

# Benchmarking XRootD: A Versatile Testing Framework for the Grid Community

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As Tier 1 storage continues to expand, an increasing number of sites are contributing to the Worldwide LHC Grid, making efficient data transfer a critical component for big data analytics. XRootD is pivotal for scientific data management, facilitating seamless data movement and access across the 3 tiers. However, with the growing complexity and scale of grid infrastructures, it is essential to benchmark and evaluate the performance of XRootD in its intended production environment.

This talk introduces the XRootD testing framework, a tool designed to assess the performance of XRootD functionality across multiple tiers, networks and protocols. By enabling systematic benchmarking, this framework provides valuable insights into the functionality and efficiency of data transfers, ensuring that sites can test different configurations and their impact. The framework is highly extensible to other sites and functionalities, making it a versatile tool for the wider grid community. Test results can be run and visualised in Jenkins, which offers insights for developers. Attendees will gain an overview of the framework, and how to utilise it to measure performance and reliability of data transfers within their own grid institutions.

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