



SOLUTION BRIEF

High Density, Big Data Cluster Appliance for Deep Packet Inspection

65% Less OpEx than Stacked Servers

- Hadoop-based deep packet inspection cluster
- Up to 400G full duplex connectivity with integrated load balancing
- Up to 240 Intel® Xeon® cores in 3U
- Integrated high speed fabric
- Hardware offload support for IPsec, compression/decompression and RSA operations

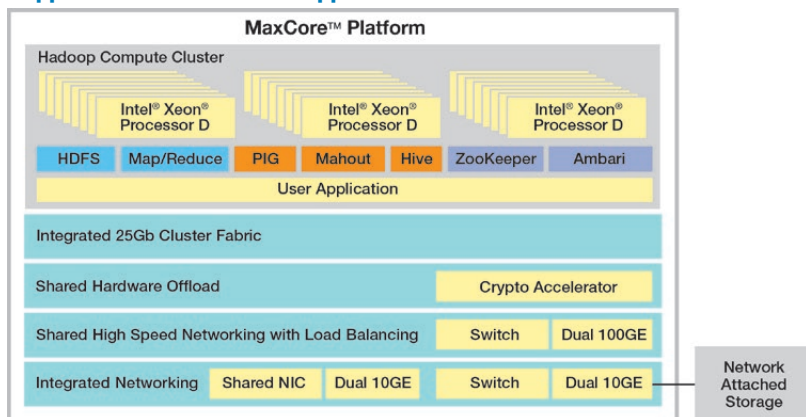
The MaxCore™ platform from Artesyn Embedded Technologies is ideally suited for high speed and dense deep packet inspection (DPI) applications using Big Data technologies. Deployed inside the MaxCore platform, the Hadoop software framework enables a low profile, energy efficient and cost optimized solution for many DPI applications.

B2B, B2C, cloud and web service providers can implement compute intensive DPI applications such as fraud detection/management, revenue assurance, data mining, machine learning and many more.

The MaxCore platform is architected around an integrated 25Gb fabric for node-to-node communication and allows for multi-host I/O sharing. This architecture provides significant cost savings over a traditional server where I/O is tightly coupled and external switches are required, while keeping the flexibility for choice of I/O. With off-the-shelf PCI Express cards, hardware offload and application-specific functions can be added easily and cost effectively.

For data storage, an external network attached storage (NAS) solution is recommended.

Application Architecture Mapped into the MaxCore™ Platform



MaxCore™ Platform



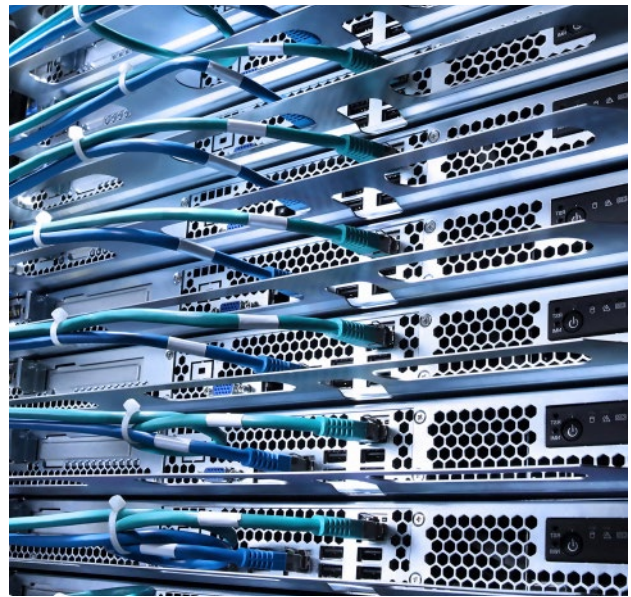
Typical Hadoop-based solutions are comprised of large clusters of commodity rack mount servers. These servers usually are not optimized for power nor space efficiency. As the Hadoop workload grows, more and more servers are added, causing datacenter sprawl.

Artesyn's MaxCore™ platform provides an optimal solution for these dense Hadoop clusters, leveraging the Intel® Xeon® processor D SoC in a compact and energy efficient dense micro server. The MaxCore 3U platform can support up to 240 Intel Xeon processor D cores running at 2.0 GHz, each connected directly to the integrated 25Gb Fabric. The platform additionally supports load balancing with the integrated Intel® FM10840 based intelligent switch card, connecting up to 400Gbps full duplex.

The MaxCore platform provides a unique opportunity for Hadoop cluster deployments in data centers by lowering both space and energy burden, while providing telco-style reliability.

An additional way to scale beyond a single system would be extending the MaxCore fabric using a PCI Express extender kit to connect up to 14 additional MaxCore systems to a host MaxCore system.

Traditional Server Approach



OpEx Comparison

	1U Server Solution	MaxCore™ Solution
Rackspace required for up to 240 cores, not including NAS	7U	3U
Power consumption	6200W (assumes 6x servers @ 1000W, 1x switch @ 200W)	2200W
Power cost/year @ 10ct/kWh	\$5431	\$1927

Compressed server footprint and 65% lower OpEx costs.

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