



## ioDrive Octal 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 custom 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 card. The ioDrive Octal fits into any 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:

- 800,000 IOPS (4k packet size)
- 6 GB/s bandwidth
- 5 TB maximum capacity
- x16 Gen-2 double-wide PCI Express form factor

While the ioDrive Octal is currently a custom solution, Fusion-io is planning to quickly bring 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

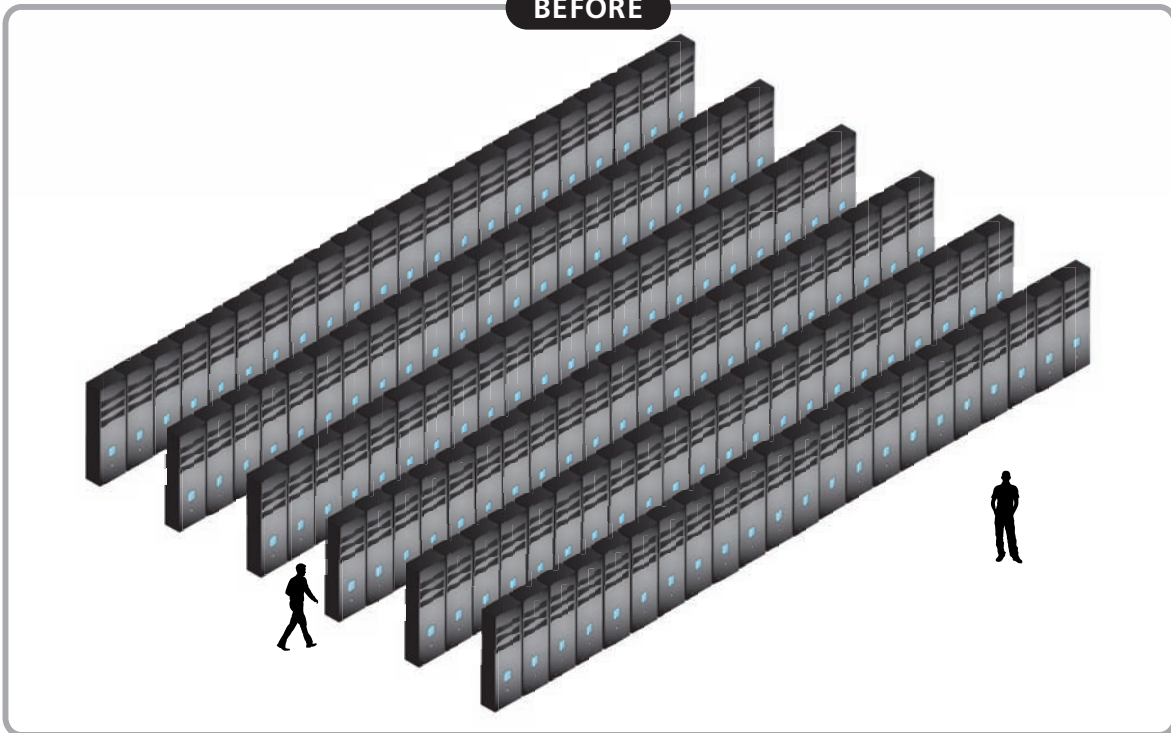
### DATA CENTER FOOTPRINT BEFORE

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

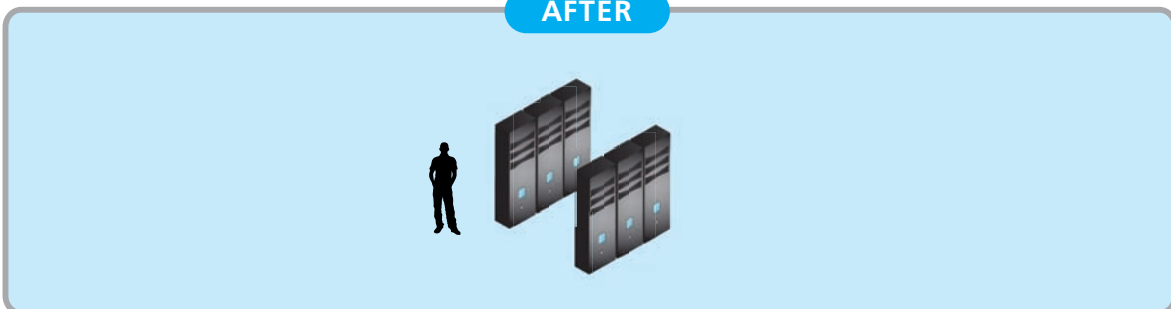
### DATA CENTER FOOTPRINT AFTER

- 220 servers
- 6 racks
- 448 QDR Infiniband links

BEFORE



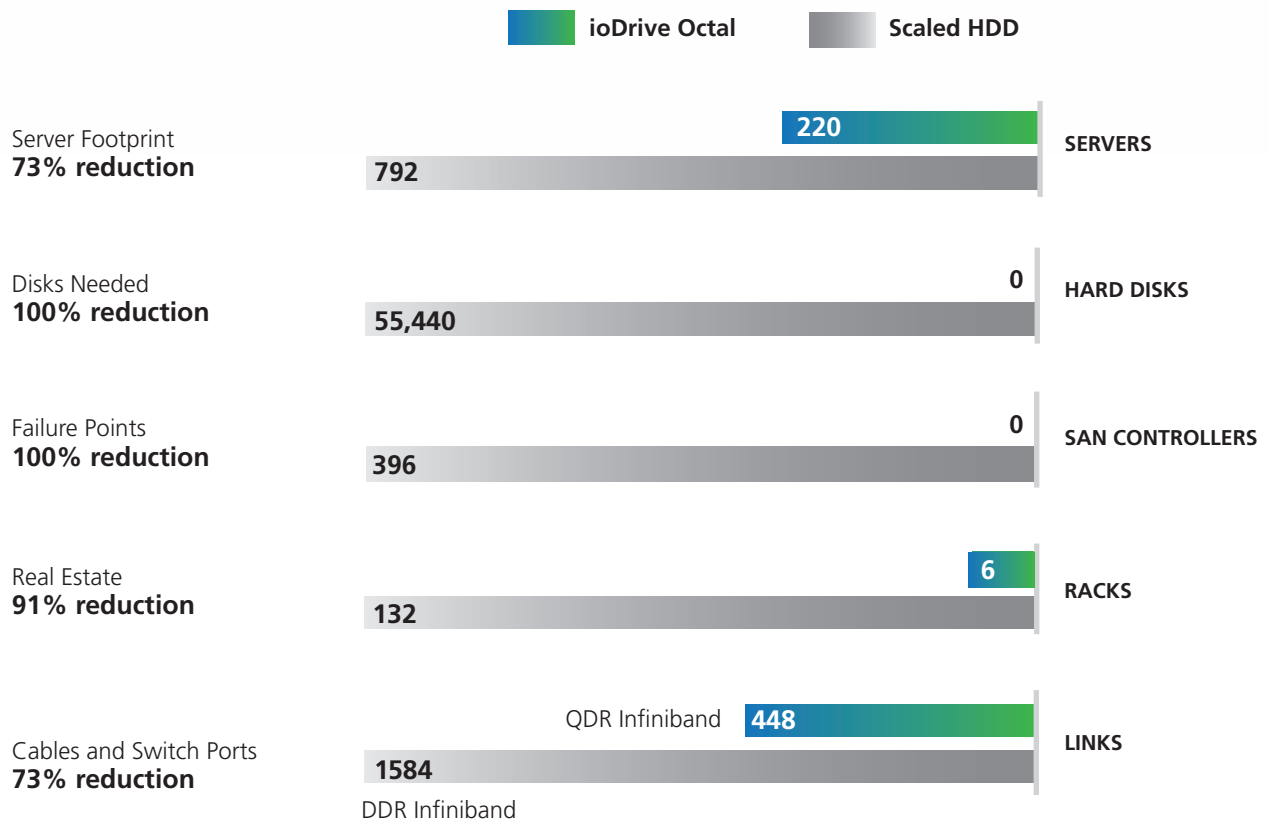
AFTER



## 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.



## THE IODRIVE OCTAL

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