

# Schlumberger and QLogic High Performance Computing Overview

Oil & gas, mining, and other geoscience companies are faced with the challenge of identifying the best repositories of natural resources and extracting the most from these. Decisions about where to perform extraction, and for how long, are extremely important and can make the difference in optimizing costs and earnings or foregoing millions of additional revenue dollars. By analyzing greater amounts of data more quickly, geoscience companies can more accurately identify target sites for improved efficiency and reduced time to extraction.

QLogic's products help geoscience companies improve upstream exploration by accelerating applications in reservoir modeling, seismic processing, horizontal drilling, refinery modeling, and chemical/physical research.

## Schlumberger

Schlumberger is the leading oilfield services provider, trusted to deliver superior results and improved E&P performance for oil and gas companies around the world. Through Schlumberger's well site operations and in their research and engineering facilities, they are working to develop products, services, and solutions that optimize customer performance in a safe and environmentally sound manner.

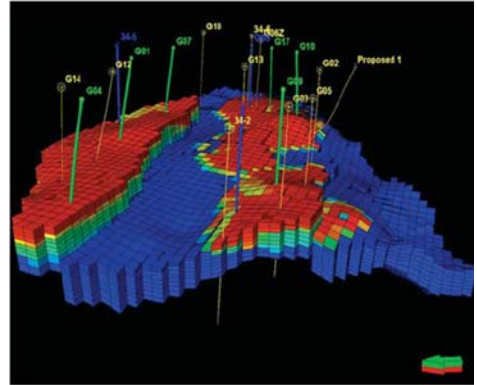
Schlumberger's real-time technology services and solutions enable customers to translate acquired data into useful information, then transform this information into knowledge for improved decision making-anytime, anywhere. Harnessing information technology in this way offers enormous opportunities to enhance efficiency and productivity. This is a quantum leap from providing traditional "just-in-case" information to delivering "just-in-time" knowledge that meets the changing needs of our customers.

## ECLIPSE

ECLIPSE reservoir simulators have been the benchmark for commercial reservoir simulation for over 25 years because of their breadth of capabilities, parallel scalability, utility computing, and unmatched platform coverage.

The difficulty in preparing input into and analyzing the results from reservoir simulation has historically been a lack of integration between the pre- and post-processing tools and the need for many manual time-consuming data transfers and data-formatting steps. As a result, reservoir simulation has not been utilized in many business decisions where it would have added tremendous value. The answer is ECLIPSE + Petrel.

With ECLIPSE optimization tools, engineers can increase the accuracy and speed of their history matches, as well as assess risk and model accuracy, while predicting ultimate recovery from various developmental scenarios. **ECLIPSE PVTi**, **SCAL**, **COUGAR**, and **SimOpt** software help you from data analysis through uncertainty analysis to optimize your simulation runs.



## Solution Highlights

### Expand Scope of Research and Analysis

Increased detail in reservoir analysis produces more accurate findings that ultimately result in highly precise targeting, modeling, and extraction.

### Speed Time to Extraction

QLogic solutions allow geoscience companies to significantly reduce analysis and the time it takes to run modeling and processing applications—reducing the timeline for successful extraction and delivery to market.

### Reduce or Eliminate Costs

By better leveraging cluster compute and storage resources, geoscience companies utilizing QLogic high performance computing solutions can significantly reduce the costs and complexities associated with deploying and operating high performance computing exploration data centers.

### More Efficient Operations

QLogic solutions also enable the deployment of grid computing architectures that allows for the pooling of compute and storage resources across multiple research teams resulting in better overall IT infrastructure utilization and lower overall cost of product design.

## QLogic Corporation

QLogic is a leading supplier of high performance clustering and storage networking solutions, which include host adapters and InfiniBand switches that are used by major corporations and government facilities. The company delivers a broad and diverse portfolio of products that includes InfiniBand switches and InfiniBand host channel adapters for the fast growing, high performance computing market. The company is also a leading supplier of Fibre Channel HBAs, blade server embedded Fibre Channel switches, Fibre Channel stackable switches, iSCSI HBAs, and iSCSI routers. QLogic products are delivered to small-to-medium businesses and large enterprises around the world via its channel partner community. QLogic products are also powering solutions from leading companies like Cisco, Dell, EMC, Hitachi Data Systems, HP, IBM, Network Appliance and Sun Microsystems. QLogic is a member of the S&P 500 Index.

## QLogic – High Performance Cluster Technology

QLogic offers a comprehensive end-to-end product portfolio that includes Multi-Protocol Fabric Directors, Edge Fabric Switches, Host Channel Adapters (HCAs), and a complete software suite to install, operate, and maintain your high performance interconnect fabric. QLogic offers the most comprehensive and flexible interconnect fabric solutions on the market. Application requirements from 12 to 288 InfiniBand ports can be supported in a single chassis. Multi-chassis fabrics that support thousands of host nodes can be constructed to meet the most demanding compute cluster requirements. This offering, combined with the industry's only Fabric Management tools that enable an administrator to install and boot a fabric in minutes, helps to satisfy the growing demand for high-performance computational clusters and grids.

### High Capacity Multi-Protocol Directors

11.52Tb/s throughput in a single chassis  
InfiniBand DDR supported across full switching portfolio  
Support for 20Gb/s node-to-node  
Up to 60Gb/s switch-to-switch bandpass  
Single wire support for InfiniBand, Ethernet, and Fibre Channel

### Comprehensive Fabric Management

Centralized configuration and fabric initialization  
Accelerated fabric deployment and verification  
Fabric health and performance monitoring  
Fabric-wide diagnostics and maintenance  
Centralized management of virtual fabric services

### Multi-Protocol Gateways

Virtual I/O Controller (VIC) functionality  
10Gb Ethernet and 4Gb Fibre Channel  
Scale I/O and servers independently  
Pool and share I/O between servers

### Widest Range of Host InfiniBand Adapters

Widest choice of adapters  
SDR and DDR capable  
PCI-X and PCIe

### Compatible Plus Software Stacks

OpenFabrics / OFED  
Optional value-added capabilities  
Accelerated standard MPI stacks

## QLogic InfiniBand Benefits

1. Significantly improves application performance for faster time-to-solution
2. Provides fabric and application scaling to 1000s of CPUs
3. Simplifies data center design and reduce operating costs
4. Eliminates the need for separate physical server connections to storage and network resources
5. Scale servers and I/O independently pool and share I/O between servers

**To Learn More:**

**QLogic:**

**Schlumberger:**

**[www.qlogic.com](http://www.qlogic.com)**

**[www.Schlumberger.com](http://www.Schlumberger.com)**