.php
Online Support Resources	Knowledgebase	http://www.drobo.com/support/knowledgebase.php
	Support FAQs	http://www.drobo.com/support/faqs.php
	Pre-Sales FAQs	http://www.drobo.com/resources/faqs.php
	Forums	http://www.drobospace.com/forums
	Request Support	http://www.drobo.com/support/request_support.php
Warranty and License Issues		http://www.drobo.com/support/drobocare.php