



STORAGE VISIONS® 2018

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Scale Your Data Center with SAS

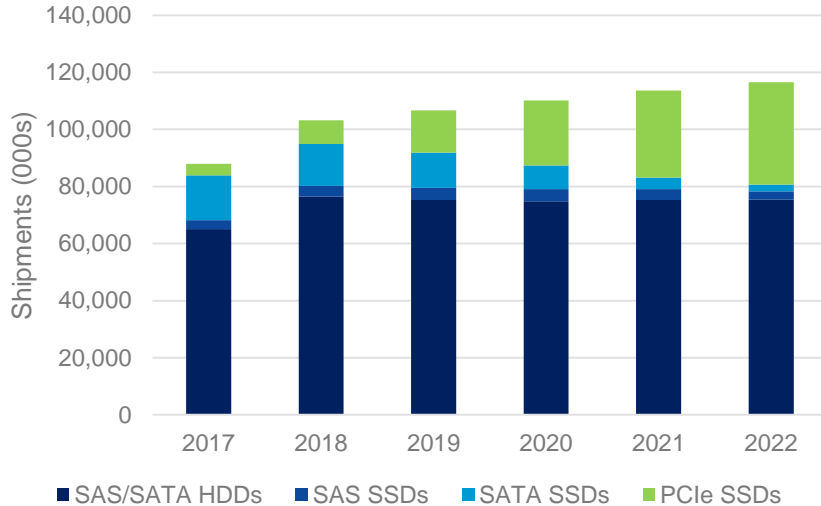
Chet Mercado

Board of Directors, SCSI Trade Association

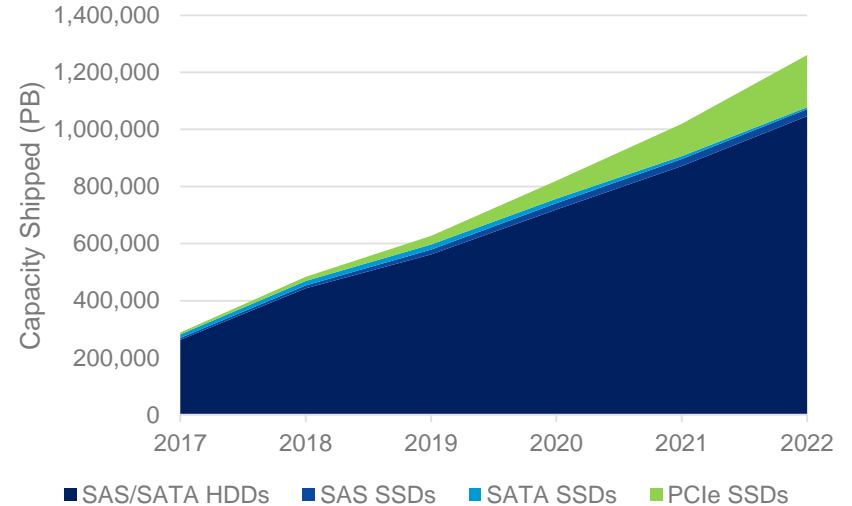
Technical Marketing Manager, Western Digital Corporation

SAS is the Main Enterprise Storage Interface

WW Enterprise Drive Unit Forecast
(2017-2022)



WW Enterprise Drive Capacity Forecast
(2017-2022)



Source: IDC, May 2018

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



The Value Pillars of SAS

Reliable

Secure

Trusted

Data Center
Ready

Dependability

SAS and
SATA

SSDs and
HDDs

Backward
Compatibility

Flexibility

1000s of End
Devices

Capacity
Storage

Enables
“Fabric”
Solutions

Scalability

\$ / Performance

\$ / GB

Highest SSD
capacities

Huge
Established
Ecosystem

Development

Economics

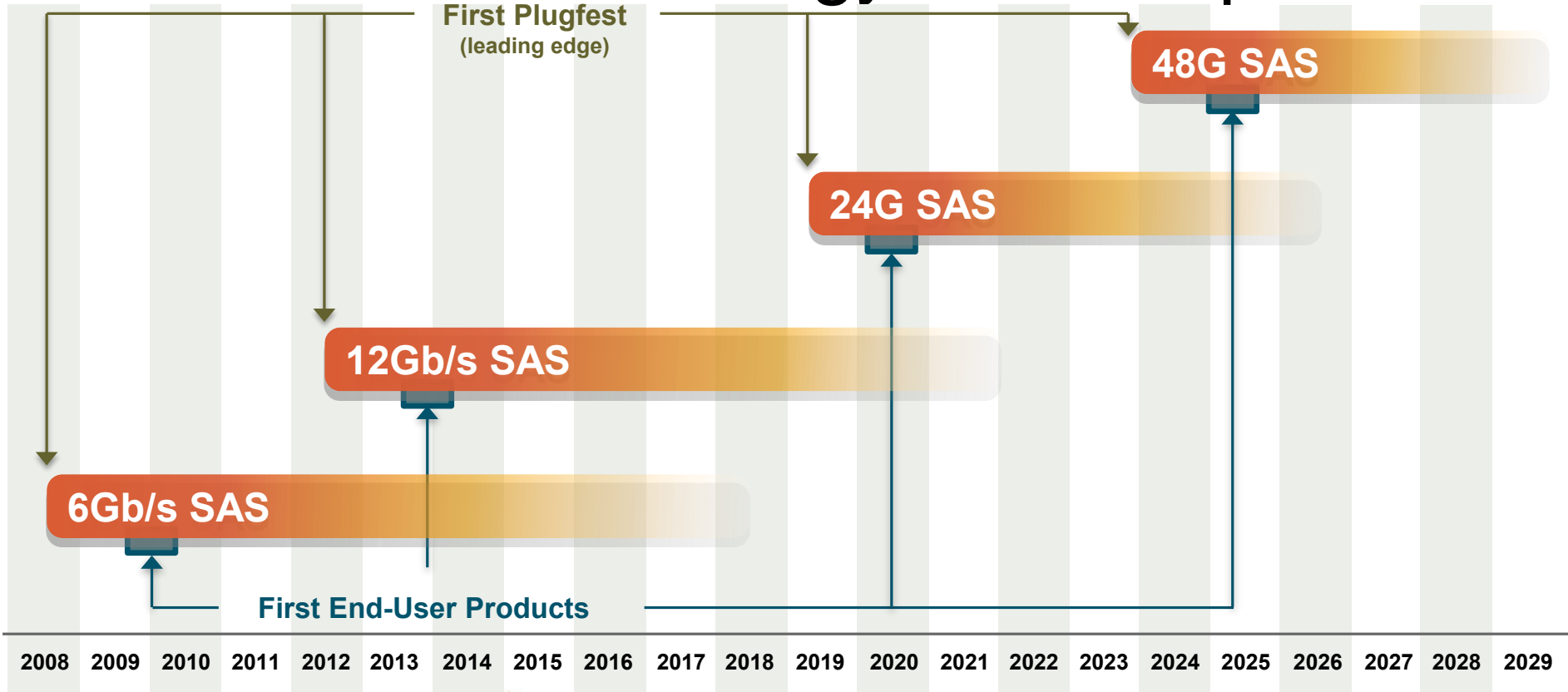
October 23, 2018



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SAS Technology Roadmap



October 23, 2018



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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

Fairness enhancements

Performance consistency across large and mixed protocol topologies

Storage intelligence and persistent connections

Improves SSD efficiency, latency and QoS

SMP priorities

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

