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High-performance computing on Power IBM for the PNRR EuAPS project

The PNRR funded EuPRAXIA Advanced Photon Sources (EuAPS) project foresees the construction of a laser-driven "betatron"X Ray user facility at the LNF SPARC_LAB laboratory in Frascati. The complete design of such a facility and its related applications requires intensive GPU-based simulations and adequate storage for the data produced. We have then set up a cluster in Milan based on IBM Power9 servers and IBM Flash Storage in order to satisfy the computational needs of such calculations. The talk will illustrate the steps followed to set up the cluster: installation of the single servers with Foreman/Katello management tool, setting up of the storage with GPFS filesystem, and finally slurm workload manager for job scheduling. A roadmap for improvement of such a cluster with further Infiniband connected IBM servers will be presented.

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