Abstract

In this paper, we summarize our work on the UDT high performance data transport protocol over the past four years. UDT was designed to effectively utilize the rapidly emerging high-speed wide area optical networks. It is built on top of UDP with reliability control and congestion control, which makes it quite easy to install. The congestion control algorithm is the major internal functionality to enable UDT to effectively utilize high bandwidth. Meanwhile, we also implemented a set of APIs to support easy application implementation, including both reliable data streaming and partial reliable messaging. The original UDT library has also been extended to Composable UDT, which can support various congestion control algorithms. We will describe in detail the design and implementation of UDT, the UDT congestion control algorithm, Composable UDT, and the performance evaluation.
Keywords
Transport protocol; Congestion control; High-speed networks; Design and implementation

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