3-2-1 Backup Rule or 3-2-1 Backup Plan

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StarWind Documents

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StarWind is a pioneer in virtualization and a company that participated in the development of this technology from its earliest days. Now the company is among the leading vendors of software and hardware hyper-converged solutions. The company's core product is the years-proven StarWind Virtual SAN, which allows SMB and ROBO to benefit from cost-efficient hyperconverged IT infrastructure. Having earned a reputation of reliability, StarWind created a hardware product line and is actively tapping into hyperconverged and storage appliances market. In 2016, Gartner named StarWind "Cool Vendor for Compute Platforms" following the success and popularity of StarWind HyperConverged Appliance. StarWind partners with world-known companies: Microsoft, VMware, Veeam, Intel, Dell, Mellanox, Citrix, Western Digital, etc.

Purpose

The [3-2-1 backup rule](#) can help you overcome nearly any failure scenario if you follow it.

Explanation

The 3-2-1 backup plan implies that you should:

1. Have at least 3 copies of your data

Having three copies of data means that the first one would be your actual data, wherever they reside.

The other replicas will provide for [high availability](#) and redundancy, since the more replicas you have, the more chances to keep the data safe.

2. Keep these backups on 2 different media

You should keep the data in 2 different formats, for one format outlives the other. For example, disks from the same [RAID](#) are statistically dependent, and often, after one disk failure, you might experience the failure of another disk from the same storage in a short period (often because the devices were bought approximately at the same time and from the same vendor). Using different formats reduces the risks that all your backups will be damaged, as different formats have different strengths and weaknesses when it comes to redundancy. Among the formats are: hard drive, tape library, DVD disks.

3. Store 1 backup offsite

It is understandable that a big disaster like an earthquake, fire or another unpleasant event will destroy buildings, and even datacenters may burn down resulting in powerful data loss. It is the reason why considering offsite data backups comes into view.

Offsite means as FAR AWAY as possible, in another city, state, country or even continent. Your data is safe then, even if there is a fire or national disaster.

There are many ways and solutions (like [VEEAM](#) backup, StarWind [async replication](#), [VTL](#), etc.) to accomplish this 3-aspect task, be they software or hardware. Backup process should be set as far from manual interaction as possible to avoid human error. It is highly recommended to run backup jobs on a regular basis and scale (weekly, monthly backups, etc.) to be able to restore

from the most recent and consistent one.

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Contacts

US Headquarters	EMEA and APAC
📞 +1 617 829 44 95	📞 +44 2037 691 857 (United Kingdom)
🔊 +1 617 507 58 45	📞 +49 800 100 68 26 (Germany)
🔊 +1 866 790 26 46	📞 +34 629 03 07 17 (Spain and Portugal)
	📞 +33 788 60 30 06 (France)

Customer Support Portal: https://www.starwind.com/support

Support Forum: https://www.starwind.com/forums

Sales: sales@starwind.com

General Information: info@starwind.com