Interpreting SSD Wearout Indicators for CloudGen Firewall Hardware Models

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Manufacturers use the following common reference parameters as their guaranteed warranty threshold for write operations: the Media Wearout Indicator and/or the Percentage Used Endurance Indicator.

Definitions According to Storage Manufacturers

- **Media Wearout Indicator** – This attribute reports the number of cycles the NAND media has undergone. The normalized value declines in a linear fashion from 100 to 1 as the average erase cycle count increases from 0 to the maximum rated cycles. When the normalized value reaches 1, the number will not decrease. However, it is likely that significant additional wear can be put on the device.
- **Percentage Used Endurance Indicator** – This statistic counts increases from 0 to 100, and may even go beyond 100 for drives that exceed their expected lifetime. A value of 0 indicates a new device, whereas 100 indicates that the device is at the end of its lifespan as projected by the manufacturer. The value can reach a value of 255.

When the threshold of write operations to an SSD storage is reached, the SSD manufacturer's warranty expires. Test cycles have shown that, depending on exact SSD model, the lifespan of the SSD is up to 6 times longer than the period covered by the flow of the two indicators. Therefore, there is little reason to worry about the health state of your SSD even when the Media Wearout Indicator is 1 or the Percentage Used Endurance Indicator is greater than 100. How quickly these values are reached and how much longer the remaining lifespan of your SSD is depends on the particular daily wear of the SSD.

Recommendations to Reduce Wear of the SSD

- Log File Handling
- Log Files: FAQ
- Available Log Files and Structure
- How to Enable the Firewall Audit Log Service
- How to Configure Syslog Streaming
- How to Configure Web Log Streaming
- How to Prepare External USB Storage for Log File Storage
- How to Configure Statistics

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