

Lenovo's High-Performance Computing Empowers Oceanbox.io to Unveil Ocean Mysteries

Lenovo's High-Performance Computing Drives Oceanbox.io's Discovery of Ocean Mysteries – Transforming the Future of Marine Exploration

1309 FLAX MOSS COURT,, SAN JOSE CALIFORNIA 95120, USA, October 26, 2023 /EINPresswire.com/ -- Lenovo, symbolized by the ticker "HKSE:992" and "ADR: LNVGY," has been chosen as the key partner by Oceanbox.io, a prominent ocean intelligence company, to enhance their efforts in unraveling the secrets of the sea. The Norwegian-based Oceanbox.io is utilizing Lenovo's ThinkSystem servers to manage, store, and analyze vast amounts of oceanographic data. This collaboration aligns with Oceanbox's mission to create comprehensive ocean models and democratize access to their invaluable data and tools.



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Dive into the depths of discovery! Lenovo's high-performance computing fuels Oceanbox.io's exploration, unveiling ocean mysteries like never before.”

Resultfirst

Lenovo is a global technology leader in manufacturing [workstations](#), monitors, [tablets](#), and servers. Oceanbox.io specializes in the complex field of oceanographic data simulation, employing Lenovo's robust infrastructure to replicate intricate aspects of the sea, including temperature, salinity, currents, light propagation, and sedimentation, at a remarkable meter-level precision. Moreover, the company aggregates a wealth of data from diverse sources, encompassing wind patterns, river data,

and sonographic readings, all contributing to their precise models.

Organizations worldwide can harness Oceanbox's dashboards to run simulations that forecast and visualize the movement of various elements within the aquatic environment, such as viruses, parasites, and oil. In an era when our oceans are facing unprecedented challenges,

Oceanbox's models have assumed a critical role in predicting ocean currents and the dispersion of pollutants. This information serves as a vital resource for informed decision-making, aiding in mitigating environmental harm.

For example, understanding the direction of ocean currents enables ships and other vessels to optimize their routes, conserving fuel and reducing emissions. Beyond this, the data supports recreational activities like boating, canoeing, kayaking, sailing, and diving.

Smart Mapping for the Aquaculture Industry

The aquaculture sector has particularly benefited from Oceanbox's tools, utilizing these models to forecast the potential spread of parasites and pathogens, thus safeguarding fish populations. This is of utmost significance in places like Norway, home to the world's largest salmon industry with an export value exceeding \$10 billion. Oceanbox has already made significant strides in mapping Norway's extensive coastline, which measures more than twice the length of the equator and demands the coverage of over 18,000 billion data points.

Additionally, Oceanbox's technology is instrumental in scenarios such as search and rescue operations, where it aids in pinpointing the location of individuals in the sea. When it comes to oil spills, the system can predict the dispersion of oil and potentially identify the source vessel, allowing authorities to respond promptly and prevent future occurrences.

Robust and Comprehensive High-Performance Computing

To accomplish its annual ocean models, each of which takes two to three weeks to run on 1000-2000 CPU cores, Oceanbox accumulates approximately 50 terabytes of data, equivalent to a staggering 15.5 million photos. Given these substantial computational demands, Oceanbox recognized the need for a sturdy and all-encompassing high-performance computing (HPC) solution. Furthermore, low-latency networking was essential to enable swift communication and scalability to accommodate the requisite number of CPU cores.

After exploring various options on the market, Oceanbox ultimately chose Lenovo due to its exceptional speed and capacity to run parallel operations, owing to its effective architecture. Oceanbox has implemented 16 Lenovo ThinkSystem SR645 dual-socket servers, each equipped with two 64-core AMD EPYC processors. Two additional SR645 nodes in the same configuration are connected to Lenovo disk storage devices to support real-time computations, which is crucial for customers requiring rapid data analysis and decision-making. All nodes are interconnected using the latest InfiniBand networks to minimize latency. Lenovo [laptop](#) and PC workstations are also integrated into the development process.

The Power of Collaboration

According to the press releases of Lenovo, Giovanni Di Filippo, EMEA President at Lenovo

Infrastructure Solutions Group, underscores the decade-long partnership with Oceanbox: "Lenovo's collaboration with Oceanbox spans over a decade, and our teams have worked closely together to develop a comprehensive solution tailored to Oceanbox's needs. This collaboration demonstrates the pivotal role of technology in advancing awareness and accessibility to pressing environmental issues, ultimately making a difference in addressing them."

Currently, Oceanbox employs a dual storage system running in parallel, with a capacity of approximately 500 terabytes. As data usage continues to surge, the limitations of traditional spinning disks are becoming evident. Oceanbox is planning to transition to solid-state technology, which will enhance oceanographic simulations' speed and facilitate swifter data sharing with clients. With its current system already incorporating predictive analytics and modeling, Oceanbox is poised to explore the integration of artificial intelligence (AI) to further enhance their solutions in the future.

About Lenovo

Lenovo, listed as "HKSE: 992" and "ADR: LNVGY," is a global technology powerhouse with an annual revenue of US\$62 billion. It ranks #217 in the Fortune Global 500 and employs 77,000 individuals across 180 markets worldwide. Lenovo is committed to delivering smarter technology solutions across a range of domains, including client, edge, cloud, network, and intelligence. Their portfolio encompasses servers, storage, mobile devices, software, solutions, and services. Lenovo's continuous innovation aims to create a more inclusive, trustworthy, and smarter future for everyone. For further information, visit Lenovo's official website and stay updated with the latest developments via StoryHub.

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