SpycerBox SAN

– Technical Manual -

version 1.2
March 31, 2009

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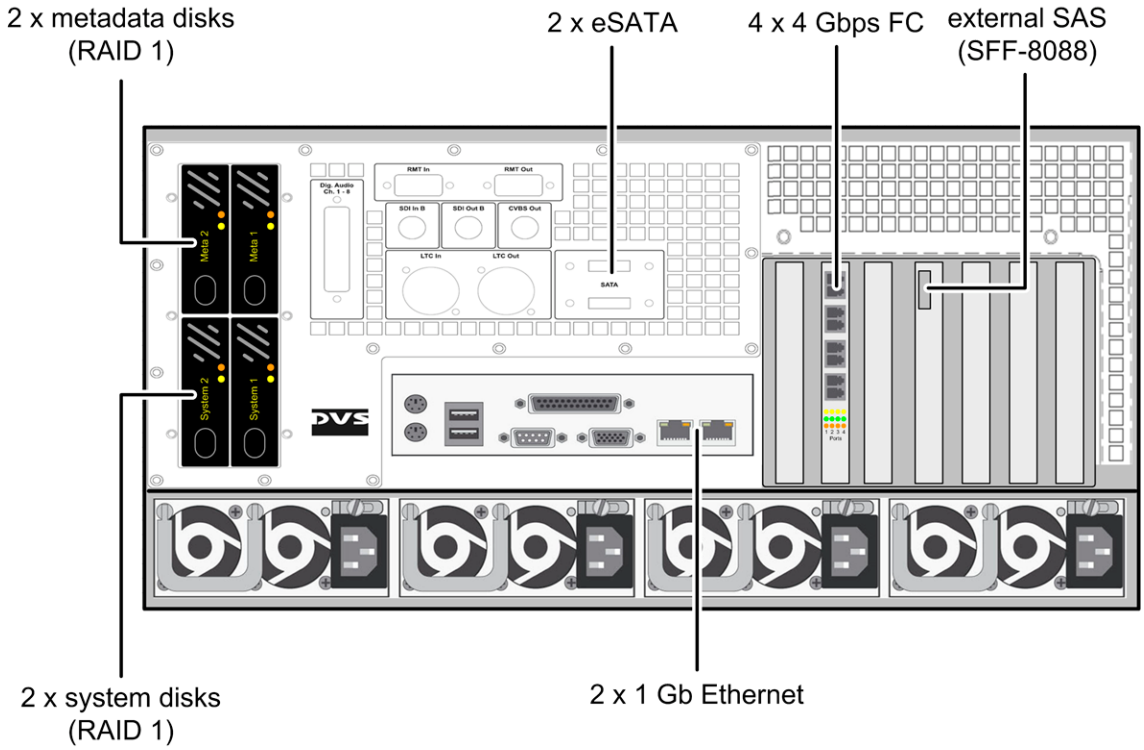
1 System Overview

Hardware:	▪ 2 x Intel Xeon Quad Core CPU ▪ 8 GB RAM ▪ 24 x 1TB SATA disks as content storage ▪ 2 x 160 GB 2,5” SATA disks for the operating system ▪ 2 x 147 GB 2,5” SAS disks for the SAN metadata
Operating system:	▪ SuSE Linux Enterprise Desktop 10 SP1
Components (optional):	▪ InfiniBand (mandatory for SpycerBox SAN IB) ▪ 10GbEthernet ▪ 4 x 1Gb quad port Ethernet ▪ Fibre Channel HBA (mandatory for SpycerBox SAN FC)
User accounts	▪ User: “root” ▪ Password: “dvssan”



