

**Initial Project Overview**

Maquoketa Valley Electric Cooperative (MVEC) will deploy a Fiber to the Premises (FTTP) network architecture to serve the eligible census blocks that are eligible for funding with this grant. The fiber optic cable infrastructure will be designed in a manner that permits MVEC to utilize various technologies such as Active Ethernet, distributed split, centralized split, or various other next-generation technologies. MVEC is planning to utilize GPON network architecture.

The proposed FTTP network architecture allows for the delivery of voice and data services across the broadband access platform. MVEC will utilize redundant Ethernet uplinks from the proposed FTTP electronics to its existing VoIP providers softswitch to facilitate voice services. The existing VoIP softswitch contains existing connections to the public switched telephone network (PSTN) that will be required for voice services implementation and MVEC will complete any interconnection work and associated call translations to ensure proper availability of voice services.

MVEC will also implement redundant Ethernet uplinks from the proposed FTTP electronics to its core data network. These redundant connections ensure highly reliable broadband data communications services. MVEC will utilize its existing data network routers, Internet uplinks, and ISP services to support new customers from the census block groups included as part of this grant application.

MVEC's network will be able to provide up to Gigabit services to all interested homes, farms, schools, and businesses within the census blocks included as part of this application.