

NetEffect 1GbE adapters shine in Oil & Gas: instant performance boost without the risk

NETEFFECT PERFORMANCE

- > Immediate performance benefits in existing 1Gb Ethernet infrastructures without the risk, disruption or investment of a new networking infrastructure
- > Low latency achieves wall-clock times on par with 10Gb InfiniBand – at the cost of 1GbE
- > Linear scaling of wall-clock times with increased processor and node counts

Oil & Gas geoscientists rely on sophisticated tools to help them model reservoirs during development of new oil fields. With assets at an all-time high, companies must have accurate simulation data of possible reservoirs to make quick go/no-go decisions. One of the largest and most frustrating expenses for company management is the time geoscientists have to wait for the simulations to complete.

Performs as promised

Reservoir simulation is not an exact science; clear understanding of subsurface configurations often requires many iterations of the modeling tool to look at different scenarios. In this highly competitive market, running through these scenarios quickly is key to keeping geoscientists working at maximum capacity, increasing productivity and speeding time-to-results. Implementing a high-performance computing cluster using the NetEffect 1Gb or 10Gb accelerated Ethernet adapters provides the low latency required to run many simulation iterations in the shortest time possible.

An excellent example of NetEffect adapter performance in this type of application is shown in the results of recent testing by Landmark, a product service line of Halliburton, of their Nexus® Reservoir Simulation software with NetEffect 1GbE adapters. Nexus uses clustered, commodity compute engines to spread the simulation workload across many

systems. Simulation speed is highly dependent upon the performance of the interconnects between the compute engines.

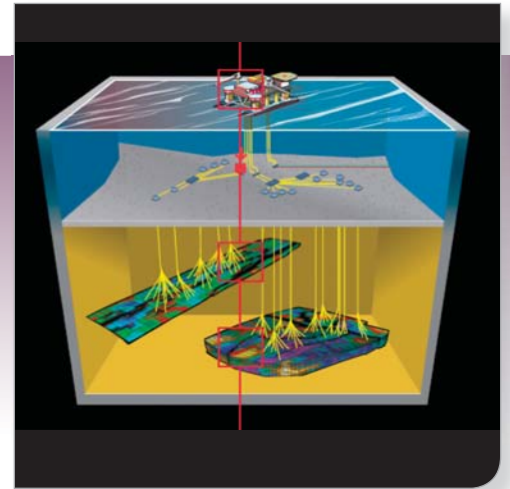
Results: performance that scales

Landmark's test results demonstrated comparable performance between a cluster interconnected with NetEffect 1GbE adapters and a similar cluster using 10Gb Infiniband HCAs. The adapters' low latency and high bandwidth achieved wall-clock times that scaled with the number of cores used, enabling maximum computational efficiency and data movement.

Faster results using existing IT infrastructure

Oil & Gas industry customers with similar modeling applications can gain immediate benefit in 1Gb Ethernet infrastructures by deploying NetEffect adapters without the risk, disruption or investment of implementing a completely new networking infrastructure. When it's time to upgrade to 10Gb Ethernet, customers can expect the NetEffect 10GbE adapters to provide overall performance improvements in both bandwidth and latency that will scale with the infrastructure and provide long-term investment protection.

Oil & Gas applications will immediately benefit from NetEffect adapter performance gains without rewriting code. This is due to NetEffect's broad API and protocol support, which includes a complete implementation



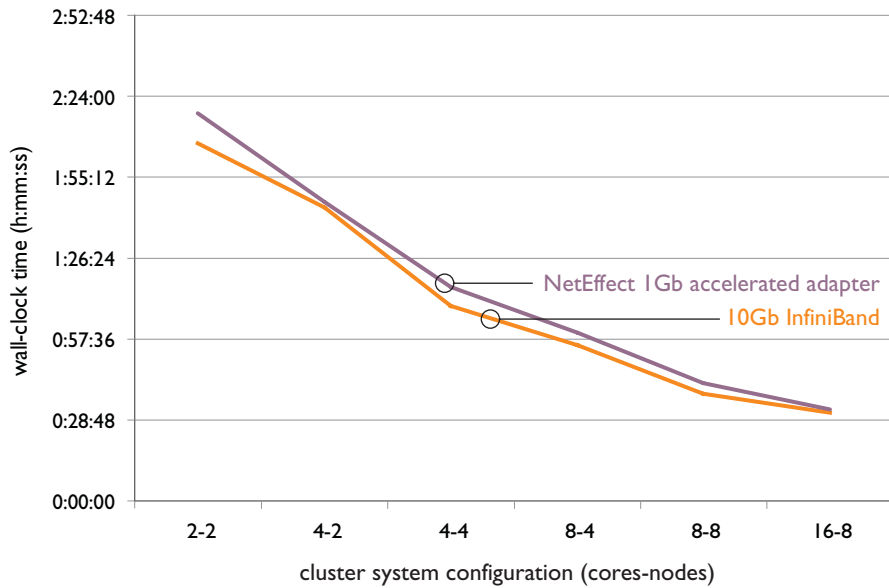
of the IEEE and IETF iWARP extensions to Ethernet, ensuing applications 'install and go.'

All NetEffect adapters are fully compliant with the ubiquitous Ethernet standard. Each spans the needs of business networks – communications, scale-out clustering and storage – and achieves exceptionally low power consumption.

The Nexus tests with the NetEffect adapters illustrate how well NetEffect can provide the low latency and high bandwidth required for high performance networking using an existing Ethernet infrastructure. Now Oil & Gas industry customers have a viable alternative to building out an InfiniBand fabric. With the NetEffect accelerated adapters and off-the-shelf 1GbE switches, customers can implement a standard Ethernet solution, achieving the same performance at a much better overall value.

NetEffect I GbE adapters shine in Oil & Gas: instant performance boost without the risk

Nexus performance results of NetEffect I Gb adapter versus 10Gb InfiniBand



Benchmark configuration

> Landmark Nexus 2003.19.1

> Cluster one: 2 to 8 nodes, each comprising:

- 1 dual-core E6700 (2.66 GHz)
- 4 GB RAM
- A NetEffect 1 Gb accelerated adapter

> Cluster two: 2 to 8 nodes, each comprising:

- 1 dual-core E6700 (2.66 GHz)
- 8 GB RAM
- A 10-Gb InfiniBand SDR HCA

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