

# Data Center Solutions Beyond SATA

The non-negotiable application requirements for high-density, hyper-converged storage servers, extreme scalability, infrastructure efficiency and performance continue to grow exponentially. This is where SATA, in data center applications, demanding bleeding edge enterprise class support falls short and where our forward-thinking solutions designed to improve server storage performance, reliability and security while reducing overall power solve this bottleneck.



Our data center market continues to exponentially transition as computing demands increase. Non-negotiable application demands call for higher read and write application transfer speeds, more capacity, multi-CPU support, better reliability and security. Serial Advanced Technology Attachment (SATA) alone can no longer support these growing application demands based on technical limitations such as single lane data transfers, slow multi-layer data I/O command structure and limitation in high-capacity storage, just to name a few.

Today's enterprise hyperscale applications call for flexible scalable solutions, superior non-volatile NAND with high-speed protocol support and high-speed bus interfaces, such as Non-Volatile Memory Express (NVMe<sup>®</sup>) and SAS, which offer greater than 10x performance improvement, multicore CPU support, multi-lane data transfer rates of 5x and 3x plus read and write band width capabilities respectively.

## Solutions That Meet Your Data Center Requirements

We are a leading provider of data center products offering cost-effective data center solutions. Our PCI Express<sup>®</sup> (PCIe<sup>®</sup>) Gen 4 24G SAS-4 tri-mode **SmartROC** 3200 and **SmartIOC** controllers and our **SmartRAID** 3200, **SmartHBA** 2200 and HBA 1200 adapters are ideal for enabling reliable PCIe Gen 4 storage capabilities for hyperscale applications such as Small and Medium-sized Business (SMB) and enterprise storage.

Our Adaptec PCIe Gen 4 tri-mode 24G SAS/SATA/NVMe storage adapters meet this need and provide a new level of performance, security and ease of management to upgrade your existing data center infrastructure. These tri-mode capabilities allow for high performance and more secure applications without major changes to other system configurations or reliability by offering:

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- Performance
  - Optimize connectivity and maximize performance needed by high-end servers and critical applications.
- Design Flexibility
  - enable design flexibility with the ability to operate NVMe, SAS and SATA storage devices in a single bay.
- Security
  - deliver multiple security features that help mitigate and eliminate the risks associated with security vulnerabilities.
- Manageability
  - support industry-standard management tools to simplify implementation for faster development and deployment.
- Scalability
  - future proof data center infrastructure by providing an upgrade path from SATA to SAS and NVMe without major changes to other system configurations.

Our solutions are designed to improve server storage performance, reliability and security while reducing overall power. Check out our [Storage Server Interactive Block Diagram](#) to study available components as well as get a summary of chip attributes and functions.

## Solutions for Demanding Enterprise Applications

If you are developing storage systems for enterprise and cloud data centers, providing effective data access, storage and protection is crucial to your success. We are leading the way in data center transformation, offering innovative products and solutions for today's and the next generation of PCIe, 24G SAS and NVMe technologies. These solutions are designed to improve server storage performance, reliability and security while reducing overall power. Our goal is to make the transition from SATA in the enterprise hyperscale space an easy one. Check our extensive portfolio offering below:

- **Adaptec® Host Bus Adapters (HBAs)**
- **Adaptec® SmartRAID RAID Adapters**
- **Flashtec® NVMe Controllers**
- **Smart Storage Platform**

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- **SmartI/O I/O Controllers**
- **SmartROC RAID-on-Chip Controllers**
- **SXP SAS Expanders**
- **Tachyon® Protocol Controllers for Storage Systems**
- **Adaptec® Cables and Accessories**