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The US LHCNet Network for HEP

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In this paper we present the design, implementation and evolution of the mission-orientedUSLHCNet for HEP research. The design philosophy behind our network is to help meet the dataintensive computing challenges of the next generation of particle physics experiments with a comprehensive, network-focused approach. Instead of treating the network as a static, unchanging and unmanaged set of inter-computer links, we are developing and using it as a dynamic, configurable and closely monitored resource that is managed from end-to-end. We will present our work in the various areas of the project, recent changes in the infrastructure, including the addition of LCAS/VCAT/GFP capable SONET equipment, future plans, transport protocol research and grid application development. Our working methodology is a continous cycle of evaluating equipment and technologies (servers, networking equipment, new standards) and network application development in order to build a production network for research. Our goal is to construct a nextgeneration network that is able to meet the data processing, distribution, access and analysis needs of the particle physics community.

Submitted on behalf of Collaboration (ex, BaBar, ATLAS)

USLHCNet

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