

Monitoring the Lifespan of an SSD

Mediatrix Units Using a Virtual Machine

DGW 49.2.2941

2023-08-09

Table of Contents

SSD Lifespan	3
SSD Lifespan Extrapolation	4
Monitoring the SSD Wear Percentage Using the CLI	4
Monitoring the SSD Wear Percentage Using a MIB Browser	4
DGW Documentation	6
Copyright Notice	7

SSD Lifespan

Mediatrix units running a Virtual Machine are equipped with various sizes of Solid State Drive (SSD) for storage.

A Solid State Drive (SSD) is a form of flash-based storage. Media5 uses high quality, enterprise grade SSDs in its products. However due to its technical nature, flash memory can handle so many read/write cycles. Beyond that, the performance may degrade or in extreme cases, the drive may fail. For customers using a Mediatrix unit running a Virtual Machine, special attention should be paid to the number of writes caused by the Operating System running in the virtual machine, as well as by the application. If the Virtual Machine is not optimised, it will lead to excessive read/write access to the SSD, and hence significantly reduce the lifespan of the SSD. For more details, please refer to [Technical Bulletins - Virtual machine installation](#) published on the [Media5 Documentation Portal](#).

SSD Lifespan Extrapolation

SSD lifespan can be extrapolated and Virtual Machine optimisation can be validated.

For example, let the virtual machine run for a month (or a week), read and compare the **WearPercentage** parameter at different times during this interval. Use the collected information to extrapolate the lifespan.

For example: the Wear Percentage increased from 19% to 20% in 2 months. Take the remaining 80% divided by a monthly increase of 0.5% gives 160 months left. Therefore at least 13 years left at the current increase rate.

If the lifespan does not meet the expectations, you may consider further optimisation measures e.g.:

- disable some of the logging
- log to an external device
- assign more RAM to the Virtual Machine
- consider ordering a bigger SSD for future installations

Monitoring the SSD Wear Percentage Using the CLI

Steps

- 1) Open the Command Line Interface (CLI).
- 2) At the prompt, enter the following command: `Dcm.PersistentWearPercentage`

Result

This parameter will provide the Wear Percentage of the SSD. It is taken from the SMART data obtained directly from the drive. When it reaches 100%, it means the technical lifespan of the SSD has been reached. The drive may not fail immediately, but this indicates that the SSD must be replaced to ensure continuous operation.

Monitoring the SSD Wear Percentage Using a MIB Browser

Information

The Mediatrix UMN Mib browser can be used for this procedure.

Steps

- 1) Open your Mib Browser.
- 2) Poll `.1.3.6.1.4.1.4935.1000.100.200.100.2000.1.10000.100.250`

Note: This is an SNMP (readonly) Mib.

Result

This parameter will provide the Wear Percentage of the SSD. It is taken from the SMART data obtained directly from the drive. When it reaches 100%, it means the technical lifespan of the SSD has been reached. The drive may not fail immediately, but this indicates that the SSD must be replaced to ensure continuous operation.

DGW Documentation

Mediatrix devices are supplied with an exhaustive set of documentation.

Mediatrix user documentation is available on the [Media5 Documentation Portal](#).

Several types of documents were created to clearly present the information you are looking for. Our documentation includes:

- **Release notes:** Generated at each GA release, this document includes the known and solved issues of the software. It also outlines the changes and the new features the release includes.
- **Configuration notes:** These documents are created to facilitate the configuration of a specific use case. They address a configuration aspect we consider that most users will need to perform. However, in some cases, a configuration note is created after receiving a question from a customer. They provide standard step-by-step procedures detailing the values of the parameters to use. They provide a means of validation and present some conceptual information. The configuration notes are specifically created to guide the user through an aspect of the configuration.
- **Technical bulletins:** These documents are created to facilitate the configuration of a specific technical action, such as performing a firmware upgrade.
- **Hardware installation guide:** They provide the detailed procedure on how to safely and adequately install the unit. It provides information on card installation, cable connections, and how to access for the first time the Management interface.
- **User guide:** The user guide explains how to customise to your needs the configuration of the unit. Although this document is task oriented, it provides conceptual information to help the user understand the purpose and impact of each task. The User Guide will provide information such as where and how TR-069 can be configured in the Management Interface, how to set firewalls, or how to use the CLI to configure parameters that are not available in the Management Interface.
- **Reference guide:** This exhaustive document has been created for advanced users. It includes a description of all the parameters used by all the services of the Mediatrix units. You will find, for example, scripts to configure a specific parameter, notification messages sent by a service, or an action description used to create Rulesets. This document includes reference information such as a dictionary, and it does not include any step-by-step procedures.

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