Taking Oil and Gas Exploration to the Next Level
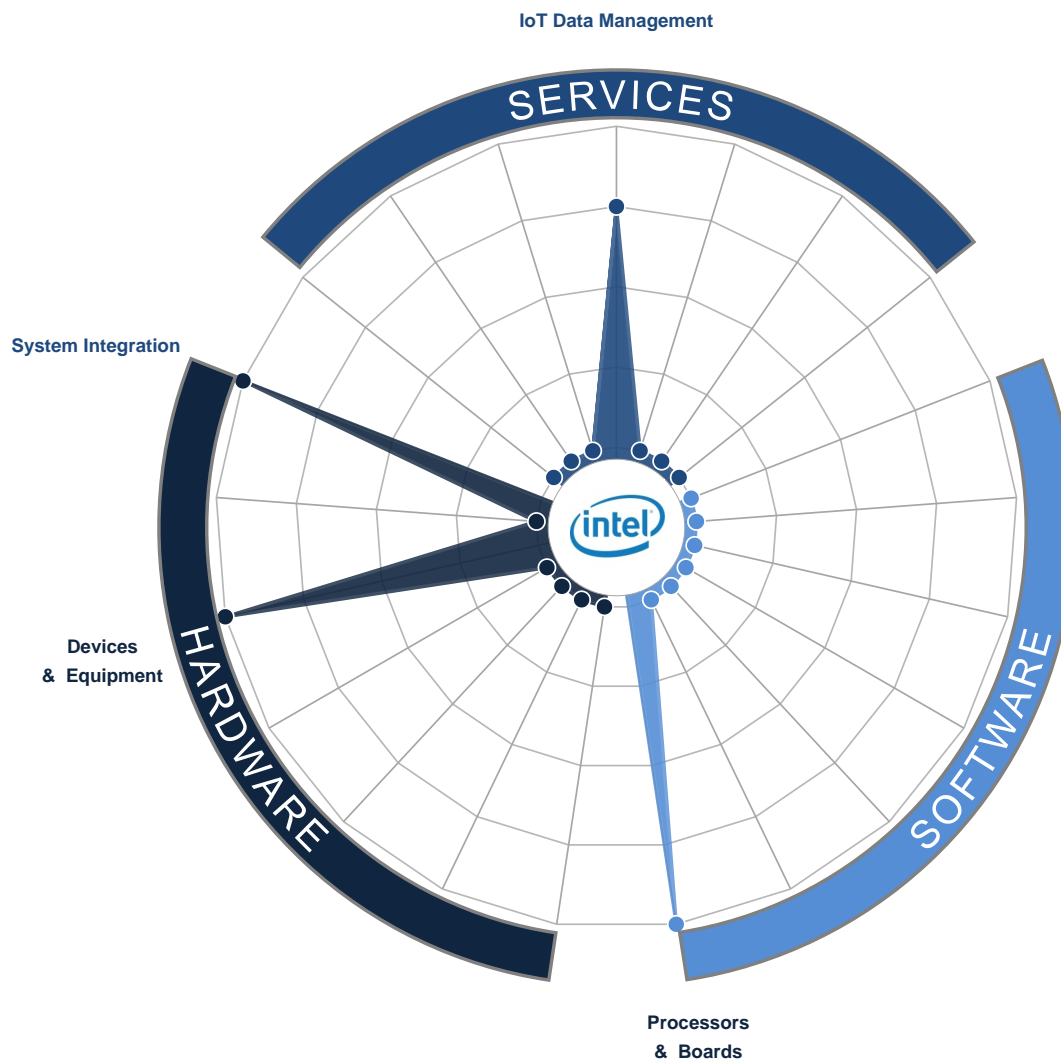
Overview

Applicable Industries	Oil & Gas

Applicable Functions	Information Technology
	Field Services

Challenge

DownUnder GeoSolutions (DUG) wanted to increase compute performance by 5 to 10 times to improve seismic processing.The solution must build on current Intel architecture software investments without sacrificing existing software investments and scale compute without scaling IT infrastructure costs.

Customer

DownUnder GeoSolutions is an innovative geosciences company with a diverse range of capabilities. Their products and services are at the cutting edge of exploration and production services to the global oil and gas industry.

Solution

DUG deployed SGI Rackable cluster powered by Intel coprocessors and Intel Xeon processor. DUG was able to scale its software to the latest highly parallel architecture for faster seismic processing and imaging while enhancing algorithmic gains in existing software.

Data Collected

Seismic processing data, including Kirchhoff migrations, reverse time migrations, data interpolation, 3D surface-related multiple elimination

Solution Type

IT

Solution Maturity

Cutting Edge (technology has been on the market for < 2 years)

Operational Impact

✚   Impact #1   System Flexibility - Ongoing application development and improvements are relatively quick and inexpensive to implement due to the system's flexibility.

✚   Impact #2   Installation Efficiency - Deployment was efficient due to transparency.

✚   Impact #3   Total Cost of Ownership - Total cost of ownership is lowered due to reduction in IT maintenance.

Quantitative Benefit

📊   Benefit #1   The solution achieved up to 8 times node-to-node performance improvement.

Technology

Hardware

Xeon Phi Processor

Intel

Intel Xeon Phi coprocessors are PCI Express form factor add-in cards that work synergistically with Intel Xeon processors to enable dramatic performance gains for highly parallel code?up to 1.2 doub ...

Xeon Processor

Intel Inside (Intel)

The Intel Xeon processor E5-2600 v2 product families is the next generation of 64-bit, multi-core enterprise processors built on 22-nanometer process technology.

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