**Scrub Synology RAID disks**

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*UPDATE 2013-08-30:*

Synology OS 4.3 allows consistency checks to be started from the ‘manage’ button in volume manager. These can’t be scheduled though so the info below is still handy if you’d like to set up a cron job. Additionally it’s important to know that the repair is still naïve.

The 4.3 release apparently included fsck action but this doesn’t appear in the UI. To see how to initiate a check via the command line, see the end of this post.

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**Scrub**

Unlike many modern storage devices, Synology DiskStation/RackStation NAS boxes never run fsck or scrub their disks. Not regularly scrubbing (reading all sectors) of your disks could allow data to be written to failing areas and eventually cause data corruption.

You can see if there have been inconsistent writes by running the following after logging in as admin via SSH:

echo check > /sys/block/md[x]/md/sync\_action

where *[x]* is the array you want to check (the first array on an RS3412xs is md2). This may take a few hours depending on the size of your array and disk speed and the progress can be checked in the disk manager in the web UI. After, check the mismatched block count (where data on 1 or more of the disks doesn’t match its counterparts).

cat /sys/block/md[x]/md/mismatch\_cnt

To fix these errors (in a naive way, md isn’t clever about which block it decides is correct from a disk group), run

echo repair > /sys/block/md[x]/md/sync\_action

A further check afterwards will reset the mismatch count to zero if no more errors have crept in in the meanwhile. Running a check or repair regularly will cause all blocks to be read, potentially catching problem disk areas and causing them to be safely remapped before they become a problem. The scrub has the added benefit (vs fsck) of allowing your Synology to remain online and the services available while it happens.

Errors for the all the individual disks can been displayed with

cat /sys/block/md[x]/md/rd?/errors

If these regularly rise after the sync, consider replacing the disk.

**Fsck (e2fsck)**

Commands for performing an offline fsck:

syno\_poweroff\_task

fsck.ext4 -pvf /dev/md[x]

The poweroff task performs some unmounts (volume 1 etc.). Then you perform the usual Linux fsck.