

UltraLight: A Managed Network Infrastructure for HEP

Tuesday 14 February 2006 17:00 (20 minutes)

We will describe the networking details of NSF-funded UltraLight project and report on its status. The project's goal is to meet the data-intensive computing challenges of the next generation of particle physics experiments with a comprehensive, network-focused agenda. The UltraLight network is a hybrid packet- and circuit-switched network infrastructure employing both "ultrascale" protocols such as FAST, and the dynamic creation of optical paths for efficient fair sharing on long range networks in the 10 Gbps range. Instead of treating the network traditionally, as a static, unchanging and unmanaged set of inter-computer links, we instead are enabling it as a dynamic, configurable, and closely monitored resource, managed end-to-end, to construct a next-generation global system able to meet the data processing, distribution, access and analysis needs of the high energy physics (HEP) community. To enable this capability as broadly as possible we are working closely with core networks like ESN, Abilene, Canarie, GEANT; related network efforts like Terapaths, Lambda Station, OSCARS, HOPI, USNet, Gloriad; grid/computing research projects like OSG, GriPhyN, iVDGL, DISUN; and both the US ATLAS and US CMS collaborations.

Summary

The UltraLight network infrastructure, status and plans are described along with our vision of a managed network infrastructure for LHC physics.

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