

Quick Start Guide: Creating Stand-Alone LSFS device with **StarWind Virtual SAN®**

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TECHNICAL PAPER



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In 2016, Gartner named StarWind "Cool Vendor for Compute Platforms".

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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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Introduction

StarWind Virtual SAN™ is a native Windows hypervisor-centric hardware-less VM storage solution. It allows creating VM-centric and high performing storage pool purpose built for the virtualization workloads. StarWind Virtual SAN delivers supreme performance compared to any dedicated SAN solution since it runs locally on the hypervisor and all IO is processed by local RAM, SSD cache, and disks and never bottlenecked by storage fabric. Also, StarWind Virtual SAN includes the Log-Structuring File System technology, which coalesces small random writes, typical for virtualized environment, into the stream of big sequential writes. As the result the performance is increased and the Flash life is prolonged.

This guide is intended for experienced Windows system administrators and IT professionals who would like to configure StarWind Virtual SAN solution. It provides detailed instructions on how to create the stand-alone Log-Structured File System device that will run on top of the Windows Server 2012 R2.

A full set of up-to-date technical documentation can always be found [here](#), or by pressing the **Help** button in the StarWind Management Console.

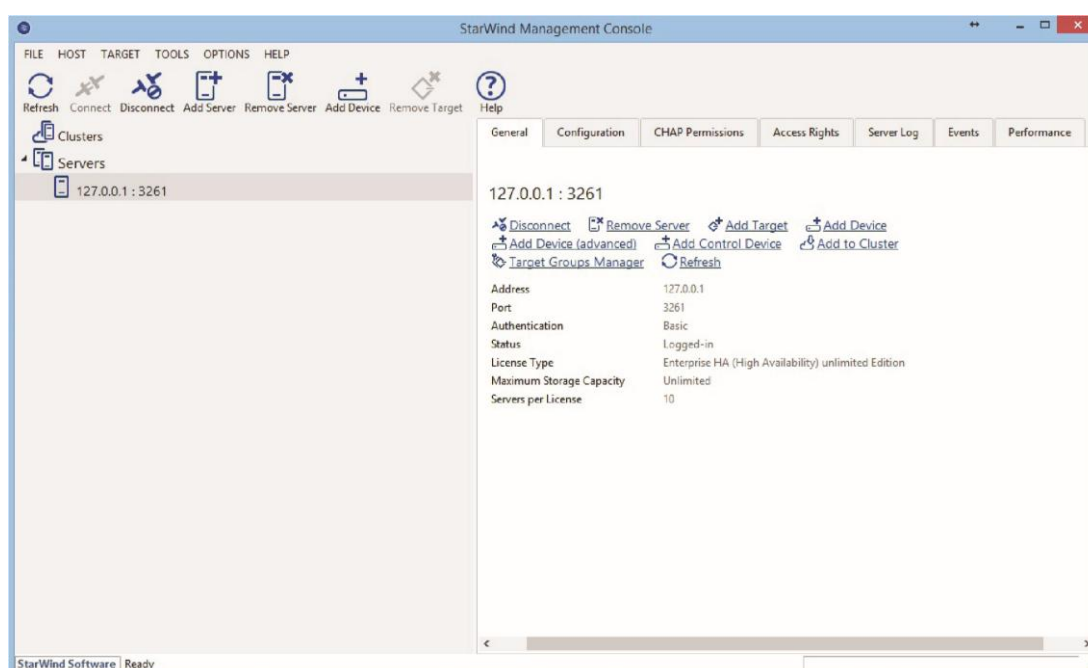
For any technical inquiries please visit our [online community](#), [Frequently Asked Questions](#) page, or use the [support form](#) to contact our technical support department.

Creating Basic Image File

1. Launch the **StarWind Management Console**: double-click the StarWind tray icon.

NOTE: **StarWind Management Console** cannot be installed on an operating system without a GUI. You can install it on any of the GUI-enabled Windows Editions including the desktop versions of Windows.

If **StarWind Service** and **Management Console** are installed on the same server,



the **Management Console** will automatically add the local StarWind instance to the **Console tree** after the first launch. Then, the **Management Console** automatically connects to it using the default credentials. To add remote StarWind servers to the console use the **Add Server** button on the control panel

2. **StarWind Management console** will ask you to specify the default storage pool on the server you're connecting to for the first time. Please configure the storage pool to use the one of the volumes you've prepared earlier. All the devices created through the **Add Device** wizard will be stored on it.

