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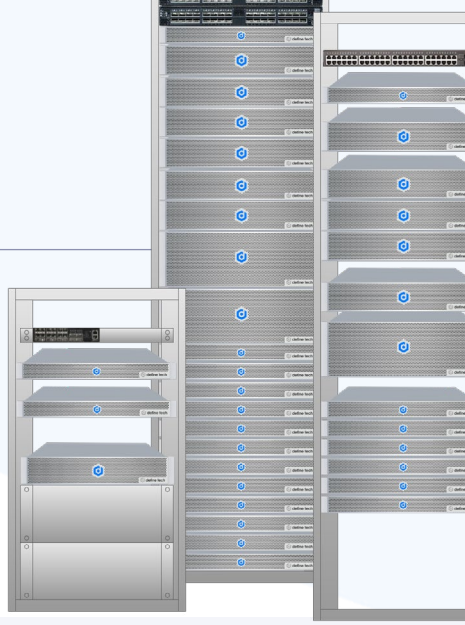

CFD/FEA LMX CLUSTER

COMPUTATIONAL FLUID DYNAMICS AND FINITE ELEMENT ANALYSIS SOLUTION

MODERN ENGINEERING DESIGN WORKLOADS DEPEND ON SIMULATION-DRIVEN TECHNOLOGIES THAT GENERATE HUGE DATASETS. WITH THESE CONTINUALLY GROWING DATASETS COMES THE NEED FOR MORE AND MORE COMPUTE POWER AND ULTIMATELY A HIGH-PERFORMANCE COMPUTING INFRASTRUCTURE. FINDING A COMPROMISE BETWEEN COST AND RESEARCH REQUIREMENTS IS SOMETHING WE FOCUS ON WITH OUR TURNKEY CFD CLUSTER SOLUTIONS.

Our turnkey LMX CFD cluster solution is a densely heterogeneous computing platform, with both CPUs and GPUs integrated to help maximise workload acceleration, boost memory and performance. Our expert team has designed low, medium and high spec cluster solutions, optimised for analytical and simulation-lead workloads including computational fluid dynamics(CFD), finite element analysis (FEA) and exploratory data analysis (EDA).

When developing a turnkey cluster solution, we adopt a layered approach. Starting with the end user requirements at an application level and working down the stack to the hardware that will ultimately deliver the resources. The goal of our software is to plug the gap between end user expectancy, and what's provided by the hardware..

GPU ACCELERATION

Our Turnkey Cluster solutions offer up to 8x NVIDIA A100 GPUs, delivering unprecedented compute performance enabling engineers and analysts to harness the power they need to perform complex simulations and solve the most challenging engineering problems.

COMPUTE

We offer the latest generation CPU options from industry veterans AMD, built to handle large scientific and engineering datasets with top performance – ideal for HPC workloads, compute-intensive models and analysis techniques.

NVME STORAGE

Typical engineering applications will use and store TB's of data per time step and,

OUR BRANDS

Building upon ICC's expertise in delivering market-leading hardware and software solutions, Define Tech will extend ICC's reach to now support partners, and customers, on a global basis.

INTERNATIONAL COMPUTER CONCEPTS

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since the applications may run for days, intermediate data must be checkpointed and stored reliably. These highly parallel applications require an HPC storage system that can respond to application demands, which is why we have selected WekaFS - the fastest file storage for AI and Technical Computing.

INTERCONNECT

High Performance clusters require flexible, high-speed connections. NVIDIA Mellanox interconnect accelerates and offloads data transfers to ensure compute resources never "go hungry" and simplify infrastructure automation so applications run faster.

LMX SOFTWARE

Define Tech's LMX Software allows you to focus on its mission critical research rather than the administration of the underlying IT systems, with a simple and cost-effective path-to-scale as your workloads and datasets grow. LMX enables users to interface with the environment via an easy-to-use Web GUI which includes support for remote visualisation as well as GPU rendering for pre/post processing of CFD applications.

APPLICATION REPOSITORY

Our built-in software application repository is a portfolio of thousands of containerised simulation-led and data analytics, applications and tools that come pre-integrated and ready to run such as Ansys and OpenFOAM.

AI-OPTIMISED

Our platform includes hpc-optimised capabilities such as secure dedicated clusters that can support collaborative research, virtualised GPU's for accelerating analytical workloads, cloud-native workstations for high-resolution image analysis as well as the integration of AI technologies such as Kubernetes.

Low Spec

- 1x NVIDIA SN2010 Switch
- 1x Deployment Node
  - 1x AMD EPYC™ 7313p per node
- 1x NVIDIA GPU Node
- 1x Hyper-Converged Node
  - 8x AMD EPYC™ 75F3 per node
- LMX Cloud Software

Medium Spec

- 1x NVIDIA SN2410 Switch
- 1x Deployment Node
  - 1x AMD EPYC™ 7313p per node
- 1x Compute Node
  - 2x AMD EPYC™ 75F3 per node
- 3x Controller Nodes
  - 2x AMD EPYC™ 7413 per node
- 1x Weka Storage Node
- 1x NVIDIA GPU Node
- 6x Ceph Storage Nodes
- LMX Cloud Software

High Spec Cloud

- 1x NVIDIA SN2700 Switch
- 1x Deployment Node
  - 1x AMD EPYC™ 7313p per node
- 1x Compute Node
  - 2x AMD EPYC™ 75F3 per node
- 3x Controller Nodes
  - 2x AMD EPYC™ 7413 per node
- 2x Weka Storage Node
- 2x NVIDIA GPU Node
- 12x Ceph Storage Nodes
- LMX Cloud Software

USE CASES

- COMPUTATIONAL FLUID DYANMICS
- FINITE ELEMENT ANALYSIS
- EXPLORATORY DATA ANALYSIS

For pricing or to discuss your requirements:

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