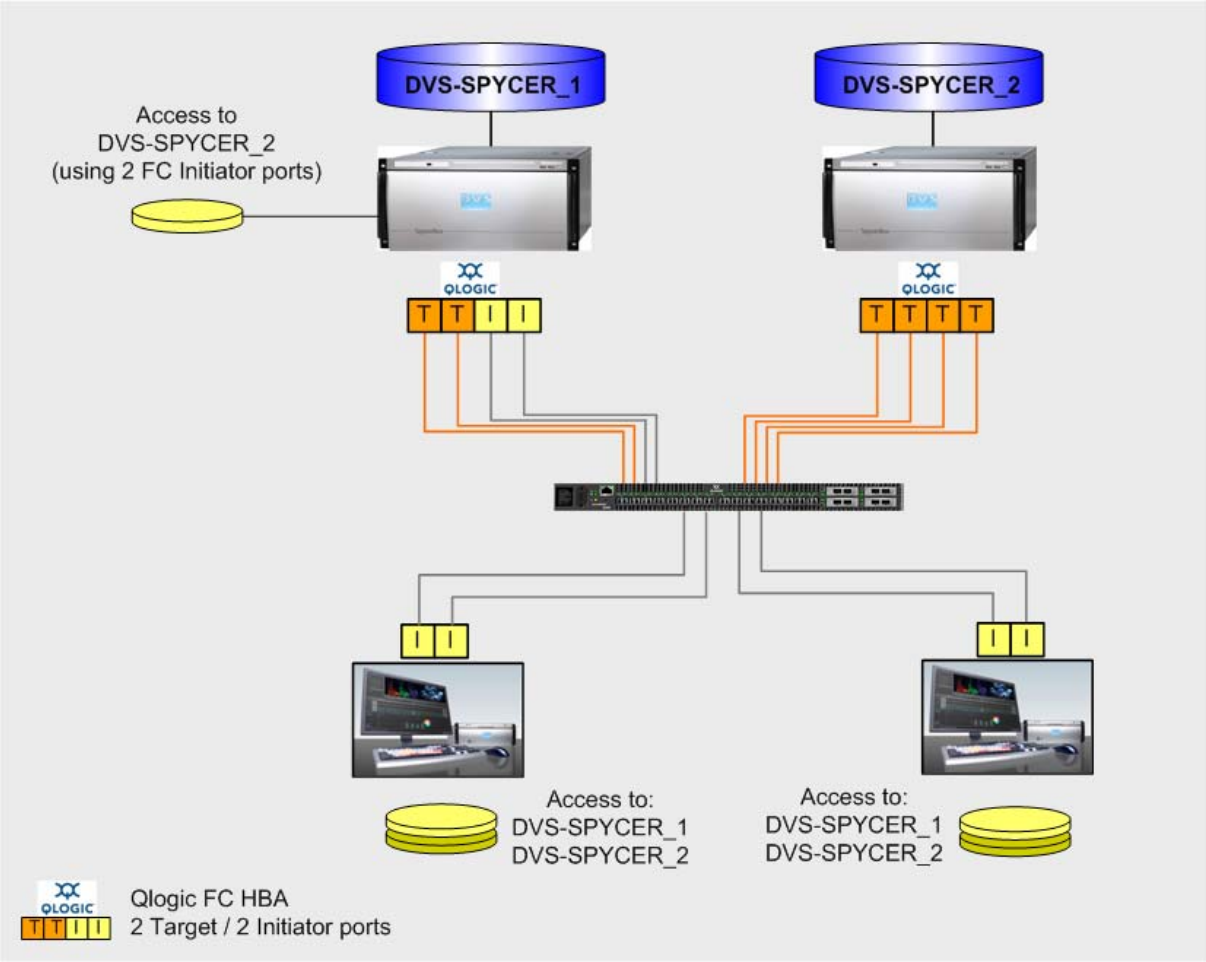
The rear of a SpycerBox SAN with Fibre Channel HBA

2 SCSI Targets

2.1 Targets and Initiators

For the configuration it is necessary to understand the difference between the technical term SCSI-Target and SCSI-Initiator.

In the SCSI architecture an Initiator initiates the communication to Target endpoint, e.g. a client initiates the communication to a storage device. The Target only waits for client requests and provides the requested data transfers (input/output) to a storage device. It's also possible (and the common application for SAN environments) that multiple clients initiate sessions to the same target device.



