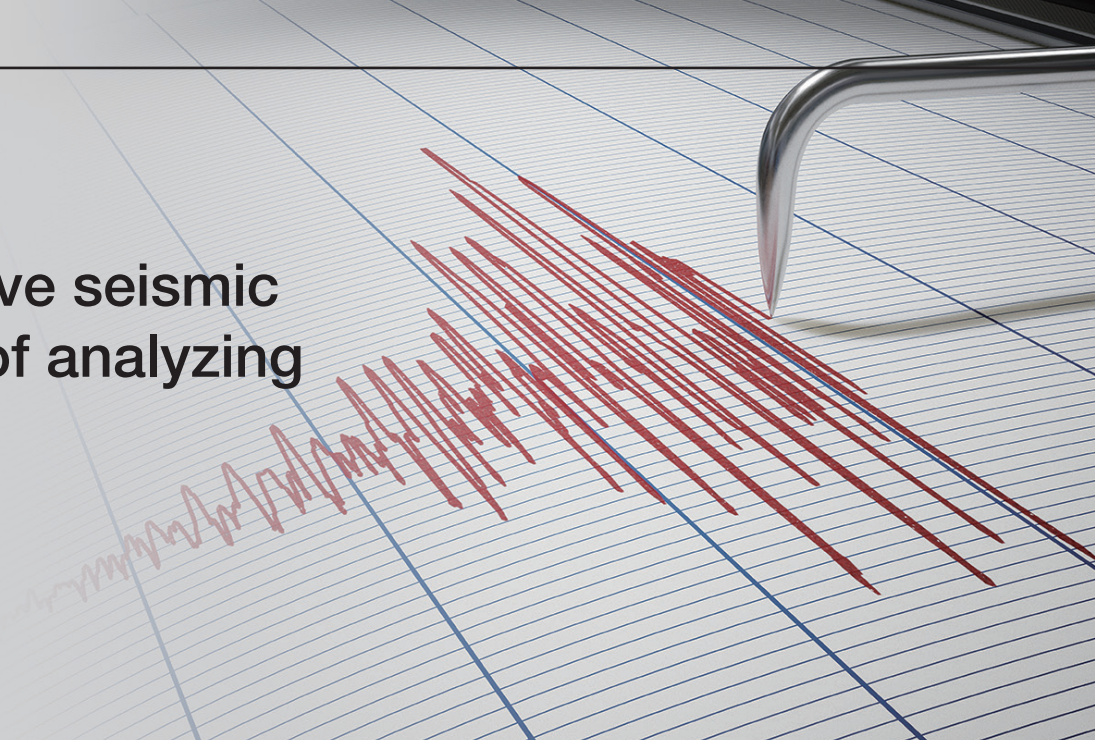# ASUS servers have seismic effect on speed of analyzing subsurface data

Our Customer

DiGiCOR is a major player in the Australian and New Zealand market for ICT infrastructure. Founded 1997, its focus is providing server, data storage, workstation, networking, edge computing and IoT solutions — with the aim to cover the whole journey for its own customers. When a client approached DiGiCOR expressing a desire to acquire a system that able to deliver greater performance and a lower environmental impact, DiGiCOR determined quickly that powerful servers from ASUS would be the perfect solution.

The Challenge

Data-processing bottlenecks and a passionate desire to create a sustainable future

DiGiCOR was approached by its own client, Howman Seismic Services, a specialist in seismic processing business. The business involves processing raw seismic field data to produce subsurface imagery of a subsurface, including near-surface model building, velocity analysis, residual statics, noise removal and more. These processes involve apply complex signal-processing algorithms to process of vast amounts of data. The results are beneficial to industrial customers such as large oil companies, who leverage Howman's subsurface insights during exploration for new natural resources.

Its need for raw compute power means the company is always seeking next-generation solutions to aid its core business. In particular, Howman faced limitations caused by its current systems, which could take up to eight hours to turn around a single job. As it was expecting an increase in workload, Howman sought expert advice on how to improve processing times — with an end goal of increasing its overall high-performance-computing (HPC) capacity.

