



Fast Robust File Transfer for 100 Gigabit IP Networks

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By using a novel file transfer solution, the Technical University Dresden along with Alcatel-Lucent and Tixel achieved a sustained transfer rate of more than 90 gigabits per second in a commercial 100 Gigabit IP wide area network.

This data rate is available instantly (i. e. without start-up delay) and allows to copy more than 2 DVD images per second – 630 gigabytes per minute or 37 terabytes per hour. The used TIXstream transfer technology developed moves data in any standard Internet Protocol networks agnostic to content and file systems. While this transfer engine is used on 1 and 10 G networks in several production environments it was deployed on a 100 G infrastructure for the first time. Straightaway resulting in optimal utilization of the link – without any tweaking.

In cooperation with industry partners Alcatel-Lucent, T-Systems, HP, and DDN, researchers from TU Dresden tested, analyzed and compared file transfer solutions for high performance applications on the 100 gigabit link between High Performance Computing Centre TU Dresden and TU Bergakademie Freiberg.

“While today mainly used GridFTP behaves quite bursty and its performance heavily depends on file size, network load, and connection quality TIXstream delivers predictable significantly higher data rates independent of file size and network conditions.” says Andy Georgi, researcher at TU Dresden. “Moreover TIXstream is easy to deploy, setup, and use”.

Tixel's CTO Andreas Aust explains that TIXstream could only reveal a fragment of its potential on this short distance. From his experience with 10 G networks he expects to see the same high transfer rates as well on more demanding long haul links bearing higher delay, jitter and even packet loss. Environments where performance of common solutions heavily degrades, which is not the case for TIXstream.

TIXstream is unique in offering deterministic wide area multi-gigabit transfer rates with industry grade robustness and ftp-like ease-of-use. Conventional transfer methods (like ftp) are not able to exploit current networks. However fast wide area file transport is the key enabler for distributed and cloud based applications – not only in the research domain.

About TIXEL GmbH

TIXEL is a technology driven company located in Hannover, Germany. TIXEL provides solutions for accelerated WAN file transfer over wide area IP networks. TIXEL's patented TIXstream technology includes the Reliable WAN Transfer Protocol and a high performance software framework for moving bulk data at highest speeds. TIXEL serves high end customers e. g. in media & entertainment and research.

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