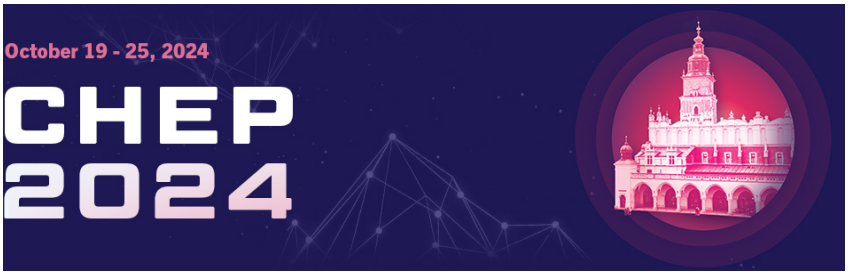

Contribution ID: **65** Type: **Talk**

Physics Data Forge: Unveiling the Power of I/O Systems in CERN's Test Infrastructure

Thursday 24 October 2024 16:33 (18 minutes)

Remote file access is critical in High Energy Physics (HEP) and is currently facilitated by XRootD and HTTP(S) protocols. With a tenfold increase in data volume expected for Run-4, higher throughput is critical. We compare some client-server implementations on 100GE LANs connected to high-throughput storage devices. A joint project between IT and EP departments aims to evaluate RNTuple as a replacement for ROOT's TTree format, with a focus on verifying the scalability of EOS storage using a new data format. Based on this project we run a large-scale experiment to stress CERN's CPU, network and memory by using massively parallel analysis workflows and replicated datasets in EOS physics instances.

Authors: Dr SCIABÀ, Andrea (CERN); PETERS, Andreas Joachim (CERN); SMITH, David (CERN); AMADIO, Guilherme (CERN)

Co-author: MASCETTI, Luca (CERN)

Presenter: AMADIO, Guilherme (CERN)

Session Classification: Parallel (Track 1)

Track Classification: Track 1 - Data and Metadata Organization, Management and Access