



ioDrive Octal Solution Delivers 1TB/s Bandwidth

While Reducing Rack Space, Power and Cooling Costs

The Challenge

Since its first product launch, Fusion-io has claimed its ioMemory technology offered the market unmatched scalability and flexibility. So when a presently undisclosed government client asked Fusion-io to create a custom solution with unprecedented performance and scalability, Fusion-io was honored to have the opportunity to demonstrate its capabilities.

The Solution

The answer to this complex and challenging undertaking was the ioDrive Octal, a NAND storage PCI Express card designed by Fusion-io. This uniquely architected solution holds eight ioMemory modules, delivering the equivalent capacity and performance of eight ioDrives in a single device. The ioDrive Octal fits into a PCI Express x16 Gen2 double-wide slot (the same slot used by high performance graphics cards) and is capable of saturating the full performance of that slot.

The ioDrive Octal has the following specifications:

- Sustain over 1 Million IOPS
- 6 GB/s bandwidth
- 5.12 TB maximum capacity
- x16 Gen-2 double-wide PCI Express form factor

The ioDrive Octal is no longer a custom solution reserved only for large scale government deployments. Fusion-io has now brought the power of this solid-state storage technology from the world of HPC to the enterprise.

"Innovative technology, like Fusion's ioMemory technology, will fundamentally change the way the industry architects high performance computing facilities in the future,"

Manager, Advanced Simulation
Computing (ASCI) Program

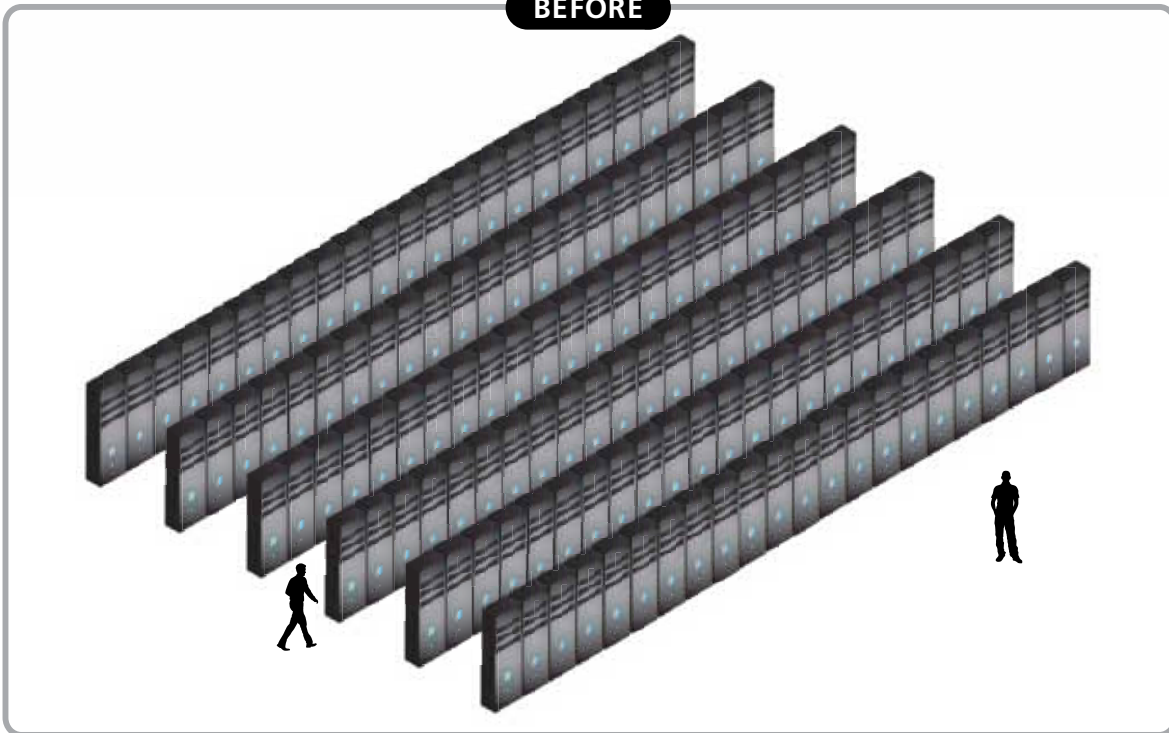
DATA CENTER FOOTPRINT BEFORE

- 792 servers
- 55,440 hard disks
- 396 SAN controllers
- 132 racks
- 1584 DDR Infiniband links