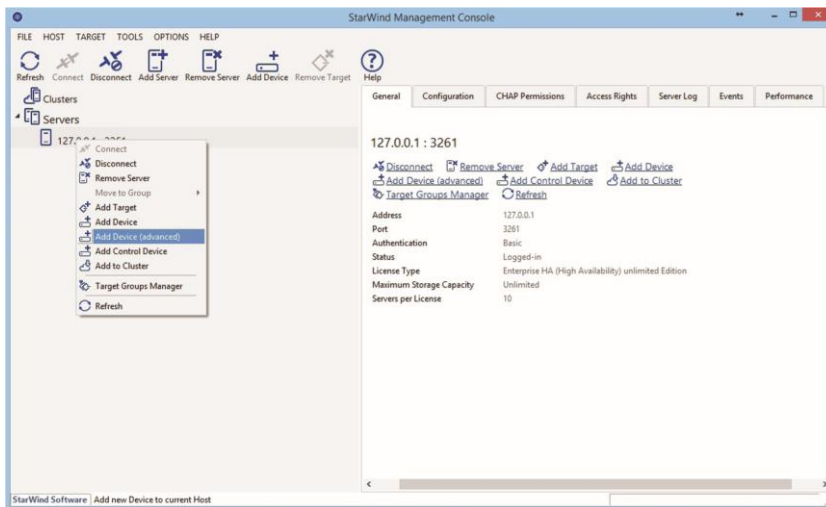


Press **Yes** button to configure the storage pool. Should you require to change the storage pool destination, click **Choose path...** and point the browser to the necessary disk.

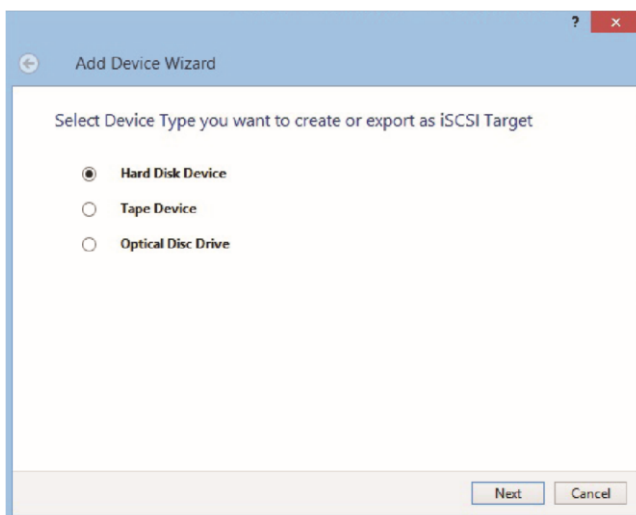
NOTE: Each of the arrays which will be used by **StarWind Virtual SAN** to store virtual disk images has to meet the following requirements:

- It should be initialized as GPT
 - It should have a single NTFS-formatted partition
 - It should have a drive letter assigned
3. Select the StarWind server where you wish to create the device.

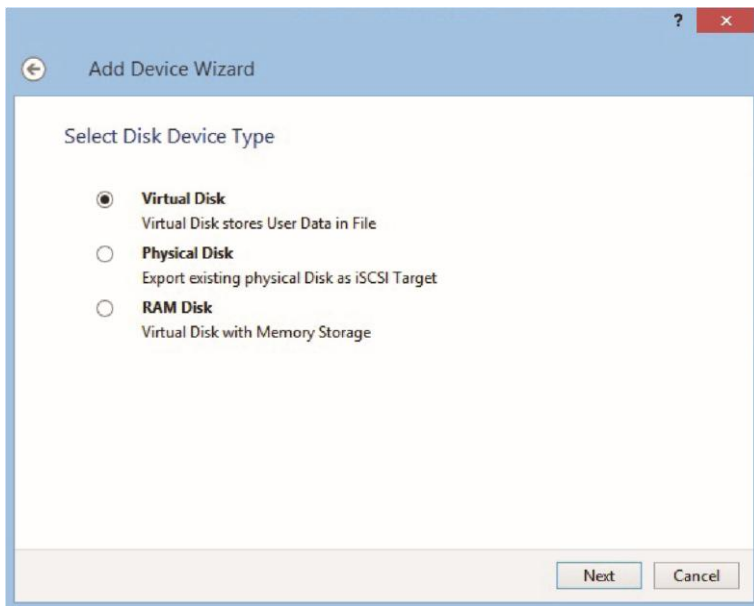
4. Press the **Add Device (advanced)** right clicking on the server.



