Executive Summary

Since the early 90s, the term “Digital Divide” has been used to describe the gap between communities positioned to offer their citizens affordable and effective access to information technology and communities left behind by the lack of affordable and effective access.

The Mountain Valley Broadband (MVB) project will bridge that gap by establishing “middle mile” bandwidth solutions critical to the sustainability of rural communities.

Typically, incumbent telecom carriers avoid rural communities when it comes to delivering broadband services. Even when carriers and data services providers begin to provide retail level broadband, they still do not provide commercial grade services at competitive rates. Nowhere is this more apparent than in the cultural region known as Appalachia. Affordable broadband is not available in much of this region due to lack of competition, pricing protections, geographical challenges, lack of profit margins needed for private investment, etc. This neglect has been widely documented and contributes greatly to these regions remaining way behind the rest of the nation in most socio-economic indicators.

MVB’s Proposed Funded Service Area includes rural counties, towns and cities in the Appalachia regions of Virginia and West Virginia. MVB’s ultra high speed broadband network will pass through and serve the West Virginia counties of Greenbrier and Pocahontas, and the Virginia counties of Alleghany, Augusta, Clarke, Fauquier, Frederick, Highland, Rockbridge, Rockingham, Page and Warren. The network will also pass through non-rural Loudon County VA exclusively for the purpose of reaching Ashburn VA, home to one of the largest Internet interconnection points in the world, a necessary connection for the provision of low cost high availability service.

Based on our extensive market survey completed in 2009, the region is predominantly unserved and underserved.

The total Proposed Funded Service Area spans across 3,425 square miles, enabling last miles providers to serve the Last Mile Census Communities of 290,361 households, over 13,325 businesses and a total population of 706,701. The Proposed Funded Service area for the Middle mile project runs through 75.28% rural communities and will improve services to 56.92% of the Last Mile Census Communities that do not have access to terrestrial broadband access. MVB’s service area will present an opportunity for last mile providers to offer a more affordable broadband service to 14 state and local municipal entities, 14 hospitals, 5 four-year colleges and 10 community colleges, 37 K-12 schools, 20 libraries, and 58 fire, police, rescue and emergency services departments.

Last-mile service providers will make up MVB’s primary customer base. The last-mile providers will in turn provide service to retail customers through their respective networks. In addition to high availability transport services, MVB plans to offer its customers low-cost “Virtual ISP” opportunities. MVB’s service offerings to last-mile...
providers will include Internet access at wholesale prices well below current offerings, hosted VoIP, and IPTV. Customers can order these services alta carte or choose all three services at a bundled rate. Additional products will include remote data backup and storage, dark fiber leasing, cellular backhaul, collocation space in data centers, and points of presence (POP) and backhaul over the network between POPs.

MVB will operate the system as an entirely open network and will provide open access transport to any service provider that meets MVB’s publicly available technical qualifications. MVB is fully committed to nondiscrimination and interconnection policies and principles as described in Section V.C.2.c of the NOFA. The network is expressly designed to: stimulate user access to a full-range of services; enable appropriate device network connections; and deliver a choice of providers, applications, services and prices.

MVB plans to construct over 400 miles of fiber network. Our fiber backbone with armored sheath protection and will be constructed 99% underground. Backbone node facilities will be secured in EMP protected shelters and fully secured and redundant data centers. MVB will deploy an providing 800Gbps of dedicated capacity on day one of the operation. Access to the Internet will be provided via Last-mile service providers will be able to connect their customers via which is capable of providing 2.5 Gabs downlink service and 1.25 uplink service to the premise. Finally, we plan to deploy softswitch for ViP-TV head end for IPTV. The planned system offers state-of-the-art technology, significant capacity, security, and the highest levels of reliability. It is cost effective and ensures an easy upgrade path for the future.

The members of Telecom Capital Group, LLC, a private for profit Virginia enterprise, have formed MVB for the express purpose of implementing plans for this project. An extensive understanding of the design, implementation, and management of the gamut of telecommunication systems is derived from private sector team members’ experience. In their collective hundred years in the field, team members have developed expertise in telecommunication system planning, design, management and finance, skills vital to the successful installation and operation of the MVB network. (Member experiences include the development and continued operation of one of the first ISP’s in the Commonwealth of Virginia, Rockbridge Global Village and the development and continued operation of High Speed Link, builder of numerous fiber networks.) In addition to telecommunication management experience, the members of Telecom Capital Group exemplify financial stability as demonstrated by the successful administration of annual budgets that exceed $200 million.

The overall cost of the system is with a match of portion of . The match consists MVB is projecting a conservative 30% take rate for fiber services in the first year of build out, rising to 35% in year two, and reaching 40% in year three. The business fiber take
rates are projected using the same figures (30%/35%/40%) even though business take rates generally tend to be higher than residential take rates because business telephone costs savings by going to VoIP often average 40% to 60% reductions, which provide a powerful incentive for businesses to switch to alternative providers on the new network. We regard these as conservative because other community fiber projects in the U.S. have been reporting much higher take rates for broadband in unserved areas. Notably, the Utopia community fiber project in Utah, which switched on 2008 to the open services business model used by MVB has been reporting take rates exceeding 50% in their rural service areas. Commercial providers offering broadband in underserved areas have been routinely reporting take rates in excess of 30%.

MVB has chosen US manufacturers and suppliers of network components to the greatest extent possible. Our research shows that at least two-thirds of the components for building the network can be acquired through US companies, supporting those industries and their employees. (This is a much higher percentage of support for US companies than typical optical networking suppliers whose headquarters and manufacturing operations are located overseas provide.) This means that every broadband stimulus dollar spent on this equipment leads to approximately 66 cents of additional spending within the US, distributing these funds throughout the nation, in keeping with the stimulus package intentions established by the President and Congress. Further, some 73% of our equipment provider employees are based in the US, and they continue to recruit engineers and operations staff today to support their growing research and development and manufacturing operations.

The MVB network will open numerous business doors along its path, enabling economic development and new employment in rural communities where few opportunities exist today. MVB has no way of calculating the number of jobs that will be created in this manner, but the network will make it possible for the governments and citizens of these communities to compete in a global market ranging from corporate to cottage industries. In July 2007 the Brookings Institute found that for every 1% increase in a state’s broadband penetration, you can expect a 2.3% increase in employment. Broadband site factors for economic growth include, direct fiber connections, redundant networks, competitive services, reliability measures and technical talent. Rural areas have a great many advantages over metro areas.

Enabling entrepreneurs access to low cost, high quality broadband in these areas can foster the growth of new industries. Some examples are, Yahoo, created by college students in 1994, e-Bay in 1995 selling its first item online, Craig’s List in 1997 emerging from a simple list-serv, and Amazon.com in 1995 with its first office in a garage.

With commercial grade broadband and high-speed Internet capabilities, localities and regions can attract a new and very diverse pool of businesses. Enabling local governments and regions to aggressively court new and expanding businesses will only improve the quality of life of all its residents….that is the underlying premise behind the Recovery Act.
In addition, the physical act of building the network will employ local contractors and utilize local resources across the proposed funded area….another underlying premise behind the Recovery Act.