

Proposal for the Device Statistic Information Additions Transport Statistics Group

To: T13 Technical Committee
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This document shows the list of candidates of transport statistics 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. Number of the D2H Signature FIS (Lifetime)
3. Number ASR (Asynchronous Signal Recovery) Events (Lifetime)
4. Number ASR (Asynchronous Signal Recovery) Events (Short Term)
5. Interface CRC Error Count (Lifetime)
6. Interface CRC Error Count (Short Term)
7. Protocol CRC Error Count (Lifetime)
8. Protocol CRC Error Count (Short Term)
9. **Device Received R_ERR Count (Lifetime)**
10. **Device Sent R_ERR 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: NA
		Measurement Units: NA
		Initialization: At the time of manufacture
	63:48	Revision number 0001h
	47:16	Reserved
	15:0	Page Number xxxxh
8		Number of the D2H Signature FIS (Lifetime)

		<p>Description: This value records number of Signature FIS's sent by the device since the device was manufactured.</p> <p>Update Criteria: Update on Timer: Yes if the statistics is changed since last update (= 5 min) Update on entering Standby state: Yes Update on entering Sleep state: Yes Update on Device Statistics Page Read: Yes</p> <p>Measurement Units: Events</p> <p>Initialization: Cleared to zero at the time of manufacture = yes Preserve over all resets = yes</p>
	63	1=valid statistic data
	62:56	Reserved
	55:32	Reserved
	31:0	Number of the D2H Signature FIS (Lifetime)
16		Number ASR (Asynchronous Signal Recovery) Events (Lifetime)
		<p>Description: This value records number of ASR events since the device was manufactured.</p> <p>Update Criteria: Update on Timer: Yes if the statistics is changed since last update (= 5 min) Update on entering Standby state: Yes Update on entering Sleep state: Yes Update on Device Statistics Page Read: Yes</p> <p>Measurement Units: Events</p> <p>Initialization: Cleared to zero at the time of manufacture = yes Preserve over all resets = yes</p>
	63	1=valid statistic data
	62:56	Reserved
	55:32	Reserved
	31:0	Number of ASR (Asynchronous Signal Recovery) Events (Lifetime)
24		Number ASR (Asynchronous Signal Recovery) Events (Short Term)
		<p>Description: This value records number of ASR events in the last 5 minutes.</p> <p>Update Criteria: Update on Timer: Yes if the statistics is changed since last update (= 5 min) Update on entering Standby state: Yes Update on entering Sleep state: Yes Update on Device Statistics Page Read: Yes</p> <p>Measurement Units: Events</p> <p>Initialization: Cleared to zero at the time of manufacture = yes Preserve over all resets = no</p>
	63	1=valid statistic data
	62:56	Reserved
	55:32	Reserved
	31:0	Number of ASR (Asynchronous Signal Recovery) Events (Short Term)
32		Interface CRC Error Count (Lifetime)

		<p>Description: This value records number of Interface CRC errors detected by the device since the device was manufactured.</p> <p>Update Criteria: Update on Timer: Yes if the statistics is changed since last update (= 5 min) Update on entering Standby state: Yes Update on entering Sleep state: Yes Update on Device Statistics Page Read: Yes</p> <p>Measurement Units: Events</p> <p>Initialization: Cleared to zero at the time of manufacture = yes Preserve over all resets = yes</p>
	63	1=valid statistic data
	62:56	Reserved
	55:32	Reserved
	31:0	Interface CRC Error Count (Lifetime)
40		Interface CRC Error Count (Short Term)
		<p>Description: This value records number of Interface CRC errors detected by the device in the last 5 minutes..</p> <p>Update Criteria: Update on Timer: Yes if the statistics is changed since last update (= 5 min) Update on entering Standby state: Yes Update on entering Sleep state: Yes Update on Device Statistics Page Read: Yes</p> <p>Measurement Units: Events</p> <p>Initialization: Cleared to zero at the time of manufacture = yes Preserve over all resets = no</p>
	63	1=valid statistic data
	62:56	Reserved
	55:32	Reserved
	31:0	Interface CRC Error Count (Short Term)
48		Protocol CRC Error Count (Lifetime)
		<p>Description: This value records number of Protocol CRC errors detected by the device since the device was manufactured. Protocol CRC error is defined for Interface CRC error or other CRC errors occurs in FIS package including the register FIS and other non-command FIS'.</p> <p>Update Criteria: Update on Timer: Yes if the statistics is changed since last update (= 5 min) Update on entering Standby state: Yes Update on entering Sleep state: Yes Update on Device Statistics Page Read: Yes</p> <p>Measurement Units: Events</p> <p>Initialization: Cleared to zero at the time of manufacture = yes Preserve over all resets = yes</p>
	63	1=valid statistic data
	62:56	Reserved

	55:32	Reserved
	31:0	Protocol CRC Error Count (Lifetime)
56		Protocol CRC Error Count (Short Term)
		<p>Description: This value records number of Protocol CRC errors detected by the device in the last 5 minutes. Protocol CRC error is defined for Interface CRC error or other CRC errors occurs in FIS package including the register FIS and other non-command FIS'.</p> <p>Update Criteria: Update on Timer: Yes if the statistics is changed since last update (= 5 min) Update on entering Standby state: Yes Update on entering Sleep state: Yes Update on Device Statistics Page Read: Yes</p> <p>Measurement Units: Events</p> <p>Initialization: Cleared to zero at the time of manufacture = yes Preserve over all resets = no</p>
	63	1=valid statistic data
	62:56	Reserved
	55:32	Reserved
	31:0	Protocol CRC Error Count (Short Term)

New Statistics

64		Device Received R_ERR Count (Lifetime)
		<p>Description: This value records number of Protocol R_ERR received by the device. Protocol R_ERR is defined for all cases including Data and Register FIS'.</p> <p>Update Criteria: Update on Timer: Yes if the statistics is changed since last update (= 5 min) Update on entering Standby state: Yes Update on entering Sleep state: Yes Update on Device Statistics Page Read: Yes</p> <p>Measurement Units: Events</p> <p>Initialization: Cleared to zero at the time of manufacture = yes Preserve over all resets = no</p>
	63	1=valid statistic data
	62:56	Reserved
	55:32	Reserved
	31:0	Device Received R_ERR Count (Lifetime)
72		Device Sent R_ERR Count (Lifetime)
		<p>Description: This value records number of Protocol R_ERR sent by the device. Protocol R_ERR is defined for all cases including Data and Register FIS'.</p> <p>Update Criteria: Update on Timer: Yes if the statistics is changed since last update (= 5 min) Update on entering Standby state: Yes</p>

		Update on entering Sleep state: Yes Update on Device Statistics Page Read: Yes Measurement Units: Events Initialization: Cleared to zero at the time of manufacture = yes Preserve over all resets = no
	63	1=valid statistic data
	62:56	Reserved
	55:32	Reserved
	31:0	Device Sent R_ERR Count (Lifetime)