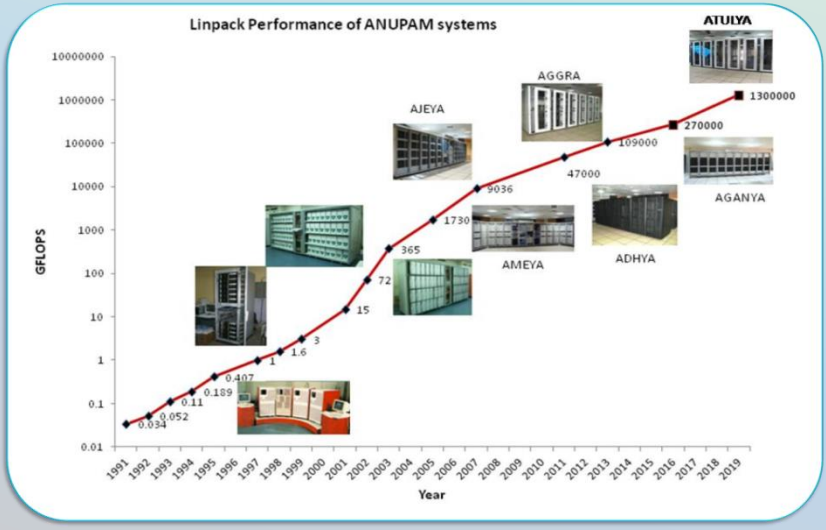
ANUPAM Atulya Supercomputer

Bhabha Atomic Research Centre, Mumbai

Computer Division, BARC has been developing supercomputers for past 28 years, to cater the computational requirements of scientists & engineers. Anupam Atulya is the latest supercomputer in ANUPAM series with sustained linpack performance of 1.35 PFLOPS . Its salient features are :

- **14720 Cores in 368 Compute nodes**
- **141 TB Memory**
- **100 Gbps Infiniband Interconnect**
- **128 V100 GPUs Accelerated Nodes**
- **1500 Terabytes of Storage Space**
- **2.0 PFLOPS Peak Performance**



Current ANUPAM systems:

Atulya: 1.35 PFLOPS (14720 cores, 2019)

Aganya: 270 TFLOPS (6440 cores, 2016)

Aggra: 109 TFLOPS (8160 cores, 2013)

Adhya: 47 TFLOPS (4608 cores, 2010)

Siddhi: 26 TFLOPS (640 cores, 2018)

Computer Division, SCF, BARC, Trombay, Mumbai-400094

Software Platform

OS: CentOS Linux release 7.6

Resource Manager: Torque Resource Manager, Maui Scheduler

Compilers (C, C++, Fortran): GNU, Intel, PGI-Community Edition

Debuggers: GDB, Intel Vtune

Profilers: Gprof, Intel Trace Collector and Analyser

MPI: Intel, Openmpi, Mvapich

BLAS and LAPACK: Intel-MKL, OpenBLAS, Intel-TBB

Machine Learning: CUDA, CuDNN, CuML, Python (Tensorflow, Keras etc)

IO Libraries: HDF5, NETCDF

Math And Scientific Libraries: Libint, Libxc, Libxsmm, Elpa, Eigen, FFTW

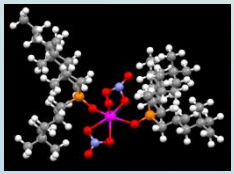
User Application:

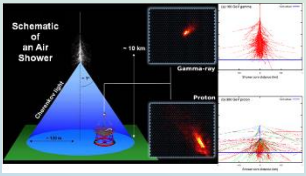
Quantum Espresso, Gromacs, Plumed, Cp2k, ELK, ORCA

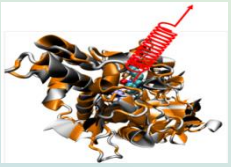
OpenMC, Metis, Moab, Orca, VMD, Wannier, OpenFOAM, LAMMPS

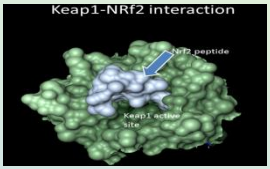
Commercial User Applications:

VASP, Quantum ATK, WIEN2K, ADF, Turbomole, Molcas, CFD-ACE









Available JOB Queues: atulya, atulya_gpu, atulya_ml

Connecting Atulya from BARC Intranet:

ssh –X atulya.compunet.barc.in

Gateway:

Type: HTTP, Host: compunetgw.barc.gov.in, Port: 8080

Common Commands on Anupam systems:

List available modules: module avail

Import module: module load <module-name>

List imported modules: module list

Import Python packages: pip install <package-name>