Scale Your Data Center with SAS

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SAS is the Main Enterprise Storage Interface

WW Enterprise Drive Unit Forecast (2017-2022)

WW Enterprise Drive Capacity Forecast (2017-2022)

SAS Infrastructure Enables >70% of Enterprise Storage Drives and >85% of Enterprise Storage Capacity thru 2022

Source: IDC, May 2018
The Value Pillars of SAS

- Dependability
  - Reliable
  - Secure
  - Trusted
  - Data Center Ready

- Flexibility
  - SAS and SATA
  - SSDs and HDDs
  - Backward Compatibility

- Scalability
  - 1000s of End Devices
  - Capacity Storage
  - Enables “Fabric” Solutions

- Economics
  - $ / Performance
  - $ / GB
  - Highest SSD capacities
  - Huge Established Ecosystem
  - Development

October 23, 2018
SAS Technology Roadmap

First End-User Products

First Plugfest
(leading edge)

6Gb/s SAS

12Gb/s SAS

24G SAS

48G SAS

October 23, 2018

SCSI Trade Association – July 2018
What’s Next? 24G SAS Highlights

Physical Layer Enhancements

- Double the effective single-lane bandwidth of 12Gb/s SAS
- Higher throughput and IOPs performance

- Enhanced 20-bit Forward Error Correction (FEC)
- More robust data reliability and connectivity

- SAS-4 enhanced transmitter training algorithm
- Continuous optimal signal tuning

Protocol & Block Level Enhancements

- Performance consistency across large and mixed protocol topologies
- SMP priorities

- Fairness enhancements

- Storage intelligence and persistent connections
- Improves SSD efficiency, latency and QoS

- Storage intelligence and persistent connections
- Prioritizes management-class communications for complex, deep topologies
Summary

• SAS is a modern and mature interconnect
• Actively being developed with long roadmap plans
• New features to enhance SSD functionality and performance
• Highly scalable and flexible
• Value SAS may cannibalize SATA
• 24G SAS sampling today