5. Add Device Wizard will appear. Select **Hard disk device** and click **Next**.

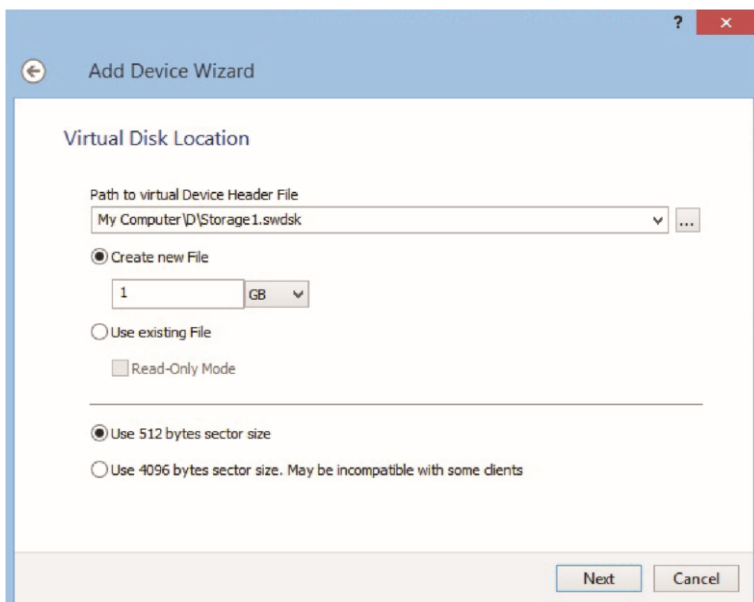


6. Select **Virtual disk** and click **Next**.



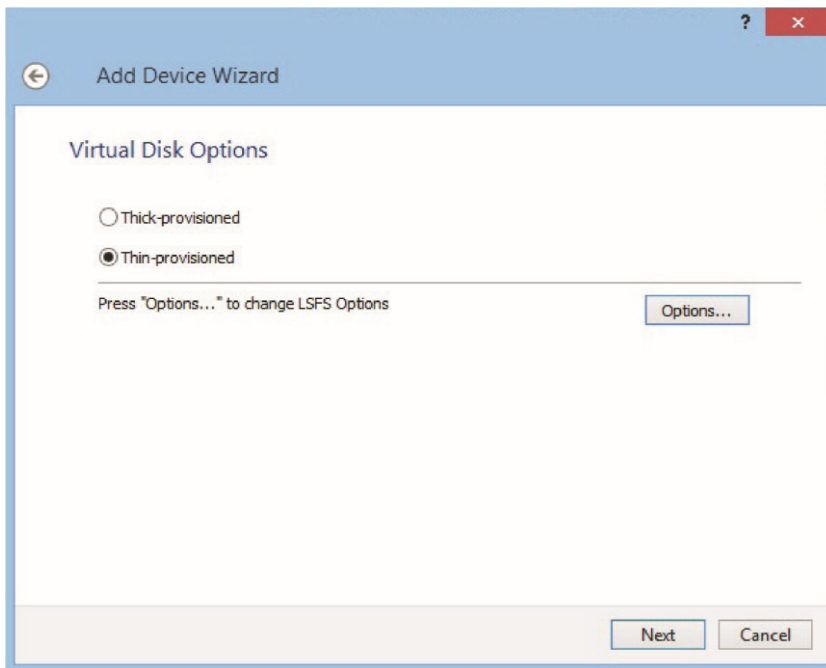
7. Specify the virtual disk location and size.

NOTE: Maximum available LSFS storage that can be addressed by Starwind is 12TB (actual data stored on the LSFS image can be more than 12TB because of deduplication). The LSFS image can also be bigger than 12TB due to the architecture of LSFS.

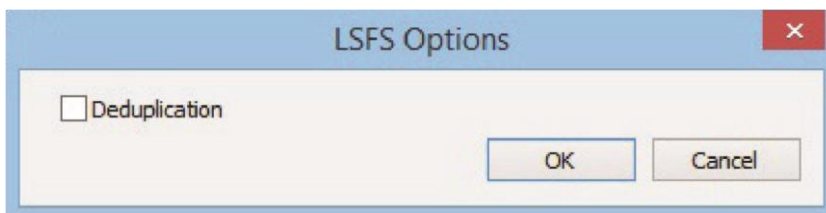


Click **Next**.

