The Bristol Virginia Utilities Middle-Mile Project proposes to enhance the broadband opportunities to anchor institutions, homes and businesses and to increase opportunities for employment, education, services to businesses, and eventually thousands of homes across a relatively poor, rural eight-county region located in far southwest Virginia in the Appalachian Mountains. The grant request calls for a fiber-optic infrastructure build-out of 388 miles that will serve to extend an existing 900-mile fiber network built by partners Bristol Virginia Utilities (BVU) and Cumberland Plateau Company (CPC) during the past seven years. This important build-out of middle-mile fiber will bring fiber close to 122 anchor institutions and within two miles of more than 18,000 households and businesses. The middle-mile fiber will run through the heart of the counties of Bland, Buchanan, Dickenson, Russell, Smyth, Tazewell, Washington and Wythe in Southwest Virginia, setting the stage for future monies directed toward completing last-mile deployments for the service areas in this region by year 2020. The Bristol Virginia Utilities Middle-Mile Project would establish needed infrastructure to link several of the most unserved and underserved locations in the nation to BVU’s all-fiber broadband network, called OptiNet, which was launched in 2003. BVU is recognized globally as the first municipal entity in the nation to deploy an all-fiber network offering the triple-play of voice, video and data services. BVU, which operates as the government enterprise fund for the City of Bristol, Virginia, originally launched its network in its own immediate utility service area encompassing Bristol and a portion of Washington County, Va. However, in 2003, the utility collaborated with Cumberland Plateau Company in a landmark partnership to extend the broadband network an additional 300 miles into the four CPC counties of Tazewell, Dickenson, Buchanan and Russell. CPC is the non-profit arm of the Cumberland Plateau Planning District Commission, a state-created organization working to improve economic development opportunities in its four counties. It is important to know that these early build-outs were directed exclusively toward business growth (and not fiber-to-the-home) and were funded with $34 million awarded by the U.S. Department of Commerce’s Economic Development Administration (EDA) and the Virginia Tobacco Indemnification and Community Revitalization Commission, otherwise known as the Virginia Tobacco Commission (VTC). Significantly, BVU was also given separate grants from both entities (EDA and VTC) to construct and extend the fiber backbone into Wythe, Smyth and Bland counties. A separate award from the VTC also resulted in bringing a more expansive last-mile connectivity into Washington County, Va. This middle-mile grant request seeks to fund middle-mile construction only to all eight targeted counties. This will make it possible for all homes, businesses and anchor institutions in these service areas to eventually have last-mile fiber connectivity, gaining access to the vast opportunities that digital technology brings to any deprived region. The Problem This part of central Appalachia is beautiful
but has a rugged mountainous terrain, which creates unique challenges when installing infrastructure. The people of the region have struggled for decades because of a century-old reliance on coal mining and agriculture (particularly tobacco) as economic drivers. The people are generally poorly educated, which has led to low wages. Average household incomes are far below the national average and even further below wages offered in other parts of Virginia. This has led many of the region's best educated and talented young people to depart in search of job diversity and opportunity. BVU believes that the anchor institutions in these service areas—which include three community colleges, three institutions of higher education, 32 public safety entities and 16 healthcare providers—will not prosper without broadband intervention. How the Grant Solves These Problems The primary purpose of this grant is to get fiber within closer proximity to homes and businesses so that BVU and CPC, along with other last-mile providers can eventually build last-mile fiber. In an area as remote and mountainous as Southwest Virginia, regular commercial financing isn't going to be available for middle-mile build-outs. The construction can only be done using grant monies; in fact, 900 miles of fiber already exist from the use of grant funding. Once this middle-mile fiber is built, BVU and CPC can proceed to borrow money or raise additional grant funding to begin the deployment of last-mile fiber to homes and businesses. BVU and economic development experts in Southwest Virginia believe that ubiquitous fiber and broadband is the first important step to begin solving the problems listed above. To date, BVU has been able to offer broadband to the industrial parks and largest employers in the eight targeted counties. This grant takes that process one step further by bringing fiber closer to homes and smaller businesses, which will allow BVU and other last-mile providers to eventually bring fiber to everyone in these rural counties. This project brings broadband close to many unserved and underserved areas that have little or no broadband today. Broadband is the key to education and job training. For broadband to be effective, it needs to be affordable and reach the home. While anchor institutions are an important part of job training, broadband brings training into the home to allow residents to be more self-reliant. Broadband can create jobs and help stop the phenomenon in which the region's brightest young people are leaving to look for more lucrative careers elsewhere. Broadband in the home promotes entrepreneurship and innovation. Broadband can attract new employers and retain existing employers. When BVU and CPC built the first miles of their broadband network into Russell County in 2003, the area began undergoing a transformation that resulted in two technology giants—Northrop Grumman and CGI—deciding to locate there. BVU believes that continued growth of the network, starting with middle-mile construction, is the key to escalating this transformational growth in areas not already adequately served. Such growth will also eventually lead to last-mile deployment of advanced fiber. The BVU Middle-Mile project has an overall cost of $37.3 million, with BVU leveraging a 39.2% total match. $5.7 million promised from the VTC and in-kind assets equal to $8.9 million from BVU. This proposed 388-mile infrastructure, expected to be complete in about two and one-half years, involves 18 service areas in the four CPC counties and 12 service areas in Bland, Wythe, Smyth and Washington counties. The construction will duplicate existing BVU OptiNet architectures, which, when extended as last-mile connectivity, will be capable of broadband service up to 1 Gbps (gigabit per second). Distinctive Qualifications of BVU BVU is highly qualified to receive grant funding because the utility already operates a profitable triple-play network today. Many of its personnel have almost a decade of experience in all aspects of fiber network delivery from backbone construction in rough terrain to navigating the regulatory maze necessary in achieving middle-mile and last-mile connectivity. BVU has
already established longstanding relationships with key equipment, telecom construction and software vendors that are needed to execute a middle-mile build-out. Although not needed until last-mile connectivity is achieved, the company also has a dedicated staff in place to handle all other aspects of operating a successful, award-winning telecommunications business: maintenance workers, experienced accountants, marketing professionals, customer service representatives, Internet help desk, and so on. BVU's credibility is evidenced by the many accolades it has achieved since 2008. These include being named to the 2010 Smart 21 list of Intelligent Communities of the Year and to last year's Top Seven, sponsored by the New York-based Intelligent Community Forum. In addition, BVU received a 2008 National League of Cities Gold Award for Municipal Excellence, a 2008 Virginia Governor's Technology Award in the Cross-Boundary Collaboration category, and the 2009 Community Broadband Fiber Network of the Year award from the National Association of Telecommunications Officers and Advisors (NATOA). Summary of Jobs Created This project will create 295 direct jobs in the areas of construction, engineering, inspection and project management; and 85 indirect jobs at the companies that manufacture the fiber and electronics for the system. The project is expected to create 19 induced jobs within five years.