Multi-Report

Quick Start Guide Version 3.1

15 January 2025

What is Multi-Report?

- Multi-Report was written a long time ago under a different name, with the purpose of augmenting FreeNAS 8.x (and beyond) for running SMART tests, monitoring for drive failures as FreeNAS was not very good at it reliably.
- To this day it is still augmenting for some shortcomings (scheduling NVMe drive SMART test), and to make people feel a little safer knowing the testing is going on and alarms will be generated if Multi-Report detects a problem. Just call it "Peace of Mind".
- SMART was designed with the intention to warn a user of pending Hard Drive doom within 0 to 24 hours of a failure. This is not fool proof, not a magic bullet. SMART is not perfect however if it does predict a failure and you are aware of it, you can fend off some danger. There are some failures that cannot be predicted and some failures happen very fast. All the data provided by this script will assist you moving forward once a failure or indication of a pending failure is identified.
- Additionally, I highly <u>recommend</u> running a SMART Short test once a day and running a SMART Long test once a week. If you have a lot of drives, only schedule a few drives a day (Monday), a few others (Wednesday), you get the point. The new Drive_Selftest can automate the scheduling of your SMART tests, example: Daily Short tests and Weekly or Monthly Long Tests, and you have virtually nothing to do to make that work.
- As you look at the chart data, note that the column titles should be self-explanatory.
- One major change has occurred in version 3.1, the S.M.A.R.T. testing has been removed and moved into a companion script called "Drive_Selftest".

 This makes maintaining the script easier and the Drive_Selftest script can run on its own for those people who just want to run the smart tests easily.

Quick Setup Information

Place script on your server (location is for example only)

- Create a new dataset titled 'scripts'. Path: /mnt/pool/scripts
 - Make the dataset:
 - Name: scripts
 - Share Type/Dataset Preset: SMB
 - SCALE: Create SMB Share checkbox
 - Submit/Save
- You should now have access to the SMB share you created.
- Copy the script to the 'scripts' dataset, rename the script to "multi report.sh".

Setting up the CRON JOB

- (CORE) -> Tasks -> Cron Jobs -> ADD
- (SCALE) -> System -> Advanced -> Cron Jobs -> ADD
- Description: multi_report
- Command (CORE): ./mnt/pool/scripts/multi_report.sh
- Command (SCALE): cd/mnt/pool/scripts && ./multi_report.sh
- Run As User: root (or any privileged account)
- Schedule: CustomPreset: Daily
 - Minutes: 0, Hours: 2, Days: *
 - Select DONE
- Hide Standard Output: Unchecked
- Hide Standard Error: Unchecked
- Enabled: Checked
- Save

First and Second Run

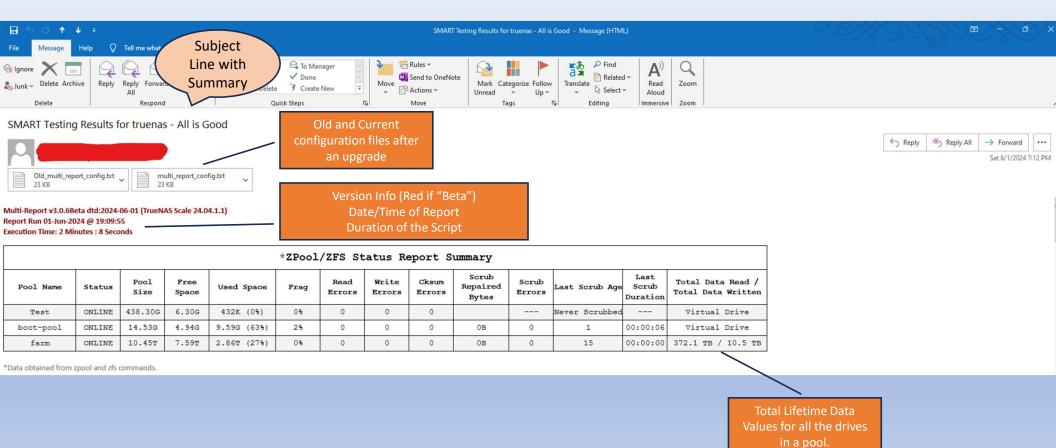
- As a privileged user, open a shell/SSH window and change directory 'cd' to cd/mnt/pool/scripts
- First Run: Enter ./multi_report.sh -config
 - Follow the instructions to create a multi_report_config.txt (configuration file).
- Second Run: Enter ./multi_report.sh
 - The script should run without error.