8. Specify virtual disk options.

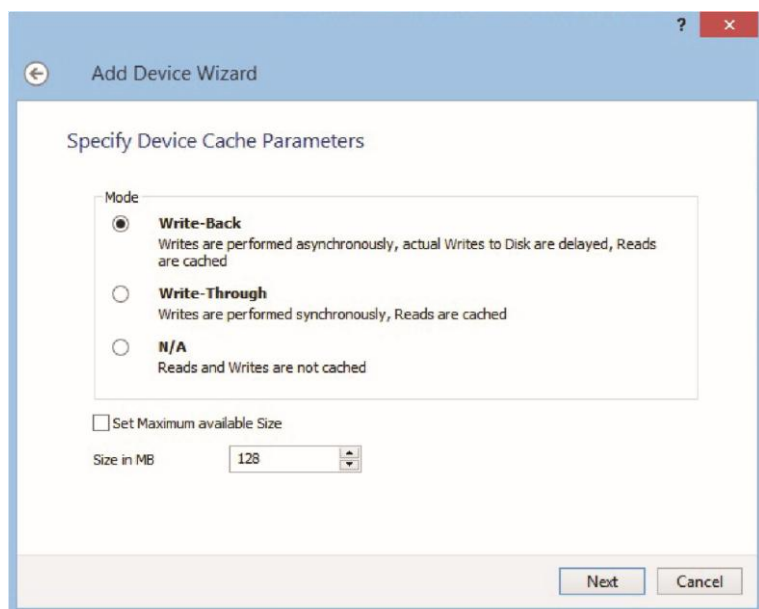


9. You may click **Options** button and choose Deduplication.



Click OK and Next.

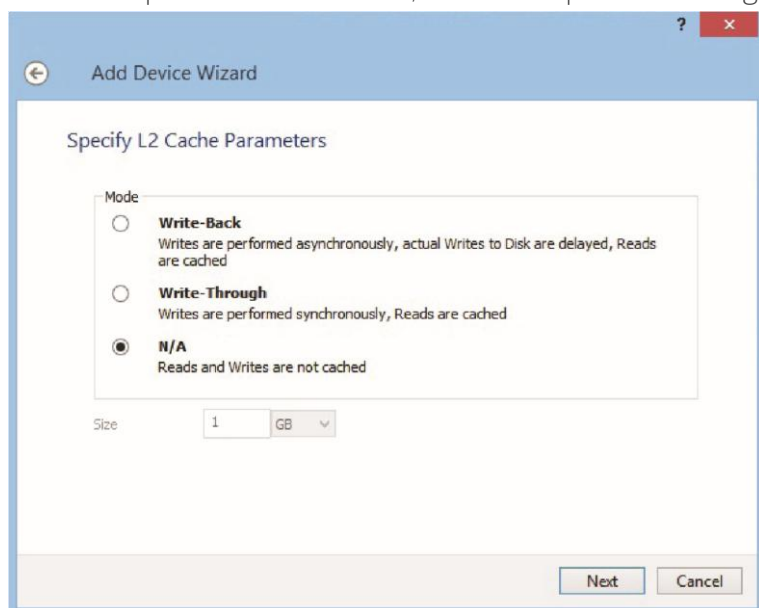
10. Define the caching policy and specify the cache size (in MB). Note: we recommended using 1Gb cache per 1Tb storage. With deduplication enabled - 4,5Gb cache per 1Tb storage.



Click Next.

11. Define the L2 caching policy and size if necessary. Note: We recommend using SSD for L2 cache and if it will be used, the formula is 1Gb (sum of L1 and L2) cache per 1Tb storage.

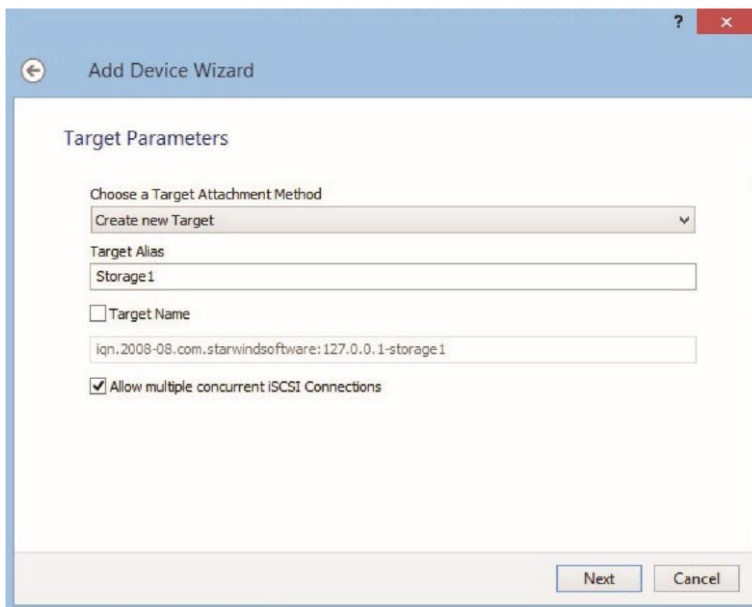
With deduplication enabled - 4,5Gb cache per 1Tb storage.



