Proposal to T10 for Separate Packetized and U320 Support

Controller Development Engineering

Scotts Valley

Seagate

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Proposal

- The working group recently voted to allow U320 transfers modes (320 MB/Sec, training patterns, precomp, etc), only to be used with packetized transfers.

- We would like to make our arguments why Seagate feels that this is an unwise direction, and disclose Seagate s plans to support them separately for development, support, internal and external test verification, and customer support reasons.

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Development and Time to Market Risk

- ## Packetized transfers were included in SPI-3

  - ### Feature has not yet been market tested

  - ### Interoperability, system and device firmware, drivers, specifications, expanders, and customer qualifications have not advanced to qualification readiness.

- ## Ultra-3 (U160) products have been a very successful migration of SCSI.

  - ### The market/readiness for packetized did not develop, but it did not hold up progress, competition, or qualification of successful products.

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Packetized Support Only

- Packetized transfers are still new to most environments, and there will be significant amount of new hardware in the coming months and be in debug, inter-operating for the first time.

    - Seagate will also be internally and field-testing it s hardware and firmware with customers, HBA s, new systems and drivers.

    - We will be developing, testing, and qualifying these features in multiple locations and environments, and with different teams to support drive development, interface testing, bus analyzers, production test equipment and software, compatibility testing, and other developments.

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U320 Support Only

- The addition of U320 transfer mode adds another layer of complication to the verification/qualification problem.

  - Addition of training patterns, deskewing, new transfer mechanisms, and changes to I/O drivers.

  - Test and debug of U320 are not in any way dependent on the use of packetized transfers.

  - With packetized plus U320 debug, you must have an all-or-nothing debug and development approach.

  - These support activities can operate without complication of packetized transfer modes.

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Seagate Plans

- In order to support Seagate s internal and external test and development requirements, Seagate will support U320 data group transfers.

  - Required by our internal processes.

  - Reduces risk that a bug or incompatibility in either Packetized or U320 will limit or prohibit testing altogether.

  - Allows better compatibility testing with our partners, customers, and system developers.

  - Facilitates development with HBA developers, expanders, bus analyzers, etc. now and going forward.

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