There can be no doubt that Intel® is the dominant force in providing CPU technology for Servers. With the Introduction of their Xeon Phi™ Co-Processor, they have used the expertise they have gained from years of designing server processors that set the benchmark for innovative features, performance and stability to produce a Co-Processor solution which offers massive parallelisation in a single card.

With the Intel® Phi Co-Processor offering the ability to run x86 code within any of its 60 cores, this solution offers the flexibility of running code originally designed for CPU on the Phi. The Phi also supports the ability to run as a compute node, running a full OS, making this solution a Supercomputer on a chip.
A Viglen HPC Solution is not just about leading edge hardware, it’s about the expertise to plan, deploy, tune, manage and support the cluster through its whole life, ensuring you make maximum use from your HPC resources.

To find out why leading institutions choose Viglen HPC call 01727 201 800 or visit www.viglen.co.uk/hpc

**HX525T2i Compute Node**

2U Quad Motherboard Compute Chassis

- Intel® C602 High Performance Server Chipset
- Dual Quad Core Intel® Xeon® E5-2620 2.0GHz 15MB 7.20GT/sec on each motherboard
- 16GB Registered DDR3 1666MHz with eight DIMM sockets for up to 256GB of memory on each motherboard
- Three 3.5" Hot-Swap Drive bays per motherboard
- One 250GB Enterprise Class RAID Edition SATA Hard Disk per motherboard

One PCI Express Slot per motherboard

- Integrated Dual Intel® Gigabit Ethernet per motherboard
- 1620W 80Plus Platinum PSUs (Redundant 1+1)
- 3 Year On-Site Next Business Day Warranty

Order Code: HPCNODE from £6,527.00

**HX515Hi 1U Head Node**

Intel® C606 High Performance Server Chipset

- Dual Quad Core Intel® Xeon® E5-2620 2.0GHz 15MB 7.20GT/sec
- 16GB Registered DDR3 1666MHz with Twenty Four DIMM sockets for up to 768GB of memory
- Four 3.5" Hot-Swap Drive bays
- Two 250GB Enterprise Class RAID Edition SATA Hard Disks

LSI 9260-8i SAS/SATA RAID Controller with BBU

- Two PCI Express Slots
- Integrated Dual Intel® Gigabit Ethernet
- 920W 80Plus Platinum PSUs (Redundant 1+1)
- IPMI 2.0 with KVM over LAN support
- 3 Year On-Site Next Business Day Warranty

Order Code: HPCNODE from £2,731.00

**HX525Hi 2U Head Node**

Intel® C606 High Performance Server Chipset

- Dual Quad Core Intel® Xeon® E5-2620 2.0GHz 15MB 7.20GT/sec
- 16GB Registered DDR3 1666MHz with Twenty Four DIMM sockets for up to 768GB of memory
- Ten (8+2) 3.5" Hot-Swap Drive bays
- Two 250GB Enterprise Class RAID Edition SATA Hard Disks

LSI 9260-8i SAS/SATA RAID Controller with BBU

- Two PCI Express Slots
- Integrated Dual Intel® Gigabit Ethernet
- 920W 80Plus Platinum PSUs (Redundant 1+1)
- IPMI 2.0 with KVM over LAN support
- 3 Year On-Site Next Business Day Warranty

Order Code: HPCNODE from £3,208.00

**HX515Gi 1U GPU Node**

Intel® C606 High Performance Server Chipset

- Dual Quad Core Intel® Xeon® E5-2620 2.0GHz 15MB 7.20GT/sec
- 16GB Registered DDR3 1666MHz with Twenty Four DIMM sockets for up to 768GB of memory
- Three 2.5" Hot-Swap Drive bays
- One 250GB Enterprise Class RAID Edition SATA Hard Disks
- One NVIDIA M2075 GPU Card

Three PCI Express Slots for GPU, One PCI Express Slot for Expansion

- Integrated Dual Intel® Gigabit Ethernet
- 1800W 80Plus Platinum PSUs (Redundant 1+1)
- IPMI 2.0 with KVM over LAN support
- 3 Year On-Site Next Business Day Warranty

Supports up to 3 x M2075 or M2090 GPUs

Order Code: HPCNODE from £4,653.00

Call the Server Team on 01727 201 800 or email sales@viglen.co.uk www.viglen.co.uk/HPC for more information
High Performance Computing - Storage Nodes