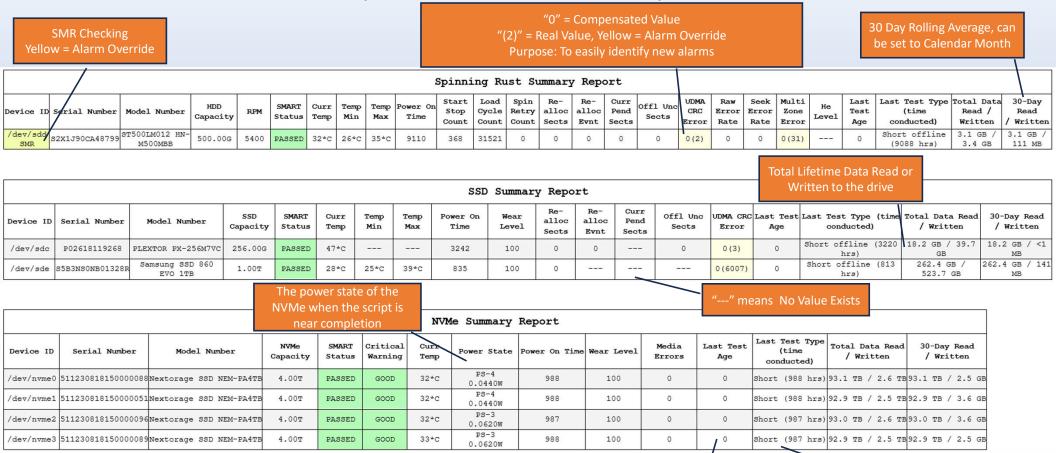
Notes:

- To customize Multi-Report run the script with the '-config' switch and select Advanced Configuration. There are a large variety of things which can be customized for almost every situation. If you can't figure out how to do something, drop Joe a message.
- In order to run SMART Self-tests on NVMe drives, you must set NVM_Smartmontools_74_Override="enable". You can manually edit the multi_report_config.txt file or use the Advanced Configuration section.
- If you run into a real problem, search the TrueNAS forums first, and if you cannot figure it out, use the '-dump email' switch to send me the required information I need to assist you. I will return an email to you once I have looked at it. I normally get back to people in less that 24 hours, keep in mind time zones, I'm in the USA, NY (ET).

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How many 24 hour periods have past since last S.M.A.R.T. test

A Short S.M.A.R.T. Test Completed (987) Hours the test completed. If the last test was a Long test, that would be indicated here

Multi-Report Text Section

- 1) External Configuration File (Present) dtd:2025-01-13a
- 2) Statistical Data Log (Present) @ (/mnt/farm/scripts/statisticalsmartdata.csv)

Attachments:

- 1) TrueNAS Configuration File (All) (Enabled)
- 2) Multi Report Configuration File (All) (Enabled)
- 3) Statistical Log (All) (Enabled)
- 4) HDD/SSD Partition Backup (All) (Enabled)

Checks/Tests:

- 1) SMR Checking (Disabled)
- 2) Partition Check (Enabled) No Errors Detected
- 3) Spencer (Not Installed)
- 4) S.M.A.R.T Testing External File (Enabled)
 - a) Short Test Authorized Test Days (Mon, Tue, Wed, Thu, Fri, Sat, Sun) (~1 Drive(s) per day) (none)
 - b) Long Test Authorized Test Days (Mon, Tue, Wed, Thu, Fri, Sat, Sun) (~1 Drive(s) per day) (none)

The Text Section contains: Configuration Information Test Information and Error Information

If you have an alarm on the Chart Section, look here for amplifying information.

