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## 2 TiB Boundary Reporting

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Revision 0

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Revision History		
Rev	Date	Description
0	February 23, 2010	1) Initial Revision
		1)

## 1 Introduction

Storage devices are developing the need to report that they support more than 32 bits of LBA space. The current ACS-2 project allows for the device to report up to 64 bits of LBA space, but application clients are improperly handling this field and treating the high order 32 bits as reserved. As a result, a device which reports 2.010TiB bytes of capacity is seen by the application client as having 10GiB of capacity. The purpose of this proposal is to provide a mechanism for the device to limit the current capacity reporting to 2TiB and to provide a new reporting value for >2TiB.

## 2 Changes to ACS

### 2.0.1 Changes to IDENTIFY DEVICE data

Add a bit to IDENTIFY DEVICE data to indicate that the value in words 100..103 is limited to 0000\_0000\_FFFF\_FFFFh and that the full size of the device is reported elsewhere.

Word	O M	S P	F V	Description
TBD A	O		F	TBD 1 1 = Total Number of User Addressable Logical Sectors is limited
Key:				V – The contents of the field is variable and may change depending on the state of the device or the commands executed by the device.
O/M – Mandatory/optional requirement.				
M – Support of the word is mandatory.				
O – Support of the word is optional.				
F/V – Fixed/variable content				X – The content of the field may be fixed or variable
F – The content of the field is fixed and does not change. The DCO command may change the value of a fixed field. For removable media devices, these values may change when media is removed or changed.				S/P – Content applies to Serial or Parallel transport
				S – Serial Transport
				P – Parallel Transport
				B – Both Serial and Parallel Transports
				N – Belongs to a transport other than Serial or Parallel

Bit TBD1 shall be set to one if the device has a value greater than 32 bits to report in IDENTIFY DEVICE data words 100..103 and has limited the value reported in IDENTIFY DEVICE data words 100..103 to 0000\_0000\_FFFF\_FFFFh.