**HX545S-36i 4U Storage Node**

- **4U 36-Bay Storage Chassis**
- Intel® C602 High Performance Server Chipset
- Dual Quad Core Intel® Xeon® E5-2620 2.0GHz 15MB 7.20GT/sec
- 16GB Registered DDR3 1666MHz with Sixteen DIMM sockets for up to 512GB of memory
- Thirty Six 3.5" Hot-Swap Drive bays using SAS Expander Technology
- Two 250GB Enterprise Class RAID Edition SATA Hard Disk
- Four PCI Express Slots
- LSI 9260-8i RAID Controller with BBU
- Integrated Dual Intel® Gigabit Ethernet per motherboard
- 1280W 80Plus Platinum PSUs (Redundant 1+1)
- IPMI 2.0 with KVM over LAN support on each motherboard
- 3 Year On-Site Next Business Day Warranty

Order Code: HPCNODE from £4,217.00

**HX525S-12i 2U Storage Node**

- **2U 12-Bay Storage Chassis**
- Intel® C602 High Performance Server Chipset
- Dual Quad Core Intel® Xeon® E5-2620 2.0GHz 15MB 7.20GT/sec
- 16GB Registered DDR3 1666MHz with Sixteen DIMM sockets for up to 512GB of memory
- Twelve 3.5" Hot-Swap Drive bays using SAS Expander Technology
- Two 250GB Enterprise Class RAID Edition SATA Hard Disk
- Four PCI Express Slots
- LSI 9260-8i RAID Controller with BBU
- Integrated Dual Intel® Gigabit Ethernet per motherboard
- 920W 80Plus Platinum PSUs (Redundant 1+1)
- IPMI 2.0 with KVM over LAN support on each motherboard
- 3 Year On-Site Next Business Day Warranty

Order Code: HPCNODE from £3,218.00

**HX545S-24i 4U Storage Node**

- **4U 24-Bay Storage Chassis**
- Intel® C602 High Performance Server Chipset
- Dual Quad Core Intel® Xeon® E5-2620 2.0GHz 15MB 7.20GT/sec
- 16GB Registered DDR3 1666MHz with Sixteen DIMM sockets for up to 512GB of memory
- Twenty Four 3.5" Hot-Swap Drive bays using SAS Expander Technology
- Two 250GB Enterprise Class RAID Edition SATA Hard Disk
- Four PCI Express Slots
- LSI 9260-8i RAID Controller with BBU
- Integrated Dual Intel® Gigabit Ethernet per motherboard
- 920W 80Plus Platinum PSUs (Redundant 1+1)
- IPMI 2.0 with KVM over LAN support on each motherboard
- 3 Year On-Site Next Business Day Warranty

Order Code: HPCNODE from £3,481.00

All HPC Nodes on this page are 80Plus Platinum Certified
A Single Programming Model for All Your Code

Existing applications will need to be tuned and recompiled to maximize throughput, but your developers won’t need to rethink the entire problem or master new tools and programming models. Instead, they can reuse existing code and maintain a common code base using familiar tools and methods. Code can be optimized just once for both Intel® Xeon® processors and Intel® Xeon Phi™ coprocessors. The same techniques deliver optimal performance for both, so the investment you make in parallelizing your code will deliver benefits across the full range of computing environments.

Which Applications Are Suitable?

While a majority of applications will continue to achieve maximum performance on Intel® Xeon® processors, certain highly-parallel applications will benefit dramatically by using Intel® Xeon Phi™ coprocessors. To take full advantage of Intel® Xeon Phi™ coprocessors, an application must scale well to over one-hundred threads, and either make extensive use of vectors or efficiently use more local memory bandwidth than is available on an Intel® Xeon® processor.

Key Features

- Up to 1.2 teraflops double precision performance for highly parallel applications
- Familiar Intel® architecture programming model for simplified development
- Common code base with Intel® Xeon® processors to maximize performance investment
- Linux* hosting and IP addressability for simplicity and flexibility
- Multiple execution models for tailored workload performance

Viglen Solutions Harnessing the Intel® Xeon Phi™ Coprocessor Family

Breakthrough performance for Highly-Parallel Applications

Intel® Xeon Phi™ coprocessors, based on Intel Many Integrated Core(MIC) architecture, complement the industry-leading performance and energy-efficiency of the Intel® Xeon® processor E5 family to enable dramatic performance gains for some of today’s most demanding applications—up to 1.2 teraflops per coprocessor. Manufactured using Intel’s industry-leading 22nm technology with 3D Tri-Gate transistors, each coprocessor features many more and smaller cores, many more threads, and wider vector units than an Intel® Xeon® Processor. The high degree of parallelism compensates for the lower speed of each individual core to deliver higher aggregate performance for highly-parallel workloads.