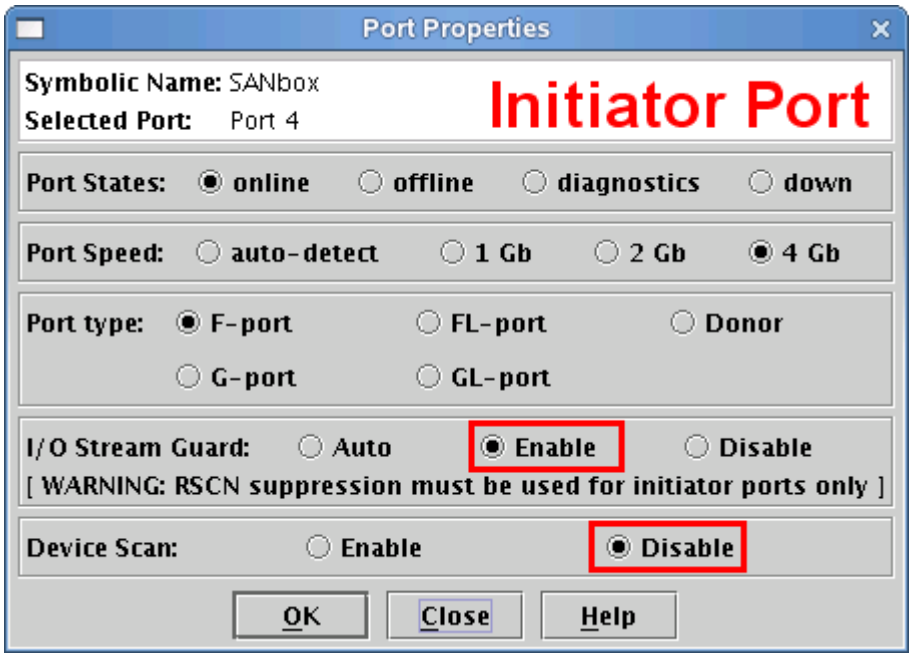
Example for a Fibre Channel fabric with two clustered SpycerBox SAN FC

2.2 Fibre Channel switch configuration

Attention: It is important to set the correct port properties for initiator and target ports at the FC-switch! Otherwise you may get sporadic “LUN-Resets” at connected windows clients.

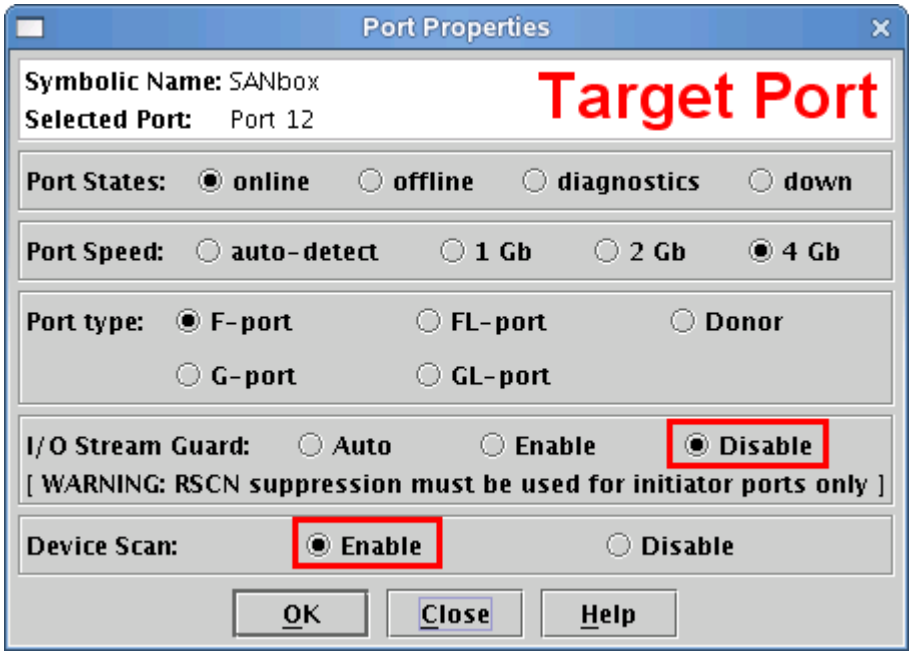
Initiator Ports (client ports):

Enable “I/O Stream Guard” and disable “Device Scan”

