Drizti case study

HPCBOX and the big compute infrastructure of Microsoft Azure enable naval architect to provide maritime engineering services

Seeking the right tool for computational fluid dynamics

Anna Bruns, a naval architect and mechanical engineer in Canada, wanted a plug-and-play solution for computational fluid dynamics (CFD).

High-performance computing powered by Microsoft Azure

Bruns used Drizti's HPCBOX, a high-performance computing (HPC) platform on Microsoft Azure, for simulation engineering.

Saving money and accelerating simulation engineering

With HPCBOX and the big compute infrastructure of Azure, Bruns can cost-effectively deliver engineering services to her customers.

Microsoft
Partner
Network

Making supercomputing accessible with Drizti and Microsoft

Toronto startup Drizti is a graduate of the Microsoft BizSpark program and is a Microsoft silver partner. Drizti endeavors to make supercomputing technology accessible to every scientist, developer, and engineer, wherever they are and whenever they need it.

To this end, Drizti offers its HPCBOX platform as a [pay-as-you-go solution](#) in the Azure Marketplace and as a fully managed HPC service through the Microsoft Cloud Solution Provider program. HPCBOX is a fully interactive cloud HPC platform for advanced manufacturing, machine learning, artificial intelligence, and finance. By offering tailored vertical solutions powered by HPCBOX through the Azure Marketplace, Drizti can simplify HPC and deliver a turnkey solution directly within the customer's Azure subscription and tenant, whether it is an Enterprise Agreement, Cloud Solution Provider, or Web Direct subscription.

HPCBOX uses big compute capabilities offered by Azure, including state-of-art HB, HC, H, N, and NC-series virtual machine instances. With HPCBOX, applications can be run in parallel with their native graphical user interface, significantly reducing the time involved in developing products. Users deploy an HPCBOX cluster directly from Azure Marketplace, select from a recommended list of worker sizes, choose the desired amount of storage, and the HPC infrastructure is deployed with all the applications and essentials pre-installed and pre-configured, ready to use.

More time for cutting-edge engineering

Based in North Vancouver, British Columbia, Bruns does business as Bruns Naval Architect and specializes in hydrodynamics. Bruns offers cutting-edge engineering services using expertise in the maritime application of CFD, such as resistance in waves, self-propulsion, smoke dispersion, and air drag. CFD calculations of such complexity and size require significant computational power, and Bruns did not want to buy or maintain computational resources in-house.

"I did not only want to rent high computing nodes but was also looking for a plug-and-play solution for CFD," Bruns said. "HPCBOX was installed and operational within a short time. The cluster does not need to be maintained or run during times of no or low activity. No hardware maintenance at all gives me more time to do actual engineering work."

Bruns conducts her CFD engineering with Siemens STAR-CCM+ software, available within the HPCBOX cluster deployment. Using HPCBOX on Azure, Bruns can deliver engineering services to her customers without needing significant physical infrastructure or an IT team. She can effectively make her personal computer into a supercomputer.

"Microsoft Azure's capabilities are a perfect fit for HPC workloads. We are very excited to support engineers like Anna Bruns by partnering with Microsoft and delivering our HPCBOX platform through Azure Marketplace."

- Devarajan Subramanian, Chief Technology Officer, Drizti