ZPool status report for Spinner

pool: Spinner
state: ONLINE
status: Some supported and requested features are not enabled on the pool.
The pool can still be used, but some features are unavailable.
action: Enable all features using 'zpool upgrade'. Once this is done,
the pool may no longer be accessible by software that does not support
the features. See zpool-features(7) for details.
scan: scrub repaired OB in 00:08:21 with 0 errors on Sun Dec 22 00:08:23 2024
config:

errors: No known data errors

Zpool Status

This tells you the drive is "Virtual", the gptid number, the Drive ID, and Drive Serial Number. Use this data to help identify a failing drive.

```
######## ZPool status report for farm #########
 pool: farm
status: One or more devices are faulted in response to persistent errors.
      Sufficient replicas exist for the pool to continue functioning in a
      degraded state.
action: Replace the faulted device, or use 'zpool clear' to mark the device
 scan: scrub repaired 472K in 00:34:18 with 0 errors on Sat Jan 11 13:06:34 2025
config:
      NAME
                                             STATE
                                                      READ WRITE CKSUM
      farm
                                             DEGRADED 0 0
          f41cd7e4-df4c-4f0c-9c24-62a4343c1868 ONLINE 0 0 0
          21e5a651-701d-4150-82c6-446211a8f898 ONLINE 0 0 0
          f18e77b8-82cd-426c-b6e6-9bcc9778e511 FAULTED 15 0 0 too many errors
```

errors: No known data errors

```
Drives for this pool are listed below:
21e5a651-701d-4150-82c6-446211a8f898 -> nvme1n1p2 -> S/N:511230818150000096
cee96768-462c-437f-b35b-ab3abcd8fd0f -> nvme4n1p2 -> S/N:511230818150000088
d3549c3a-2f33-41b8-8fdb-4096c3fb5248 -> nvme2n1p2 -> S/N:5112308181500000450
f18e77b8-82cd-426c-b6e6-9bcc9778e511 -> nvme3n1p2 -> S/N:511230818150000089
f41cd7e4-df4c-4f0c-9c24-62a4343c1868 -> nvme0n1p2 -> S/N:511230818150000051
```

cee96768-462c-437f-b35b-ab3abcd8fd0f ONLINE 0 0 0

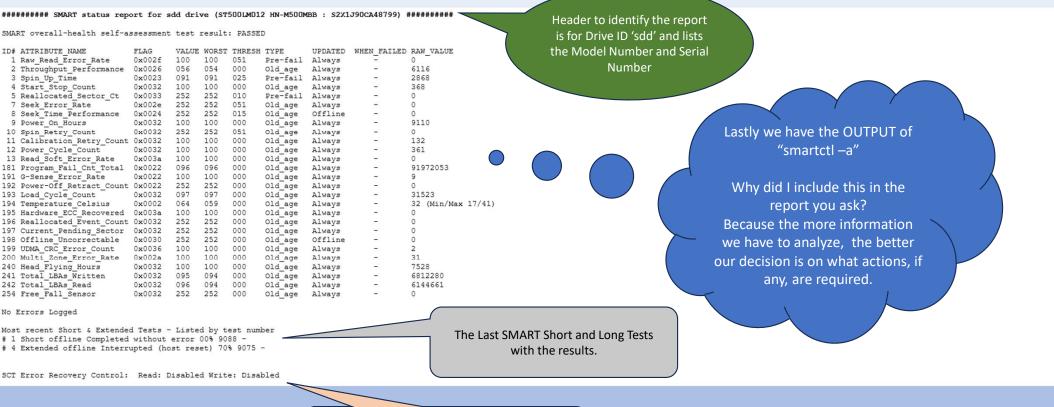
d3549c3a-2f33-41b8-8fdb-4096c3fb5248 ONLINE

All drives for the "farm" pool are listed and identified by three things:

gptid -> Drive ID -> Drive Serial Number

This makes it significantly easier to identify which drive actually failed by serial number.

Recently added, noting exactly the related drive, however in this example it alone does not mean the drive is faulty.



TLDR Can also be set by the script, the default is 70 (7.0 seconds) when enabled. It is Disabled in this example.

Closing Notes

Always backup your important data Always use an Uninterruptable Power Supply (UPS) Read the User Guide

If something is not running correctly, please ensure your CRON Job setup is like the example on the Quick Setup Information. Having the wrong command can absolutely cause problems.

If you find something wrong with the script or these instructions, please reach out to joeschmuck2023@hotmail.com with the issue, or run the script using the '-dump email' switch to send me data to analyze and include a little message as well. Believe it or not, I appreciate the feedback, good or not so good.

And if you have a recommendation on what the default values should be within the multi_report_config.txt file, please reach out to me. If the change makes sense, I will implement it.