StarWind LSFS FAQ

2025

StarWind Documents

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Technical Support and Services

If you have questions about installing or using this software, check this and other documents first - you will find answers to most of your questions on the Technical Papers webpage or in StarWind Forum. If you need further assistance, please contact us .

About StarWind

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.

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IMPORTANT NOTE: Starting from 14869 build, the LSFS device feature was excluded and deprecated. Please remove all Asynchronous replicas and LSFS devices before the update. See more information in the release notes: https://www.starwindsoftware.com/release-notes-build

Content

1. When should I use lsfs and why not stick to thick provisioning?
   - LSFS module was developed specifically to get maximum performance out of cheap SATA spindles combined with L1/L2 caching.
2. Why do I have many .spsx files in my StarWind storage pool?
   - These are snapshots created by LSFS, please never delete them since they serve a good purpose - ability to restore the device from the last stable checkpoint.
3. How does defragmentation work in StarWind LSFS module?
   - Since defragmentation is an automatic process, it scans data sectors in a particular point in time, if these sectors have at least 40 % or more free space, data from them are transferred to another sector, thus thin-provisioned disk is fattening a bit. This sector is 100 % filled and all other ones get deleted. The scheme is as follows (just an example): Initially - 10 sectors, 7 of them 70 % free, 3 of them 89 % full; data from 7 sectors go to 2 sectors, fill them to the top (100% each), so now we have 12 sectors in total; we remove 7 sectors; as a result we have 5 sectors only. All this is happening in real time.
4. How much extra space should I overprovision for LSFS device?
   - LSFS device will consume 2.5 to 3 times more space than specified in StarWind management console.
5. When I specify the size of LSFS device, does it mean I can only put the data of this size?
   - No, after deduplication and defragmentation you will shrink actual space, so you can put a bigger amount of data on the device.
6. How do I disable defragmentation?
   - It is enabled by default and cannot be disabled.
7. How do I disable/enable deduplication?
   - Currently it is not possible to do so on the fly, but you can disable/enable deduplication during creation of LSFS device: when choosing "thin-provisioned" option, click on "Options" and check or uncheck "deduplication" feature.
8. How much RAM do I need for LSFS device to function properly?
   - 4.6 MB of RAM per 1 GB of LSFS device with disabled deduplication,
   - 7.6 MB of RAM per 1 GB of LSFS device with enabled deduplication.
9. Which sector size do I specify for LSFS device in StarWind management console?
   - 4KB sector size if used in Hyper-V environment, 512 B if used in VMWare

environment (for compatibility reasons), in all other cases 4 KB is preferable .

10. What will happen if LSFS device cannot find enough space to put segment file on the disk?
    ○ Device will be put in read-only mode.
11. I am using build older than 8.0.7929 and my LSFS device ate up all disk space. What do I do?
    ○ Please contact StarWind support department at support@starwind.com.
12. Is it possible to change size of my LSFS device?
    ○ Unfortunately, no, currently this feature is not supported.
13. What is the maximum size of LSFS device?
    ○ Maximum size of LSFS device is 64 TB.

Request A Product Feature

To request a new product feature or to provide feedback on a StarWind product, please email to our support at support@starwind.com and put "Request a Product Feature" as the subject.

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