

STA/T10 –Liaison Report

Thursday 1/12/06





Plugfest Update

- Next plugfest planned for week of April 24th
- Updated NDA will be posted on the STA website within the next week

Monday Meeting Objectives

- Lock-in SAS 2.0 Marketing requirements
- A Stake in the ground for SAS 2.0
- On-going discussion/clarification expected
- Feedback Integrated and “Finalized” by Thursday

SAS 2.0 Marketing Requirements

- Preserve 3G installments/infrastructure (backward compatibility)
 - All components of the SAS 2.0 infrastructure must evolve independently of each other, (i.e. we can't impose architectural changes on installed components or cannot force components to migrate to the next generation in order to function properly). Required: interoperates with existing SAS components at 3 Gb
 - Desired: operates across existing passive infrastructure
- Double transfer rate, while improving cost/performance
- Reduce the number of host/external storage connections per Gb
- Be compatible with 6Gb SATA within the constraints of the 6Gb SATA usage models (i.e. short backplanes, short cables, etc.)
 - Longer backplanes may require additional components (i.e. port selectors being used with X level transmissions)



SAS 2.0 PHY Marketing Requirements

- Leverage other PHY standards work (EQ, BER, etc) where applicable (For example: OIF CEI-6G, etc.), (eliminate unnecessary time and development risk)
- Maintain 1.5Gb & 3Gb SATA/SAS Compatibility
- Same usage models apply for 6Gb as they did for 3Gb
 - Objective is to maintain a unified electrical model for SAS 2.0 configurations (STA does not desire a short haul and long haul spec),
 - 6 Gb electrical spec must be the same for all components (including disk drives)
 - Required: same backplane and distance models as SAS 1.1 (.5 meter backplanes and 6 meter cables)
 - Desired; extend cabling distances to 10 meters.
 - Additional cost burden for rack-to-rack cabling solutions (10m) acceptable, but must not add cost to current usage models
- Equalization schemes (if necessary) should not appreciably burden cost & power budget, especially for disk drives

- Critical mass components ready for plugfest testing in mid-2007
 - The plugfest committee will decide what meaningful subset is required for a meaningful plugfest
- Bandwidth Aggregation
 - Optional
 - Burden distributed between the expander and/or the host controller
 - Required: 6 Gb link must support two 3 Gb connections
 - Desired: 3 Gb link to support two 1.5 Gb connections

Supporting more than two phy connections is acceptable as long as it doesn't burden the cost

SAS 2.0 Marketing Requirements

- Required Bit Error Ratio (BER) of 10^{-12}
- Desired Bit Error Ratio (BER) of 10^{-15}
- Anticipating further EMI restrictions on servers STA feels it is prudent to investigate schemes such as Spread Spectrum Clocking SSC to mitigate emissions at higher data rates
- T-10 efforts around zoning standards and improvements in SAS topology management are consistent with SAS 2.0 objectives