The Champaign County Broadband Backbone will make it easier for service providers to provide high-quality, low-cost internet access in Champaign County, IL. This project will make it economically feasible for local entrepreneurs to provide high-quality service to the 27618 people that live in underserved areas of Champaign County. The related Champaign County Volo project will provide a sustainable proof of concept network that offers residential speeds up to 25mbps. Champaign-Urbana and Savoy, in Central, IL are very well-endowed broadband-wise, with wireline broadband at 6-15mbps available throughout the community from two providers, three competitive fixed-wireless providers, and at least one 3G cellphone provider (Sprint; AT&T's 3G offering is expected to be available in Q1 of 2010). But if you step outside the city limits, even a block or two, these broadband options disappear. The only service provider that offers 3mbps or faster service in these outlying areas is Volo Broadband, and we do not cover most areas outside of Champaign-Urbana. There are two other wireless providers that cover some houses in the region, but their services are slow and relatively expensive (see attachment C) and their coverage is extremely haphazard—many potential subscribers have found that they can not get service (even though they are broadly in those providers' coverage footprints and a neighbor has service) due to trees, hills, or other random obstacles and/or corporate disfunction in the companies. Rural internet access lags so far behind urban internet because rural providers have to pay an order of magnitude more for their backbone access than urban providers, and they have to provide access to several orders of magnitude more area for a given number of subscribers. As technology advances and spectrum is released for wireless internet use, the problem of covering large areas is slowly getting solved. But the backbone cost still make it impossible to provide cost-effective rural broadband internet access. This project seeks to make it substantially easier for competitive options to emerge for residents of rural, unserved, and underserved areas, and to improve the quality of those options to the extent they are already available. We are submitting separate applications for two related projects: * this middle-mile project, the Champaign County Broadband Backbone project, and * the separate last-mile project, the Champaign County Volo project. This middle-mile project involves: 1. Purchasing 88 miles of fallow conduit (letter of intent executed). 2. Installing fiber in 35 miles of that conduit (Volo has direct purchase agreements with both OFS Fiber and Commscope). 3. Extending that conduit 1.5 miles to permit meet-me points with Sprint, AT&T, and Paetec/McLeodUSA. 4. Constructing seventeen 80' towers. 5. Interconnecting those towers at 250-1000mbps. 6. Installing and managing a hybrid fiber- and licensed-wireless backbone network. 7. A core switching infrastructure to support peering and provider usage of the towers. This network will connect with the current Volo infrastructure, which will provide 100mbps-10gbps connectivity to the broadband “hotel” at 350 Cermack in Chicago for large-scale
peering and low-cost bandwidth purchasing and peering with the University of Illinois and the Illinois Century Network (which provides free bandwidth to schools and other public institutions). The middle-mile network this project creates will be a vendor-neutral backbone that provides tower space with layer-2 private networking and layer-3 internet access to service providers. It will allow providers, including Volo, low-up-front-cost access to transmission facilities, with immediate access to bandwidth from AT&T, Sprint, Paetec, Comcast, Cogent, and the Illinois Century Network. The backbone will provide at-cost (free if possible) tower space and internet access to public safety organizations including and HAM clubs for RACES emergency communication, SkyWarn and other weather monitoring, and other legitimate public interest uses that do not interfere with commercial operations. The total cost for this project will be $994,150. We expect the project to serve 1200 households, businesses, and anchor institutions within 3 years. We expect overall uptake rate for services utilizing this backbone over the 10-year lifespan of the electronics involved to be 60-80% of the 10,500 underserved residents and businesses in the service area. Tower construction and cable installation will require three FTE technical staff for three years. Ongoing support will require 2 FTE of technical staff, and 1/2 FTE of business development staff to work with ISPs and tower site owners. The second application we are submitting (separately) is for the last-mile Champaign County Volo project, which will use the Champaign County Broadband Backbone to supply 5-25/mbps connectivity to end users in underserved communities and rural areas. The Champaign County Volo project is dependent on the Champaign County Broadband Backbone, but the Champaign County Broadband Backbone project could exist without the Champaign County Volo project. That said, long-term sustainability of the Champaign County Broadband Backbone is dependent on service providers with subscribers, of which Champaign County Volo would be a prime example. The Champaign County Broadband Backbone and Champaign County Volo projects will provide infrastructure that will cover most locations in Champaign County, Illinois. There are 24 small communities in Champaign County, in addition to the cities of Champaign and Urbana. The underserved portions of Champaign County, which is the target last-mile service area, includes 8979 households and about 500 businesses. The underserved portions of Champaign County and small served areas immediately adjacent to the proposed fiber backbone include 112 anchor institutions: 59 schools serving 17628 students 10 libraries 16 police facilities 14 fire facilities 8 health facilities 5 community centers and other institutions This project would provide another option for connecting each of these anchor institutions, which in most cases would be the lowest cost provider at the basic service level, as well as the provider with the best price/performance ratio at higher levels of service. The Champaign County Volo project, if funded, would pay for connections to the backbone for each of the anchor institutions in Underserved areas. In addition, the fiber backbone of this project passes very close to 27 anchor institutions in Served areas that have reason to connect to users in Underserved areas (eg, hospitals, Champaign County government) or would benefit from improved access to backbone resources (eg, Lincoln’s Challenge Academy would benefit from improved access to the Illinois Century Network). Volo Broadband has been a broadband Internet Service Provider since 2002 and has steadily grown each year. We have regularly serviced all of our debt and taken on no new financing since 2003. Volo has experience constructing towers, maintaining equipment on towers, installing fiber optic cable, terminating fiber cable, and generally operating both wireless and fiber networks. Volo Broadband is a strong proponent of non-discrimination and interconnection. We have a history of being ahead of the curve with regard to open access policies. Volo has an open peering agreement, and a firm policy of
nondiscrimination on a traffic content basis—more so than any other provider in central Illinois. We encourage customers to use their connection for any legal purpose, including server hosting. We provide static IP addresses to all long-term (not hot-spot) customers to help make full use of their connection feasible. Volo expects to peer and otherwise work with the UC2B project (BTOP application submitted by the University of Illinois, City of Champaign, and City of Urbana) if that project is funded, but it should be clear that this project is very different from and does not overlap with the UC2B project.