

Proposal for the Device Statistic Information Additions Device Usage ~~Length~~ Statistics Group

To: T13 Technical Committee
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This document shows the list of candidates of device usage ~~length~~ information to be included in the Device Statistic Information Log. Each of the candidates will be reviewed and included in the standard after approval. Supporting of each of the item on the list is optional.

Summary of Device Statistic Information Candidates:

1. Device Statistic Information Header
2. Power-on Hours (Lifetime)
3. ~~Spindle Motor Power-on Hours~~ (Lifetime)
4. Head-Loaded Hours (Lifetime)
5. Head Load Events (Lifetime)
6. ~~Write Data Amount~~ (Lifetime)
7. ~~Write Command Count~~ (Lifetime)
8. ~~Read Data Amount~~ (Lifetime)
9. ~~Read Command Count~~ (Lifetime)

Device Statistic Information Table

Byte Offset	Bit	Description
0		Device Statistic Information Header
		Description: When T13 decides to make a new revision to this structure
		Update Criteria: When event occurs
		Measurement Units: Number sequence
		Initialization: Set to 0001h at the factory
	63:48	Revision number
	47:0	Reserved
8		Power-on Hours (Lifetime)

		<p>Description: This value records number of power-on hours since the device was manufactured. The power-on hours is defined as the amount of time the power has been applied to the device and the device is operational. The device is operational when it is in Active/Idle/Standby state. The Sleep state is not an operational state. The accumulation of fractional power-on hours is required in one minute intervals.</p> <p>Update Criteria: Update on Timer: Yes (= 1 hour) Update on entering Standby state: Yes Update on entering Sleep state: Yes Update on Device Statistics Page Read: Yes</p> <p>Measurement Units: Hours</p> <p>Initialization: Cleared to zero at the factory</p>
	63	1=valid statistic data
	62:56	Reserved
	55:32	Reserved
	31:0	Unsigned DWORD Power-on Hours (Lifetime)
16		<p>Spindle Motor Power-on Hours (Lifetime)</p> <p>Description: This value records number of hours the spindle motor is powered on since the device was manufactured. The accumulation of fractional spindle motor power-on hours is required in one minute intervals.</p> <p>Update Criteria: Update on Timer: Yes (= 1 hour) Update on entering Standby state: Yes Update on entering Sleep state: Yes Update on Device Statistics Page Read: Yes</p> <p>Measurement Units: Hours</p> <p>Initialization: Cleared to zero at the factory</p>
	63	1=valid statistic data
	62:56	Reserved
	55:32	Reserved
	31:0	Unsigned DWORD Spindle Motor Power-on Hours (Lifetime)
24		Head-Loaded Hours (Lifetime)

		<p>Description: This value records number of hours the device head(s) is loaded over the surface of the media since the device was manufactured. The accumulation of fractional head-loaded hours is required in one minute intervals.</p> <p>Update Criteria: Update on Timer: Yes (= 1 hour) Update on entering Standby state: Yes Update on entering Sleep state: Yes Update on Device Statistics Page Read: Yes</p> <p>Measurement Units: Hours</p> <p>Initialization: Cleared to zero at the factory</p>
	63	1=valid statistic data
	62:56	Reserved
	55:32	Reserved
	31:0	Unsigned DWORD Head-Loaded Hours (Lifetime)
32		<p>Head Load Events (Lifetime)</p> <p>Description: This value records number of events the device loads its head(s) over the surface of the media.</p> <p>Update Criteria: Update on Timer: Yes (=1 hour) Update on entering Standby state: Yes Update on entering Sleep state: Yes Update on Device Statistics Page Read: Yes</p> <p>Measurement Units: Head load events</p> <p>Initialization: Cleared to zero at the factory</p>
	63	1=valid statistic data
	62:56	Reserved
	55:32	Reserved
	31:0	Unsigned DWORD Head Load Events (Lifetime)
40		<p>Active/Idle Power Loss Events (Lifetime)</p> <p>Description: Power loss when the device is in Active or Idle state.</p> <p>Update Criteria: Update on Timer: No (=1 hour) Update on entering Standby state: No Update on entering Sleep state: No Update on Device Statistics Page Read: No Update on following power on: Yes</p> <p>Measurement Units: Events</p> <p>Initialization: Cleared to zero at the factory</p>
	63	1=valid statistic data
	62:56	Reserved
	55:32	Reserved
	31:0	Unsigned DWORD Active/Idle Power Loss Events (Lifetime)
48		<p>Write Data Amount (Lifetime)</p> <p>Description: This statistic reports the amount of write data</p>

		<p>requested by the host commands.</p> <p>Update Criteria: Update on Timer: Yes (= 1 hour) Update on entering Standby state: Yes Update on entering Sleep state: Yes Update on Device Statistics Page Read: Yes</p> <p>Measurement Units: Logical blocks</p> <p>Initialization: Cleared to 0 at the factory</p>
	63	1=valid statistic data
	62:0	Unsigned QWORD Write Data Amount (Lifetime)
56		Write Command Count (Lifetime)
		<p>Description: This statistic reports the number of write data commands requested by the host.</p> <p>Update Criteria: Update on Timer: Yes (= 1 hour) Update on entering Standby state: Yes Update on entering Sleep state: Yes Update on Device Statistics Page Read: Yes</p> <p>Measurement Units: Number of commands</p> <p>Initialization: Cleared to 0 at the factory</p>
	63	1=valid statistic data
	62:0	Unsigned QWORD Write Data Amount (Lifetime)
64		Read Data Amount (Lifetime)
		<p>Description: This statistic reports the amount of read data requested by the host.</p> <p>Update Criteria: Update on Timer: Yes (= 1 hour) Update on entering Standby state: Yes Update on entering Sleep state: Yes Update on Device Statistics Page Read: Yes</p> <p>Measurement Units: Logical blocks</p> <p>Initialization: Cleared to 0 at the factory</p>
	63	1=valid statistic data
	62:0	Unsigned QWORD Read Data Amount (Lifetime)
72		Read Command Count (Lifetime)
		<p>Description: This statistic reports the number of read data commands requested by the host.</p> <p>Update Criteria: Update on Timer: Yes (= 1 hour) Update on entering Standby state: Yes Update on entering Sleep state: Yes Update on Device Statistics Page Read: Yes</p> <p>Measurement Units: Number of commands</p> <p>Initialization: Cleared to 0 at the factory</p>
	63	1=valid statistic data
	62:0	Unsigned QWORD Read Command Count (Lifetime)

