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Navigating the Intersection of Data Growth, Sustainability, and Innovation in Data Centers

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In an era defined by the exponential rise of artificial intelligence and data analytics, the value of data is more valuable than ever, propelling the expansion of data centers to accommodate vast datasets. However, this growth comes with a sobering reality: the significant energy consumption of data centers, often rivaling that of entire nations. The need to create a sustainable and scalable storage infrastructure comes up against three critical forces: the unstoppable growth in data generation, the constraints of limited data center space and the scarcity of resources.

This presentation will explore a diverse array of solutions and innovations poised to address these pressing challenges:

- **Carbon Emissions:** Evaluating different Storage Media (Flash/Hard Drive/Tape) across their full lifecycle, emphasizing the importance of considering not only the usage phase but also the entire lifecycle.
- **Areal Density Revolution:** advancement in areal density thus the storage efficiency and capacity.
- **Unveiling ADAPT + ADR:** Advanced Distributed Allocation Protection Technology (Distributed Erasure Code) with Autonomous Drive Repair. Enables a transformative storage architecture offering unprecedented efficiency gains in power consumption, resource utilization, and e-waste reduction. Additionally, it reveals substantial additional savings in compute and networking resources while increasing data durability.
- **SED as a Catalyst for Circular Economy:** Exploring the pivotal role of Self-Encrypting Drives (SEDs) in fostering a circular hard drive economy, driving sustainability across the entire storage lifecycle.
- **Seagate Circularity Program:** Highlighting initiatives aimed at advancing circularity and minimizing the embodied carbon emissions underscoring the importance of holistic lifecycle considerations.
- **MACH-2 Optimization:** Introducing MACH-2, an innovative solution optimized for cost, power efficiency, and density, offering a compelling pathway towards more sustainable data storage infrastructure.

Join us as we navigate the complex terrain of data growth, sustainability imperatives, and technological innovation, forging a path towards a more sustainable and resilient future for data centers.

Desired slot length

Speaker release

Yes

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