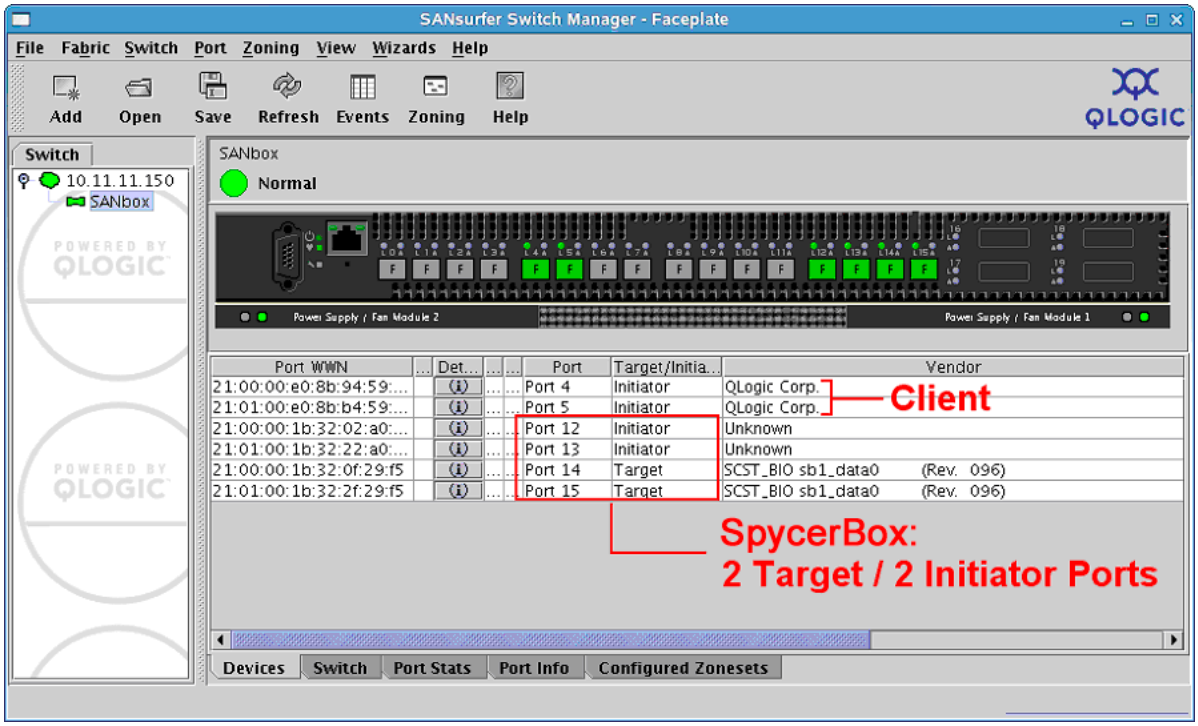


Target Ports:

Disable “I/O Stream Guard” and enable “Device scan”



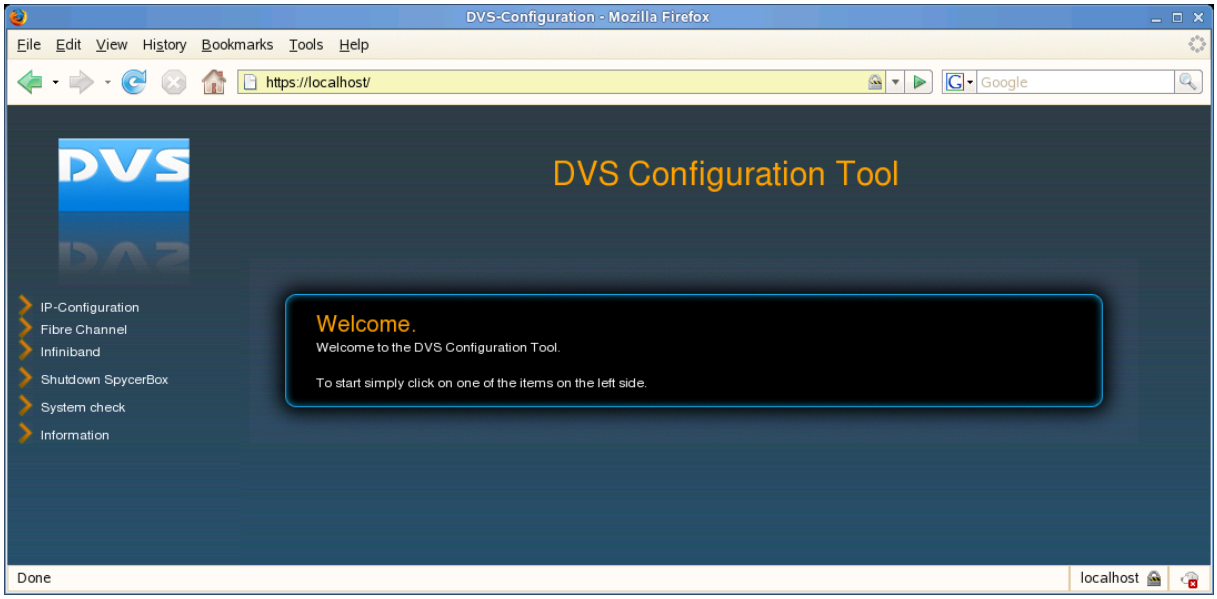
Example for a SpycerBox SAN FC (2 target ports; 2 initiator ports) and a client connected to the FC-switch.



