Three reasons why HPCaaS can fuel innovation in your organization

High costs and challenges in managing complex HPC architectures can delay time to insight. Adopting an as-a-service approach to HPC can help.

High-Performance Computing (HPC) and the increased processing speed it provides have streamlined business processes and accelerated scientific research, for example, mapping the human genome. With HPC, organizations can process staggering amounts of data very quickly, which enables data analysis at speeds previously unavailable to businesses and researchers. The benefits HPC makes possible are limited only by the user's imagination.

But building and maintaining HPC infrastructure is costly and complicated. Spending on HPC (both on-premise and cloud) grew from $30.6 billion in 2020 to $34.8 billion in 2021 – an increase of 13.8 percent. IT professionals responding to a McKinsey 2019 Global Data Transformation Survey reported that an average of 30 percent of their total enterprise time was spent on non-value-added tasks around datacenter issues such as poor data quality and availability.

So organizations with tight budgets and already stretched IT teams attempting to implement HPC can quickly become overwhelmed as they struggle with volatile global hardware supply chains, increasingly complicated technology implementations, and data security requirements. Fortunately, HPC as a Service (HPCaaS) models are increasingly emerging as a more flexible and cost-efficient route to leveraging the benefits of HPC. Here are three reasons why:

HPCaaS is economical

Building and maintaining an in-house HPC datacenter can lead to expensive overprovisioning of hardware and IT staff, but the skyrocketing costs of off-premises, cloud-based HPC subscription services can also cause budget pains. The financial flexibility of the HPCaaS model lets organizations implement HPC using a consumption-based payment system that eliminates upfront capex expenditure for datacenter hardware while also greatly reducing the need for an in-house IT team to keep the datacenter running and growing.

HPCaaS is flexible

Delays in data processing due to the time required to move data between cloud-based datacenters are unacceptable in fast-paced environments where the difference between failure and success can be measured in nanoseconds. But on-premises HPC solutions can be costly, and cloud-based HPC may violate customer requirements regarding the storing and handling of sensitive data. With HPCaaS, customers can take a hybrid approach that provides the best of both options; allowing sensitive data operations to remain secure in an on-premises datacenter owned and controlled by the organization, while less sensitive data analysis can be offloaded to a cloud-based HPC subscription service to keep costs low.

HPCaaS is secure

Businesses handling proprietary company information or sensitive consumer data (credit card numbers, medical records, etc.) often need to maintain strict service level agreements (SLAs) regarding the secure storage and transport of data. HPCaaS can ensure organizations adhere to any security, legal, or strict data sovereignty requirements they or their customers may have. Furthermore, HPCaaS vendors provide the security expertise required to keep all data safe during initial datacenter setup, any future expansion, and even when decommissioning outdated network hardware. All of this security can be integrated in combination with almost any existing IT security protocol a business already has in place.

To find out how Lenovo TruScale for HPC can help you innovate without limits, visit www.truscale.com.