The firm also wanted to improve its green credentials, by reducing the total number of servers in use.

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> "It can be very hard to acquire a system that is customized to our specific needs. The ASUS RS500A-E9-RS4-based solution was a cost-effective choice — and has proved its worth."
>
> - **Sam Howman,** director from Howman

The Solution

A powerful, energy-efficient ASUS rack server with industry-leading performance

Faced with a daunting set of requirements, DiGiCOR in turn called in the expert support of ASUS — the leading IT company in server systems, server motherboards and workstations.

DiGiCOR outlined to ASUS how Howman's intensive algorithms run in parallel on all available threads. This kind of workload demands a high core count. DiGiCOR also indicated that the seismic specialist needed the best reliability, compatibility and scalability.

DiGiCOR recommended to Howman that it should invest in the ASUS RS500A-E9-RS4 1U rack server. This is built on the AMD EPYC™ platform to deliver incredible server performance.

With up to 32 cores per CPU and up to 64 threads, RS500A-E9-RS4 packs incredible power in minimal space, making it the perfect choice for Howman's multithreaded, space-saving demands. It is also engineered with 16 DIMM slots to provide best-in-class memory capacity and bandwidth, and an integrated I/O controller on the processor — and offers flexible expansion capabilities, including available PCIe® slots, an OCP 2.0 Mezzanine connector.

To ease the transition DiGiCOR, with the help of expert technical support from ASUS, provided Howman with a proof-of-concept server. This enabled its client to run tests and analyze performance before committing to an order.

Satisfied, Howman pressed ahead with its adoption of the ASUS server solution.

The Outcome

Faster, quieter, cooler and more cost-effective — the ASUS effect

Following its investment in the ASUS RS500A-E9-RS4 platform, Howman has enjoyed overall performance improvements of **up to 5X** — with the time for typical individual data-processing jobs slashed from eight hours to just two.

But faster turnaround times is just one of multiple goals that the ASUS-powered HPC cluster has enabled DiGiCOR's client to achieve. The vastly increased performance delivered by the 64-core platform has allowed Howman to execute bigger jobs. Then, the flexible fan controls, managed by intuitive ASUS software, have minimized noise levels while maximizing power efficiency — and eliminated overheating issues.

These factors have in turn contributed to Howman's ability to embrace sustainability, with the ASUS RS500A-E9-RS4 servers consuming less combined power for greater overall performance. A smaller number of servers also means reduced overall power consumption and running costs for cooling. The reduced footprint has also handed Howman the space needed to scale its capabilities in the future.

DiGiCOR also reports has its client has found the ASUS servers easy to use, and that they have no required any maintenance — as well as praising ASUS for its prompt delivery to a tight schedule.

What ASUS recommends

RS720A-E11-RS24U

AMD EPYC™ 7003 2U dual-socket server that supports up to 32 DIMM, four dual-slot GPUs, 24 NVMe, nine PCIe 4.0 slots, OCP 3.0, M.2 and ASUS ASMB10-iKVM

RS700-E10-RS12U

1U dual-socket server powered by 3rd Gen Intel Xeon Scalable processors that supports up to 32 DIMMs, one dual-slot GPU, 12 NVMe, four PCIe slots, one OCP 3.0, dual M.2 and ASUS ASMB10-iKVM

RS500A-E10-RS12U

AMD EPYC™ 7003&7002 compact 1U rack server with support for up to 4 SATA & SAS, 2 PCIe 4.0, dual LAN, OCP 2.0 Mezzanine card and ASUS Control Center

ESC4000-E10

2U GPU server powered by dual-socket 3rd Gen Intel Xeon Scalable processors that supports up to 16 DIMM, four dual-slot GPU, 4 M.2, eight NVMe (by SKU), total eleven PCIe 4.0 slots, one OCP 3.0 (by SKU) and ASUS ASMB10-iKVM

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