3 DVS Configuration-Tool

For setting up the basic configuration you can also use the provided "DVS Configuration Tool" running on a local web server:

https://<IP_oft_he_SpycerBoxSAN>
(or https://localhost if working directly at the SpycerBox)
User: "admin", Password "dvssan"



Using the navigation items on the left side you can

- Configure the IP addresses of the local network devices
- Configure/start/stop the Fibre Channel export of the internal Storage Devices
- Configure the InfiniBand HCA (if available)
- Shutdown/reboot the SpycerBox SAN
- Check the system status and gather log files for the support

Fibre Channel
If the export via Fibre Channel is stopped, you first have to choose an assignment of Target/Initiator ports for the local Fibre Channel HBA:

4 Target ports:

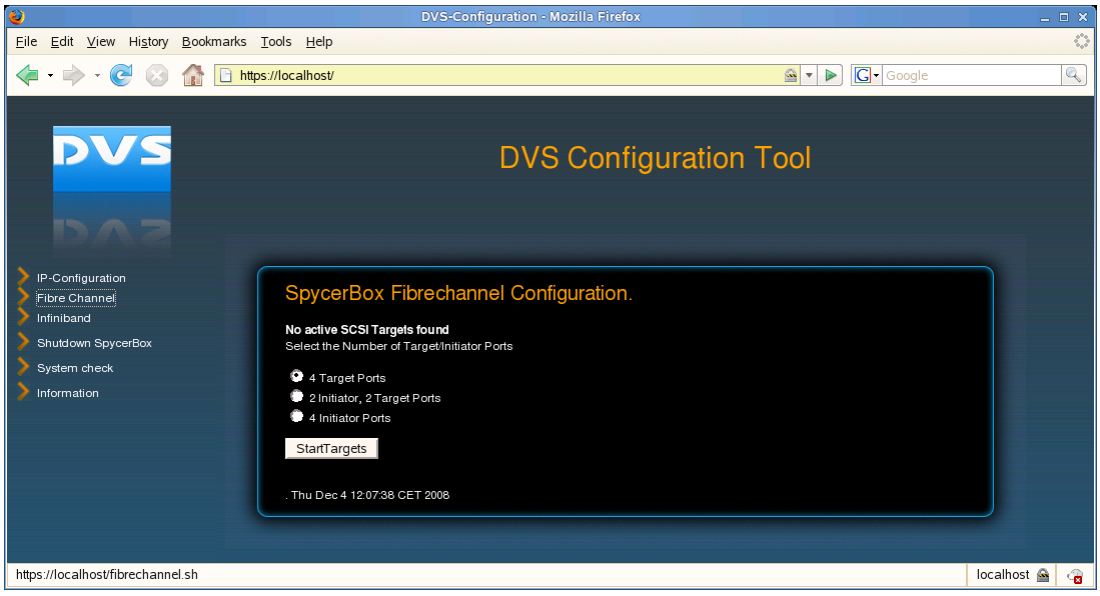
This assignment is used in a Single Box configuration. The SpycerBox SAN only exports its local storage to all clients.

2 Initiator ports/ 2 Target ports:

The SpycerBox uses 2 ports to export its local storage to the clients and the other 2 ports to import volumes from other Targets (e.g. another SpycerBox SAN or a DVS-SAN).

