



KWOM Internet Services
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December 14, 2010

Via ECFS

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: *Written Ex Parte Presentation*
ET Docket Nos. 09-191 and WC Docket No. 07-52

Dear Ms. Dortch:

My company, KWISP Internet, provides Fixed Wireless broadband service in rural LaSalle and DeKalb counties in northern Illinois. We specifically target areas outside of town, where cable and telephone companies have chosen not to build broadband infrastructure. The other choices available to our customers are typically dialup, satellite, or in some cases 3G mobile broadband. We are able to provide significantly higher speeds and usage caps than satellite or 3G at a lower price, and in most of our service area we offer the only true broadband service.

KWISP is concerned that certain Network Neutrality rules, if adopted, would severely and adversely affect our ability to continue to provide our customers with affordable Fixed Wireless broadband services. It is our understanding that although mobile broadband will have a special set of rules, Fixed Wireless broadband will be lumped in with traditional wired services and be subject to a stricter set of rules. We feel that the Network Neutrality rules imposed on Fixed Wireless broadband should be no more rigid than the rules that will apply to mobile wireless broadband providers. The physics of wireless technology and delivery necessitate a relaxed set of rules for all wireless technologies.

If anything, fixed wireless broadband is subject to more severe constraints than mobile wireless, because we use unlicensed spectrum for last mile delivery, and typically buy bandwidth at relatively high prices and incur significant transport cost, since we are operating in remote areas with low population density.

Our company is a member of WISPA, the Wireless Internet Service Providers Association, and supports the positions taken by WISPA in their Ex Parte presentation filed on December 10, 2010.

In particular, we wish to stress that Fixed Wireless Broadband is a separate category that needs to be considered apart from wired and mobile wireless services. Fixed wireless has an importance out of proportion to subscriber count, since our subscribers typically have little or no other broadband choice. If it is absolutely necessary to have only two categories, then Fixed Wireless should be regulated similar to Mobile Wireless, since we are subject to similar network constraints that result in similar needs for network management.

In addition, we would like to add our perspective as a relatively small WISP serving rural areas with no fiber, cable or DSL.

We do not have the luxury of running fiber down the street to a node that serves 250 customers via cable or VDSL, or of running fiber to the home. The areas that support that kind of service have already been cherry picked. We exist to serve the people who otherwise would be limited to dialup, or to expensive

satellite or mobile services that do not deliver true broadband speeds and have unrealistically low usage caps.

We are able to offer true broadband speeds with reasonable usage limits, along with professional installation of an optimized outdoor antenna, and onsite service. However, the aggregate Internet bandwidth in bits per second at each tower is limited by economics and by available spectrum. The last mile wireless delivery also has finite capacity. The available capacity must be shared by all the subscribers. Normally this is not a major problem since Internet usage is bursty and oversubscription is possible. Some uses of the Internet, mainly video entertainment, are designed to consume dramatically higher amounts of bandwidth, and on a sustained rather than bursty basis.

The collision of limited capacity and dramatically varying consumption patterns dictates that we have no choice but to manage our networks. If we don't, what happens is that service to many subscribers trying to do ordinary things like email or online banking, is affected by usage of a few subscribers using the network for video entertainment. We also need to prioritize certain traffic like VoIP that is latency sensitive. These are sound network management techniques with no intent other than to optimize the service that can be delivered to the most people with limited resources.

We have no desire to discriminate against certain types of Internet traffic, or to make money by prioritizing our content over content from other companies, in fact we have no vested interest in any particular content over another. We are only interested in the amount of capacity consumed by a subscriber and how that affects service to other subscribers. It would be nice if there was a simple solution like throwing money and capacity at the problem so everyone could consume as much as they want whenever they want at one low price. But alas, this is not realistic where we operate.

There are many variants of tiered service or usage based billing to address this issue. All have the aim of setting limits on how much of the aggregate capacity one subscriber can consume, and/or offering to let higher consuming subscribers pay more through a higher tier or overusage fees, thus funding network upgrades or bandwidth payments to upstream providers.

We have chosen to offer tiered service based on both burst and sustained speeds. Most subscribers choose a plan that gives them burst speeds in the 3 to 5 Mbps range for up to 100 Mbytes at a time, but limits sustained downloads to about 1/10 that speed, so as to free up tower capacity for other subscribers. The practical effect is that nobody every hits the sustained download limit except people trying to stream standard or high definition TV or movies. Where our network allows it, we are offering higher priced tiers with higher burst and sustained speeds, enough to allow streaming of SD video at about 1.5 Mbps. Our experience is that few subscribers are interested in paying more for the ability to stream video, the interest is mainly if it can be done "for free". At this time we do not see any way of supporting HD streaming, we just can't get that much bandwidth to the towers or over the last mile spectrum.

Other WISPs may use other network management techniques such as usage based billing, or prioritization of certain classes of traffic at peak times. The point however is that just like mobile wireless operators, we have limited capacity, and have no choice but to manage that capacity as best we can.

As long as these network management techniques address only the network capacity that is being used and the usage pattern over time (burst vs. sustained, peak time vs. off-peak, etc.), rather than preferring one type or provider of content over another, we believe these are valid and necessary network management techniques. WISPs do not typically own content or have deals with certain content owners, our only interest in this matter is managing a limited resource so as to keep customers happy.

We understand the distinction that is being drawn between conventional wired services where additional capacity can easily and economically be added, and mobile wireless services where they cannot so easily be added. Ideally, our industry would be recognized for its unique contribution to remote areas and the unique challenges we face. At a minimum, we should be viewed as facing challenges similar to mobile wireless and certainly not lumped in with wired services like fiber, cable and DSL.

Sincerely,

Kenneth J. Hohhof
President