

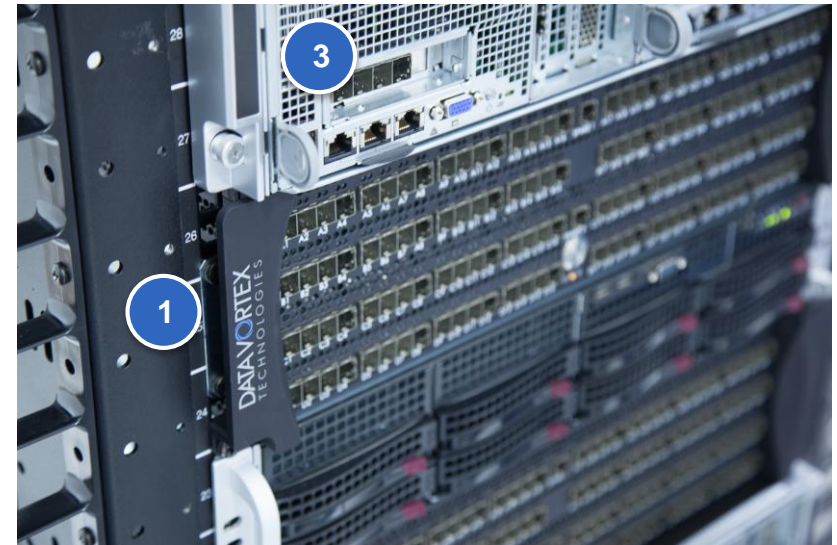
# DV208

An Innovative Parallel Computing Network. A Revolutionary HPC System.

## DV208 Highlighted Features

### Data Vortex Network comprising:

- 1 24 Data Vortex Switch Boxes providing 16, Radix 256, Data Vortex 2 level networks
- 2 256 Data Vortex Interface Cards (VICs)
- 3 Commodity Intel-based Servers:  
256 compute servers and 2 master servers



The DV208 is an advanced computing system with an integrated interconnect and software technology that actually embraces processor-to-processor communication. Each system contains the revolutionary, patent-protected Data Vortex interconnect technologies: the Data Vortex Switch Boxes and the Vortex Interface Controllers (VICs).

**The Data Vortex Network is the fastest fine-grained, congestion-free gather-scatter system in the world.**

Feature	DV208 Technical Specifications	
<b>Data Vortex Network</b>	<b>24 Data Vortex Switch Boxes</b> <b>8 Altera B6 Stratix V FPGAs per switch box<sup>1</sup></b> <b>256 Data Vortex Interface Cards (VICs) each connected to all 16 networks<sup>2</sup></b> <b>4 QDR SRAM chips totaling 64 MB per VIC</b> <b>1 Altera A7 Stratix V FPGA per VIC</b> <b>2048 mini SAS HD cables (1536 copper, 512 optical)</b> <b>each providing four 6.4Gb/sec bi-directional SERDES channels</b>	
<b>Other Components</b>		
2 Master Servers	Supermicro 5028R WR 2u , 128GB ddr4, 1 1TB hard drive,1 E5-1630 v4 Xeon	
256 System Servers	<b>32 Supermicro F618R2-RT+ FatTwin chassis with 8 servers ea</b> Base Configuration 256 processors with 32TB memory and 256 TB storage	
Each System Server	Processors (per server)	1 <a href="#">Intel® Xeon® Processor E5-1630 v4 (10M Cache, 3.70 GHz)</a>
	Memory (per server)	128GB DDR4 DRAM 2400 Mhz
	Disk Drives (per server)	1 1TB 2.5" disk drive
	I/O Slots (per server)	1 PCIe 3.0 x8 half-height, half-length, low-profile slot for VIC card
	I/O Ports (per server)	1 FDR InfiniBand port/server 1 IPMI Ethernet and 1 Gbps Ethernet
Management, I/O, and Legacy Application Interconnects	18 x 48-port Ethernet switches - 1U each (can be placed end-to-end to save space) 520 Ethernet cables	
	9 x 36-port FDR InfiniBand switches - 1U each, 290 InfiniBand cables	
Form Factor	5 cabinets with power strips, 93" high, 32" wide, 48" deep, (1 central core cabinet with 2 processor cabinets on each side)	

<sup>1</sup> Each of these FPGA chips is programmed to operate as a self routing DataVortex switch chip for carrying packets with 64-bit headers and 64-bit payloads.

<sup>2</sup> The FPGA chip is programmed to perform the functions of a standard network controller. The SRAM can be used as a global computer resource to offload data movement and organization tasks from the commodity processors.