4 Initiator ports:

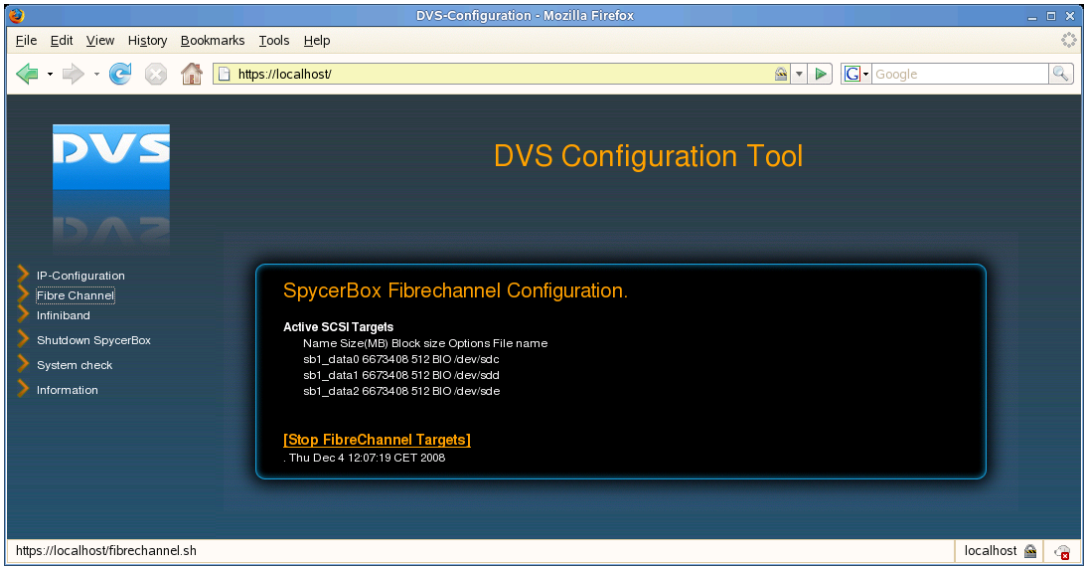
The assignment is used in client configuration. The SpycerBox only imports other volumes without exporting its own ones.



Select a configuration and click the button “Start Targets”.

The configuration will take about 30-60 seconds. In the end you will see an output of executed commands.

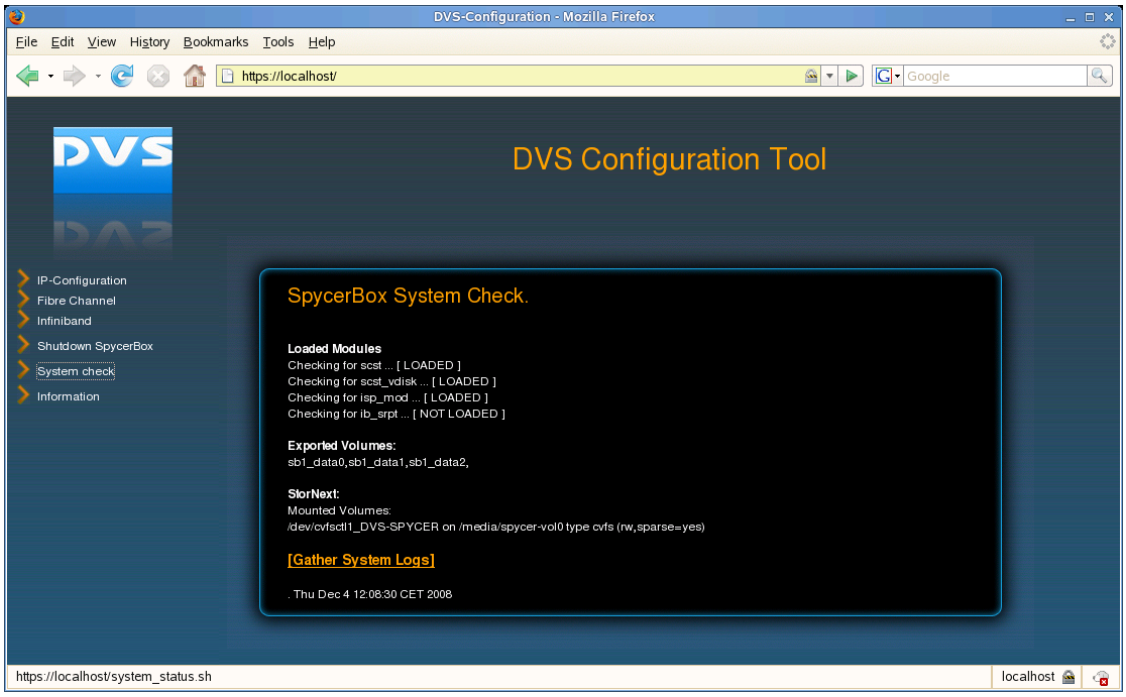
If you now click on the Fibre Channel item in the left navigation panel again, a status of the active SCSI targets is shown with the option to stop the target export.



System check

This menu item provides you with an overview of the actual system status:

- Loaded driver modules:
  - SCST, isp_mod (for Fibre Channel) or ib_srpt (for InfiniBand)
- Exported volumes
- Mounted StorNext volumes



You can also gather all the important system log files and save them as a single file when requested for support issues.