

ABSTRACT:

Summary: birgHPC, a bootable Linux Live CD has been developed to create high-performance clusters for bioinformatics and molecular dynamics studies using any Local Area Network (LAN)-networked computers. birgHPC features automated hardware and slots detection as well as provides a simple job submission interface. The latest versions of GROMACS, NAMD, mpiBLAST and ClustalW-MPI can be run in parallel by simply booting the birgHPC CD or flash drive from the head node, which immediately positions the rest of the PCs on the network as computing nodes. Thus, a temporary, affordable, scalable and high-performance computing environment can be built by non-computing-based researchers using low-cost commodity hardware.