CHEP 06

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Quantifying the Digital Divide: A scientific overview of the connectivity of South Asian and African Countries

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Content :

The future of computing for HENP applications depends increasingly on how well the global community is connected. With South Asia and Africa accounting for about 36% of the world's population, the issues of internet/network facilities are a major concern
for these regions if they are to successfully partake in scientific endeavors.
However, not only is the International bandwidth for these regions low, but also the internal network infrastructure is poor, rendering these regions hard to access for the global HENP community. In turn this makes collaborative research difficult and high performance grid activities essentially impractical. In this paper, we aim to classify the connectivity for academic and research institutions of these regions as a function of time, as seen from within, without and between the regions, and draw comparisons with more developed regions. The performance measurements are carried out using the PingER methodology; a lightweight approach using ICMP Ping packets. PingER has measurements to sites in over 110 countries that contain over 99% of the world's
Internet connected population and so is well-positioned to characterize the world's connectivity. These measurements have been successfully used for quantifying, planning, setting expectations for connectivity and for identification of problems.
The beneficiaries of this data range from international funding agencies and executive-level planners to network administrators.

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