VSCALER FOR CFD

Computational fluid dynamics simulations in the cloud

Computational fluid dynamics (CFD) is a branch of fluid mechanics that uses numerical analysis and data structures to solve and analyse problems that involve fluid flows.

At its core, CFD provides engineers the tools to explore how fluids or gases flow around physical objects as well as the interactions of those fluids and gases with the objects' surface.

These calculations are best run on supercomputers with parallel processing, a feat which typically beyond the budgetary means of smaller companies. Recent advances in workstations' computing power have make it possible to run simulations on desktops, but the computations can take hours, and sometimes days.

While CFD can be done with powerful workstations (albeit slowly), users are finding that harnessing the superior horsepower of high-performance computing (HPC), plus the use of software containers, can deliver results far faster and easier—and with higher quality.

vScaler can offer CFD users an application specific, cloud environment with the performance benefits of a dedicated supercomputer but at the fraction of the cost. Supporting industry leading software such as ANSYS, OpenFOAM, Pam-Crash and STAR-CCM+ (among others), vScaler for CFD is specifically designed to improve access and development efficiency. With ready-to-execute application containers, you can simplify your software setup while delivering faster analysis than legacy desktop workstations.

vScaler's private cloud solution for CFD, built on Open Source technology that enables you to create a secure, scalable, cost-effective, flexible IT infrastructure. No vendor lock-in, no hidden costs, just your cloud, your way.

Faster Analysis
Our ready-to-execute applications deliver faster analysis compared to legacy desktop workstations.

Lower Costs
vScaler is an application specific cloud environment with all the performance benefits of a dedicated supercomputer but at the fraction of the cost.

Scalable
Scale-up or down with the touch of button, under a single customisable management portal.

VSCALER

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WHAT DO I GET FROM VSCALER?

Open Source
Built on OpenSource cloud technology, and using open source CFD technologies such as OpenFOAM, vScaler offers researchers access to the tools and HPC parallel-processing power they need to perform CFD analyses on their own.

Minimise your Product Development Lifecycle
Rely less on physical testing and speed up your product development lifecycle by running your CFD simulations on our open source cloud platform rather than legacy hardware and wind tunnels.

CFD Specialists
As an added service, vScaler's in-house highly specialised team of Formula 1 CFD and aerodynamics experts-can also aid in tuning meshing and solver performance through, for example: process and memory bindings, to deliver staggering results.

Highest Performance
Born in the cloud, the AMD EPYC™ system on chip delivers 122 percent better memory bandwidth1, 60 per-cent more I/O2 and 45 percent more cores than the competitor3 to data centre applications such as CFD.

HOW CAN I MOVE TO VSCALER?
The switch from your old system can be done in stages with little to no impact on your daily operations. vScaler offers full service on-boarding and service off-boarding assistance, as well as a modular Managed Services options, with no-vendor lock-in.

SUPPORTED APPLICATIONS

OpenFOAM

STAR-CCM+

ANSYS

Pam-Crash

STORAGE

Unified Storage

Containerisation

SECURITY

Disaster Recovery

Rolling Upgrades

Zero Downtime

TECH SPECIFICATIONS

Our Hyper-converged 2U private cloud appliance is designed using class leading technologies, the latest processor family, 2666Mhz DDR4 memory, 25GB interconnects and all SSD storage delivering superior performance with our optimised stack.

CFD APPLIANCE (PER NODE)	
MODEL	VS-H-2824
SERVER COMPUTE	AMD EPYC™ 7451 (24 cores)
STORAGE CAPACITY	6x SSD [480 GB, 800 GB, 960 GB, 1.2 TB, 1.6 TB, or 1.9 TB],
MEMORY	512GB DDR 2666MHz
NETWORK CONNECTIONS	2x 1 GbE, 1x 1GbE RJ45 (IPMI) Dual-Port 25 GbE RDMA Mellanox

SPEAK TO BOSTON TODAY FOR MORE INFORMATION,

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