

In hybrid networks, nodes can make use of different communication modes. For example, mobile phones may use ad-hoc connections via Bluetooth or Wi-Fi in addition to the cellular network to solve tasks more efficiently. Like in this case, the different communication modes may differ considerably in range, bandwidth, and flexibility. The hybrid network model of Augustine et al. [SODA '20] captures these differences by a local and a global mode. Specifically, the local edges model a fixed communication network in which an unbounded number of messages can be sent over every edge in each synchronous round, which corresponds to the LOCAL model. The global edges form a clique, but nodes are only allowed to send and receive a total of at most $O(\log n)$ messages over global edges, which corresponds to the Node-Capacitated Clique model of Gmyr et al. [SPAA '19]. We consider the Single-Source Shortest Paths (SSSP) problem in this hybrid network model, and present an exact $\tilde{O}(\sqrt{\text{SPD}})$ time algorithm, where SPD is the shortest-path diameter of the graph. Further, we discuss approximation algorithms for the SSSP problem. The presentation is mostly based on Augustine et al. [SODA '20], and discusses some ideas of Kuhn and Schneider [PODC '20] and beyond.