

Broadband USA Applications Database

Applicant Name: Kanawha County Commission

Project Title: Kanawha County Wireless Broadband Initiative

Project Type: Last Mile

Executive Summary

It has become increasingly important to provide uninterrupted broadband service between the main courthouse building, the law enforcement/Prosecutors' buildings and the Judicial Annex. Interruption in connectivity can result in lost critical data and time spent in recovering that information, or rebuilding it. For the past eight months, the Kanawha County Commission IT Department has been developing a secured system that will permit personnel uninterrupted wireless Internet service on the county courthouse campus. As an added benefit, any member of the public will have access to the Internet in the same area, without charge, including two business complexes and limited areas of the area shopping mall. This communication is intended to be available at any time through any wireless PC device. During the week of July 18, 2009, we tested basic concepts for the first time, using a Linux O/S server, ten Linksys access points, a Cisco router and Astaro web filter. All users carried standard wireless enabled laptops. More than 80% of the main courthouse building was successfully covered. In addition, over 90% of the connections were judged to be of commercial quality. However, the adjacent courthouse park had limited access which diminishes substantially as you approach the Law Enforcement Complex or Judicial Annex. The most important factor limiting the success of the project is movement outside the access point footprint or between access point service areas. Other factors include the obstruction of the line of sight between the laptop PCs and the access points by concrete and steel walls and buildings. Overall, the test demonstrated the inadequacy of wireless access points alone. Our work on this should continue as rapidly as possible and we therefore recommend the following actions: Install wireless "mesh" antennae designed specifically for use in wide area communications between access points and mobile devices. These will operate on a specific, isolated frequency preventing it from interfering with radar or emergency services communications. Place additional wireless access points within buildings as needed to prevent low service or dead zones. The cost projection to complete this project is \$256,018 in contracted services and material, plus an additional \$15,000 in county employee labor and material. This allows for utilizing no less than three county employees and three vendor supplied laborers.