

Feature Status Reporting

To: X3T13 Technical Committee
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 Subj: Proposal for adding feature status to IDENTIFY DEVICE commands in ATA/ATAPI-4

To pick up the pieces from the proposal made by Richard Schnell of Apple (D96123R0), I propose the following.

In the IDENTIFY DEVICE, IDENTIFY DEVICE DMA, and IDENTIFY PACKET DEVICE responses the following be added.

Word	F/V	
82	F	Command set/feature supported. If words 82 and 83 = 0000h or FFFFh command set notification is not supported. 15-10 Reserved 9 1=DEVICE RESET command supported 8 1=SERVICE interrupt supported 7 1=release interrupt supported 6 1=look-ahead supported 5 1=write cache supported 4 1=supports PACKET command feature set 3 1=supports power management feature set 2 1=supports removable feature set 1 1=supports security feature set 0 1=supports SMART feature set
83	F	Command set/feature supported. If words 82 and 83 = 0000h or FFFFh command set notification is not supported. 15 Shall be cleared to zero 14 Shall be set to one 13-0 Reserved
84	V	Command set/feature enabled. If words 84 and 85 = 0000h or FFFFh command set enabled notification is not supported. 15-10 Reserved 9 1=DEVICE RESET command supported 8 1=SERVICE interrupt enabled 7 1=release interrupt enabled 6 1=look-ahead enabled 5 1=write cache enabled 4 1=supports PACKET command feature set 3 1=supports power management feature set 2 1=supports removable feature set 1 1= security feature set enabled 0 1= SMART feature set enabled

85	F	Command set/feature enabled. If words 84 and 85 = 0000h or FFFFh command set enabled notification is not supported. 15 Shall be cleared to zero 14 Shall be set to one 13-0 Reserved
86	V	Command set/feature default. If words 86 and 87 = 0000h or FFFFh command set default notification is not supported. 15-10 Reserved 9 1= DEVICE RESET command supported 8 1=SERVICE interrupt enabled after power-up/reset 7 1=release interrupt enabled after power-up/reset 6 1=look-ahead enabled after power-up/reset 5 1=write cache enabled after power-up/reset 4 1=supports PACKET command feature set 3 1=supports power management feature set 2 1=supports removable feature set 1 1= security feature set enabled after power-up/reset 0 1= SMART feature set enabled after power-up/reset
87	F	Command set/feature default. If words 86 and 87 = 0000h or FFFFh command set default notification is not supported. 15 Shall be cleared to zero 14 Shall be set to one 13-0 Reserved

8.8.46 Words 82-83: Features/command sets supported

Words 82 and 83 indicate features/command sets supported. The values 0000h and FFFFh in these words indicate that the feature/command set support is not indicated. Bits 10 through 15 of word 82 are reserved. Bits 0 through 13 of word 83 are reserved. Bit 14 of word 83 shall be set to one. Bit 15 of word 83 shall be cleared to zero.

If bit 0 of word 82 is set to one, the SMART feature set is supported.

If bit 1 of word 82 is set to one, the security feature set is supported.

If bit 2 of word 82 is set to one, the removable feature set is supported.

If bit 3 of word 82 is set to one, the power management feature set is supported.

If bit 4 of word 82 is set to one, the PACKET command feature set is supported.

If bit 5 of word 82 is set to one, write cache is supported.

If bit 6 of word 82 is set to one, look-ahead is supported.

If bit 7 of word 82 is set to one, release interrupt is supported.

If bit 8 of word 82 is set to one, SERVICE interrupt is supported.

If bit 9 of word 82 is set to one, the DEVICE RESET command is supported.

8.8.47 Words 84-85: Features/command sets enabled

Words 82 and 83 indicate features/command sets enabled. The values 0000h and FFFFh in these words indicate that the feature/command set enabled support is not indicated. Bits 10 through 15 of word 82 are reserved. Bits 0 through 13 of word 83 are reserved. Bit 14 of word 83 shall be set to one. Bit 15 of word 83 shall be cleared to zero.

If bit 0 of word 84 is set to one, the SMART feature set is enabled.

If bit 1 of word 84 is set to one, the security feature set is enabled.

If bit 2 of word 84 is set to one, the removable feature set is supported.

If bit 3 of word 84 is set to one, the power management feature set is supported.

If bit 4 of word 84 is set to one, the PACKET command feature set is supported.

If bit 5 of word 84 is set to one, write cache is enabled.

If bit 6 of word 84 is set to one, look-ahead is enabled.

If bit 7 of word 84 is set to one, release interrupt is enabled.

If bit 8 of word 84 is set to one, SERVICE interrupt is enabled.

If bit 9 of word 84 is set to one, the DEVICE RESET command is supported.

8.8.48 Words 86-87: Features/command sets default

Words 82 and 83 indicate features/command sets enabled by default. The values 0000h and FFFFh in these words indicate that the feature/command set default support is not indicated. Bits 10 through 15 of word 82 are reserved. Bits 0 through 13 of word 83 are reserved. Bit 14 of word 83 shall be set to one. Bit 15 of word 83 shall be cleared to zero.

If bit 0 of word 86 is set to one, the SMART feature set is enabled.

If bit 1 of word 86 is set to one, the security feature set is enabled.

If bit 2 of word 86 is set to one, the removable feature set is supported.

If bit 3 of word 86 is set to one, the power management feature set is supported.

If bit 4 of word 86 is set to one, the PACKET command feature set is supported.

If bit 5 of word 86 is set to one, write cache is enabled.

If bit 6 of word 86 is set to one, look-ahead is enabled.

If bit 7 of word 86 is set to one, release interrupt is enabled.

If bit 8 of word 86 is set to one, SERVICE interrupt is enabled.

If bit 9 of word 86 is set to one, the DEVICE RESET command is supported.