

The size of modern data centers is constantly increasing. As it is not economic to interconnect all machines in the data center using a full-bisection-bandwidth network, techniques have to be developed to increase the efficiency of data-center networks. The Software-Defined Network paradigm opened the door for centralized traffic engineering (TE) in such environments. Up to now, there were already a number of TE proposals for SDN-controlled data centers that all work very well. However, these techniques either use a high amount of flow table entries or a high flow installation rate that overwhelms available switching hardware, or they require custom or very expensive end-of-line equipment to be usable in practice.

This talk presents HybridTE, a TE technique that uses (uncertain) information about large flows. Using this extra information, our technique has very low hardware requirements while maintaining better performance than existing TE techniques. This enables us to build very low-cost, high performance data-center networks.