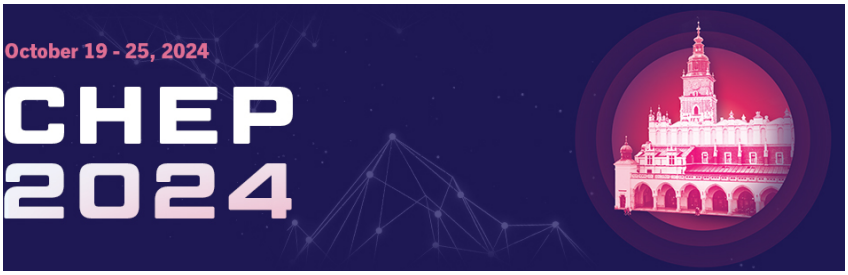

Contribution ID: **49** Type: **Talk**

Global Networking Challenges for the Coming Decade

Wednesday 23 October 2024 12:00 (30 minutes)

Back in the late 1990's when planning for LHC computing started in earnest, arranging network connections to transfer the huge LHC data volumes between participating sites was seen as a problem. Today, 30 years later, the LHC data volumes are even larger, WLCG traffic has switched from a hierarchical to a mesh model and yet almost nobody worries about the network.

Some people still do worry, however. Even if LHC data transfers still account for over 50% of NREN traffic, other data-intensive experiments are coming on stream and network engineers worry about managing the overall traffic efficiently.

We present here the challenges likely to be keeping network engineers busy in the coming decade: how to monitor traffic from different communities, how to avoid congestion over transoceanic links; how to smooth traffic flows to maximise throughput, hand-over of large flows at interconnection points; cyber security and more.

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Session Classification: Plenary session

Track Classification: Plenary