VERNE GLOBAL

SOLUTION BRIEF

MEETING THE NEEDS OF RESEARCHERS WITH ADVANCED COMPUTING FOR GLOBAL COLLABORATION

Introduction

Today's research climate is collaborative and far-reaching. From Washington, D.C. to Würzburg and from Cambridge to Colorado, research organisations extend the globe to work on complex issues, research trials, experiments and innovations that impact society.

Big data analytics to genomics, science and education research is compute-intensive, complex, and costly. Research and education facilities require large and collaborative computing and storage resources, along with high-speed access to help process large stores of data at a scale, unimagined just a decade ago. Demand for computing capability is putting increased pressure on the capacity and operational costs for data center services.

With its sustainable, low-cost power, secure facilities, and global connectivity, Verne Global supports the missions of National Research and Education Networks (NREN). Verne Global's Icelandic data center campus provides the ability to process, analyse and store large amounts of data and optimise computing capacity while reducing carbon footprints. This ensures long-term, sustainable computing and connectivity for the entire Internet2 community.

"Verne Global joined Internet2 as an Industry Member in August 2016, and the Verne Global leadership team has since been dynamically engaged in Internet2's community programs and events," said George Loftus, Internet2 Associate Vice President, Network Services." With the positioning of Verne Global's Icelandic campus, futuristic approach to power intensive data centers and access to some of the world's cleanest energy, Verne Global provides unique options for members of the research and education community to consider in addressing their global needs."

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Internet2 Associate Vice President,
Network Services

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Verne Global: Built for Science, Education & Research Networking

From its campus in Iceland, Verne Global provides the high-performance computing (HPC) capacity needed for research, modeling and analysis performed by Internet2 members. Iceland's advantageous power profile allows Verne Global to utilise one of the world's most reliable power grids producing 100% dual-sourced, renewable energy offering Internet2's member organisations Total Cost of Ownership (TCO) savings of over 70% when compared to US energy pricing.

As an example, researchers at Earlham Institute, a leading bioscience research facility in the UK, deploy some of the largest shared memory computing resources dedicated to life sciences in Europe. This includes the assembly of some of the largest and most complex genomes, including the 17Gb wheat genome which can take between six and eleven terabytes of memory per run. Earlham Institute also hosts a large, high-throughput compute cluster with more than 4,000 processing cores. Researchers use this for downstream analysis, along with over seven petabytes of storage, including 64 terabytes of the latest Intel NVME Flash technology for demanding inputs/outputs (IO) critical tasks.

Earlham Institute selected Verne Global's data center based on its previous expertise providing long-term, low-cost, sustainable power for computing as well as, experience working with private and public organisations. Via NREN providers Janet and NORDUnet, Earlham Institute are the first research organisation to examine the benefits of migrating a strategic, collaborative bioinformatics analysis platform to the data center campus in Iceland.

Earlham Institute is confident that this partnership creates an excellent model for other research and academic institutes to follow suit, particularly if they are limited by local data center space and operational costs.

As more organisations turn to HPC to process large data sets, demand is growing for scalable and secure data center solutions. The source, availability and reliability of the power grid infrastructure is becoming a critical factor in a data center site selection decision.

Jeff Monroe, CEO, Verne Global

Iceland is powered by 100% renewable sources, including geothermal and hydro-electric

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