Powering Seismic Analysis with 3D VDI

eurotech

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ADVANCED SCIENCE FOR EVERYONE

NUTANIX™

A Brief History of 3D Seismic Data Modelling

The accurate capturing, modelling and interpretation of seismic data has always been the key to success in the Oil & Gas exploration industry. Historically, companies invested heavily in expensive, high powered desktops to provide geoscientists with a platform to model and interpret in 3D the seismic data that they had captured. However, in recent years changing market conditions have forced change in the industry and there has been increased demand for more efficiency from business systems. This, coupled with increasingly geographically dispersed users requiring access to data from remote locations, has created an unprecedented technical challenge for IT. Yesterday's technology cannot cope with these new demands.

Next-Generation Solutions for Seismic Modelling

The key metrics for a modern delivery platform for seismic Interpretation should include the ability to provide data security, efficiently pool compute resources, perform up or downscaling when demand changes, and have a means of delivering the high resolution 3D graphics to a remote user. The solution offered by Eurotech is a next-generation Virtual Desktop Infrastructure (VDI) platform, specifically designed for 3D graphics delivery. VDI effectively allows an enterprise server in a remote data centre to serve up a number of virtual desktops that can deliver a 3D seismic application to any device, across almost any connection. VDI can be delivered as a private or public cloud, eliminating the need for businesses to make costly infrastructure investments or manage complexity that doesn't add direct value.

VDI in the Cloud: Getting it Right First Time

Eurotech worked closely with Paradigm's software engineering team to develop a cloud-based VDI platform specifically for 3D seismic interpretation. A PoC was hosted in Eurotech's secure Tier 3 data centre in the UK, powered by next-generation cloud technology from Nutanix and VMware. Testing included the remote delivery of the full suite of Paradigm's seismic interpretation software (2D, 3D and prestack capabilities as well as opacity rendering utilizing CPUs and GPUs in a multi-user environment) to users across the EMEA geography, including on restricted bandwidth Wi-Fi links.

"The Eurotech 3D VDI cloud solution, powered by Nutanix, gives our customers around the world access, for the first time, to the full power and capabilities of Paradigm's software and enables them to increase capacity on demand, without the cost and risk involved in managing a traditional infrastructure. The PoC results exceeded our expectations, with remote testers noting that the 3D performance was faster and more fluid than on high-powered desktops." **Sandra Allwork, Technical Sales Director**

About Paradigm

Paradigm® is the largest independent developer of software-enabled solutions to the global oil and gas industry. For over 30 years, its mission has been to help natural resources companies increase confidence in their exploration and production decisions by providing deeper insight into the subsurface. Today, the company supports a number of long-term development projects and has a local presence in 31 cities, representing all of the major energy centres on the globe. www.pdgm.com

Business Need

An easy to manage, high performance, scalable and cloud-based platform for the remote delivery of Paradigm's 3D seismic processing and interpretation software suite.

Solution

A Eurotech cloud solution based on the hyper-converged Nutanix 7000 series nodes (designed specifically for 3D VDI workloads), coupled with the latest generation of Nvidia GRID graphics cards and VMware GPU virtualisation technology

Benefits

An easy-to-manage, scalable and flexible delivery platform at a lower cost point than comparative previous generation technology. The ability to serve 3D seismic data remotely across almost any connection, on any device