Kentucky is traversed by some of the most extensive telecommunications networks in the nation. Fiber backbones for the major telecommunications carriers run throughout the state, and its strategic geographic location makes it a crossroad to major metropolitan centers, both north and south. Kentucky's large size and lack of population density, except for a few urban areas, creates a rural setting comprised primarily of small cities and farming communities. However idyllic the rural lifestyle may be, the reality is that it's an unattractive market for broadband services by the major carriers due to the distance between potential customers. It is this rural market, largely ignored by the major carriers, which U. S. Digital Online proposes to serve as its service area with high-speed Internet access. This will be accomplished by implementing a network of high-mast utility poles that are heavily populated with wireless equipment for providing last mile services and which are linked over a fiber-optic infrastructure, with wireless backhaul as failsafe backup, to its' Internet portal. Through integration of fiber-optic with wireless technologies, we will overcome the distance and cost limitations of the wired infrastructure and connect our rural service areas with the high capacity networks that currently pass through the state. This is the USDOL project. Broadband Internet access, very expensive to implement and maintain over the wired infrastructure, can now be delivered in rural areas by wireless distribution. Delivery by wireless technology overcomes many of the distance obstacles associated with the wired infrastructure and through a combination usage of fiber optics and high-mast utility poles as an infrastructure implements a new paradigm in the delivery of high-speed Internet. After almost fifty thousand years of speech, twenty thousand years of images and over three thousand years of written communications, information can now be delivered from anyplace to anywhere by anyone, thanks to the Internet and the right equipment. We believe that the USDOL project, by using wireless technology, can serve both as a model for bigger and better future projects and as a stepping-stone towards providing broadband Internet access to rural areas everywhere. An almost universal misunderstanding about how the Internet works, and networking in general, has created a perception in the public at large which associates the Internet with the telephone company. This perception is due to telephone lines historically being the primary means by which the majority of the public connects to the Internet. Cable television carriers have now become major players in the wide area network and communications business but they also are primarily bound by wire to the home. Wireless broadband, with its ability to connect anyone to anywhere quickly without a wired middle-mile infrastructure, has the potential to create a fundamental shift in the way people, receive, think about and manage information resources and, in particular, the Internet. High-speed connectivity has the ability to make any information file or multimedia production a global resource, whether located around the world or down the street.
Broadband connectivity in the local area network has had a profound affect on business productivity in the workplace. Expanding that same connectivity community wide creates a wealth of possibilities. With its ability to link multiple users over a seemingly transparent connection, wireless networking has caught the attention of innovative thinking worldwide. Predicted to boom over the next ten years with astronomical forecasts headlined in almost every major publication, equipment manufacturers are now offering wireless networking components as part of their product mix and some, their only product line. While laying off thousands of employees in other technology divisions, these manufacturers are increasing their wireless production to meet escalating market demands. Wireless network technology is now an affordable alternative to the wired infrastructure for delivery of broadband Internet access to small communities and rural areas, and overcome many of the problems associated with delivery over the last mile. A majority of the Hardin County population is primarily concentrated into its two largest towns of Elizabethtown and Radcliff whose city limits practically border each other. The residents of these two towns are where the current broadband service providers concentrate their accessibility efforts. The remaining Hardin County population, although spread out in a large geographical area, is concentrated into numerous small communities and the county border other counties that are largely underserved and arranged into the same general configuration. It is these underserved communities, which are the primary focus of the proposed fiber network and the accompanying high-mast utility poles, which will bring these communities within deployable range of the combination fiber and wireless broadband network as proposed. Also realized is the capability of wireless technology to deliver bandwidth at capacities that are much less costly than their wired equivalents to the less densely populated peripheral communities of Hardin County and surrounding areas. A business strategy was set in place to develop the necessary infrastructure of components, hardware and software, receive training and implement and test the concept to become a wireless Internet access provider and deliver broadband services under the trademark of U. S. Digital Online. This plan was developed to provide the framework for the transition of U. S. Digital Online to become a wireless broadband Internet access provider, and to assist with securing the necessary funding to implement the USDOL project. The implementation plan for delivering broadband Internet access throughout the service area is to be accomplished through the development of three distinct yet integrated product and service operations. The first is a limited retail and wholesale operation to sell wireless networking and computer connectivity components and provide technical support services for the independent minded rural American; second, provide a services operation for technical support and subscriber installations; and third, sell service subscriptions for broadband Internet access and other ancillary services in the network operations center that are derived through high-speed connectivity. The product and service operations will be tailored to support the core business component of wireless broadband Internet access. It is the development of the supporting wireless infrastructure for implementation of this wireless broadband Internet access to be marketed as "USDOL", which is the primary focus of this plan. In summary, the plan is to create an infrastructure of linked towers and form a network of interconnected cells to provide seamless connectivity throughout the service area. This is accomplished through the build-out of our own high mast towers with in ground fiber ring, and through lease agreements on existing structures, if necessary, and redundant network connections with other service providers and using wireless technology as the final distribution methodology. The wireless network infrastructure created is then connected to the wired network operations center (NOC) for access to the Internet. The NOC is a
self-contained data center designed to provide a high level of operational reliability and security under adverse environmental conditions, and where ancillary support for other services created through broadband access is managed. Our competitive market advantage will be derived from, and consist primarily of, providing a single source for both wireless products and access services, keeping the implementation process simple and delivering broadband Internet connectivity at affordable pricing. As a rural utility itself, U. S. Digital Online seeks an opportunity to provide broadband Internet and network access to rural underserved areas. With a tightening economy, the funding of technology-related ventures based on traditional business models is presently more difficult to accomplish than in the recent past. Funding is now being requested from the USDA, RUS in the form of a grant to assist U. S. Digital Online with implementing its broadband Internet access project for rural service areas. The purpose of this plan is to provide a comprehensive overview and description of the business concept of the USDOL project in order to secure that funding assistance.