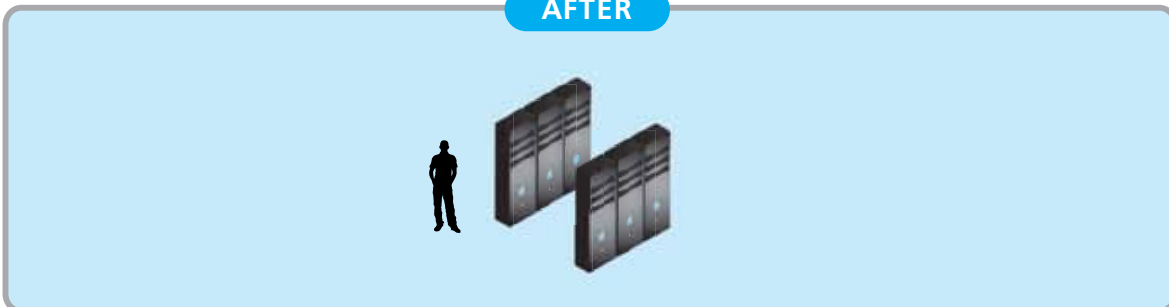
DATA CENTER FOOTPRINT AFTER

- 220 servers
- 6 racks
- 448 QDR Infiniband links

BEFORE



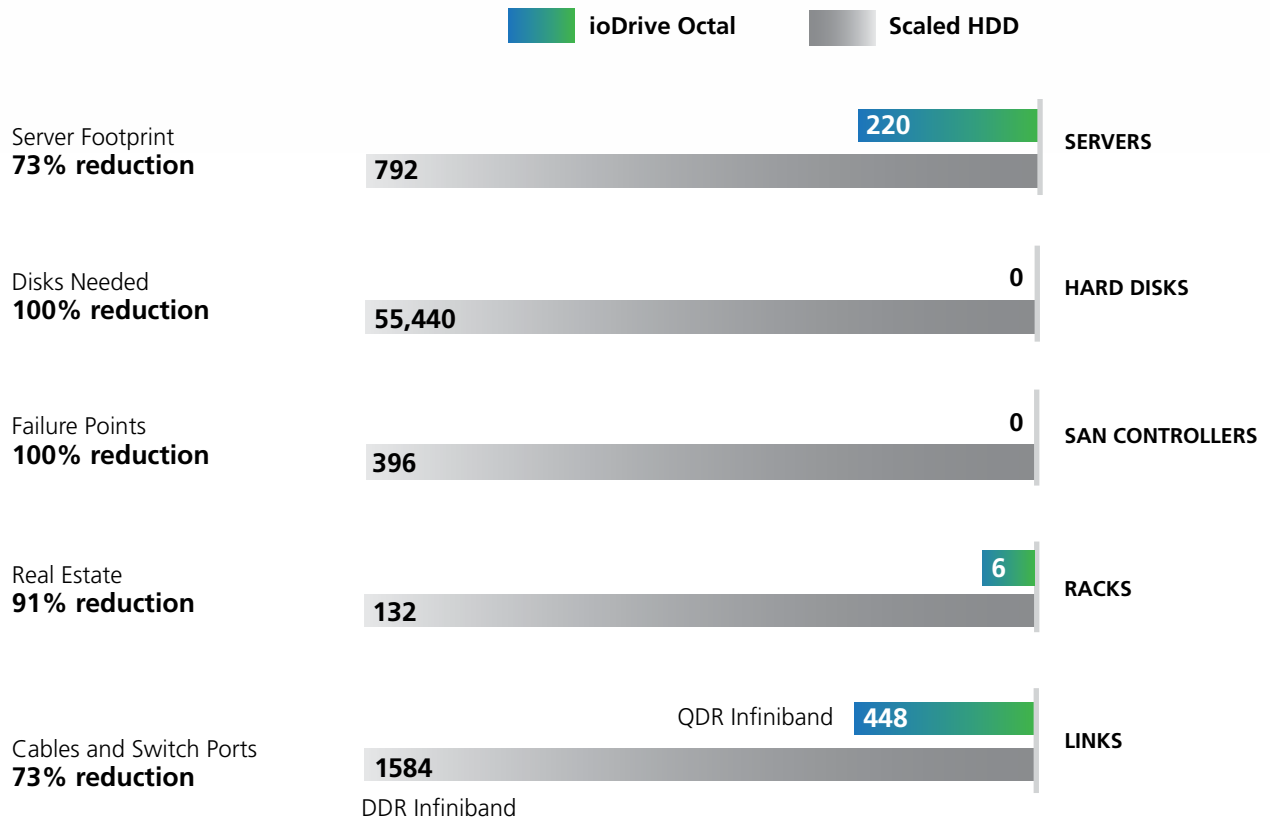
AFTER



SCALING TO 1 TERABYTE PER SECOND SYSTEM

ioMemory's linear scaling capability makes it possible to achieve 1 TB/s of bandwidth from just six racks of storage servers, whereas comparable performance from a hard disk system would require an entire data center with hundreds of racks.

For comparison, below are the hardware requirements for a state-of-the-art 1TB per second hard disk based storage system as compared to the ioDrive Octal-based architecture.



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