12. Specify the destination directory for the L2 cache, if present.

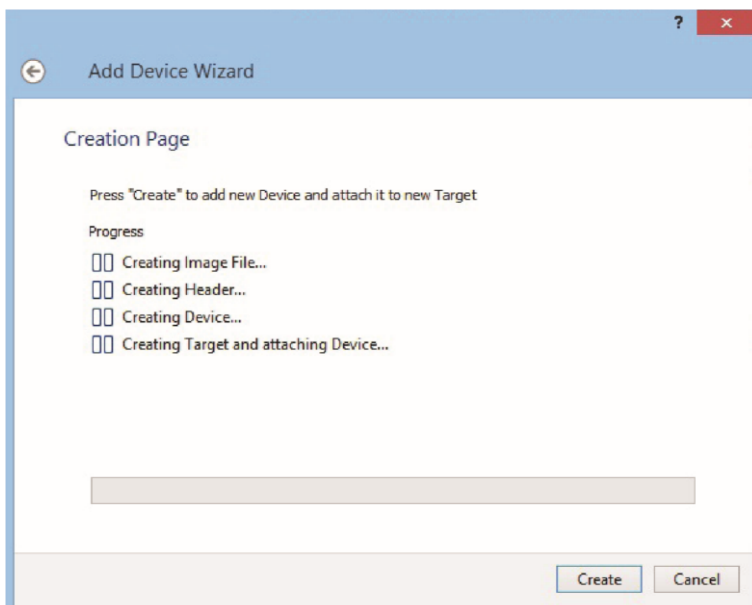
13. Specify target parameters.

Select the Target Name checkbox to enter a custom name of a target. Otherwise, the name will be generated automatically based on the target alias.

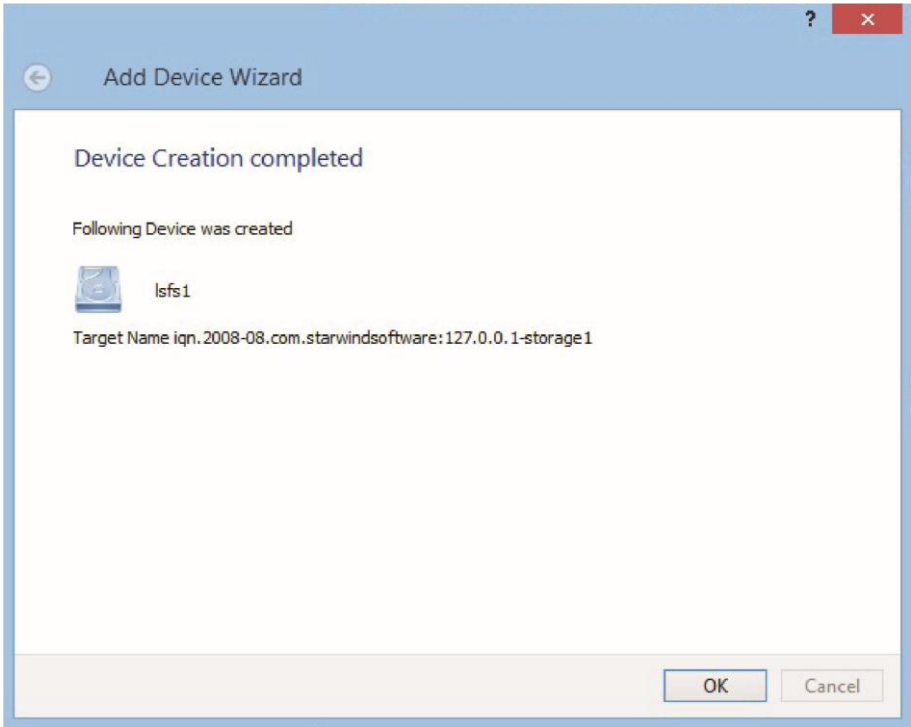


Click **Next** to continue.








14. Click **Create** to add a new device and attach it to the target.



15. Then click **OK** to close the wizard.



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