SANKHYASUTRA RUDRA

HIGH PERFORMANCE COMPUTING AS A SERVICE

HIGH PERFORMANCE COMPUTING IS FINDING NEW APPLICATIONS EACH DAY

Simulations powered by HPC enhance computer-aided engineering processes. HPC finds applications in areas where:

- One deals with enormous volumes of data and complexities and require a high degree of precision
- Simulate complex physical systems of enormous scale (e.g. global weather patterns) or tremendous detail (e.g. at sub-atomic level)

WHY CHOOSE SANKHYASUTRA RUDRA?

- Configuration designed to provide maximum performance for engineering and scientific simulations
- Analyse massive amounts of data with a lightning quick turnaround time
- Exclusive plans available for academic users

WE ARE ALSO HPC USERS AND NOT DATA FARM OPERATORS

HPC CONFIGURATION

HPE Cray CS500 system with 256 nodes/ 32768 nodes

- Each node: AMD EPYC 7742 processor with 2 x 64 physical cores
- MELLANOX QUANTUM HDR Split 100 Gbps Interconnect

	Per Node	Entire Cluster
Memory	512 GB	128 TB
Memory Bandwidth	410 GB/s	100 TB/s
Computing power	4.5 TFLOPS	1 PFLOPS

SANKHYASUTRA'S PETASCALE SUPERCOMPUTING CLUSTER IS THE LARGEST PRIVATE SECTOR HPC IN INDIA, AND AMONG THE LARGEST IN INDIA

AVAILABLE SOFTWARE

- Altair PBS Pro scheduler
- OS: CentOS 7.6
- Compilers: Intel ICC Compiler 18, Intel oneAPI HPC Toolkit 2021.3, GCC 10
- MPI: Intel MPI 2018, OpenMPI 4.1.1, MPICH 3.3, MVAPICH2 2.3
- Python 2.7, Python 3.6
- Software modules e.g. BLAS, LAPACK, FFTW3, GROMACS and LAMMPS

ABOUT US

SankhyaSutra Labs provides high-fidelity multiphysics and aerodynamics simulation software that leverages highly efficient computational methods, complemented by an optimally architected High Performance Cluster (HPC) to achieve reliable simulation. Our tools find applications primarily in aerospace and defence, automotive, semiconductor manufacturing, and process industries during many phases of the product lifecycle including design, operation, and maintenance. The technology also enables fundamental insights into physical phenomena including fluid dynamics, heat transfer, chemical reactions and particle dynamics. Digital twins developed using SankhyaSutra's technology are key enablers of Industry 4.0.

Incubated in 2015, SankhyaSutra Labs has its R&D centre in Bangalore with target customers across the globe. The name SankhyaSutra literally translates to 'numerical algorithms' in Sanskrit. SankhyaSutra Labs is a subsidiary of Jio Platforms Limited, which is a subsidiary of Reliance Industries Ltd.

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