



AirPremier™

DWL-7700AP

Wireless AG Outdoor AP/Bridge

Customer Profile:

When the City of Kankakee, Illinois was founded back in 1865, canoes and the occasional paddle-wheel steamboat prowled the local rivers, and the telephone wouldn't be invented for another 10 years. Today, this town of 30,000 boasts one of the most wired communities in the country. In fact, recreational and racing boat enthusiasts on the local Kankakee River can get their email, use Skype, and watch videos over the free local Wi-Fi Internet service.

D-Link and local hardware supplier CCFI Inc. helped Kankakee get a jump on the project by supplying rugged Wi-Fi access point/bridges specifically designed for outdoor conditions - a necessity for the chilly winters and wind-swept plains.

"The community thinks it's unbelievable. The big question that we constantly hear is 'When is it coming to my neighborhood?'"

-Pete Schiel, Assistant Superintendent of the Kankakee Municipal Utility

Kankakee, Illinois Pioneers Free Community-Wide Wi-Fi® with High-Performance, Outdoor D-Link® Wireless Access Points and Bridges

Local Newspaper and City Utility Provide Access All Over Town, and Up and Down the River with Local Business Sponsored Installations

The Challenge

The City of Kankakee, Illinois, which is 60 miles south of Chicago, wanted to install municipal Wi-Fi in order to meet growing demands for local Internet access. In many parts of the city antiquated phone and cable lines prohibited digital signals from being pushed over the wires. With the right wireless system, they could forget about wiring and offer high-speed broadband coverage for miles around.

Pete Schiel, local technophile and Assistant Superintendent of the Kankakee Municipal Utility, joined forces with another techie, Wade LeBeau, IS Director for The Daily Journal, to launch the project. Initially, the scope was to cover a 20 square mile area. The future scope would go on to cover even more territory as they discovered how easy it was to install the access points and cover the costs by gaining local business sponsorship.

The Solution

The Daily Journal team created a self-supporting, revenue generating solution. They combined rugged, high-performance D-Link AirPremier DWL-7700AP Wireless AG Outdoor AP/Bridge equipment with their own IT skills and some entrepreneurial initiative to quickly launch coverage and become the envy of the region.

They purchased the original equipment with a small budget from the newspaper and the city, and then they started earning back that money by selling

sponsorship to local businesses in exchange for advertising on the local login and Web pages.



Kankakee Illinois became one of the first cities in the region to provide municipal Wi-Fi service.

"The more sponsors we get, the faster we put up new antennae," said Schiel. "Every time we sign up two sponsors we can buy another D-Link antenna. Businesses that were paying \$1000 a month for yellow page ads are buying ads on our system for \$300 - for the entire year. And we're generating revenue from Google AdSense ads that are placed within our community pages."

The Wi-Fi access is free for anyone that is in the area and can access via laptop, PDA, Sony PSP, VOIP phone or any other Wi-Fi enabled device. Users that open up browsers are redirected to www.wifikankakee.com where they can log in - no strings attached. The first 15 hours of usage are free, and those who want more time can opt for unlimited access for a nominal fee.

"The community thinks it's unbelievable," said Schiel. "The big question that we constantly hear is 'When is it coming to my neighborhood?'"

The answer is 'soon.' The local team has been installing antennae all over town since the inception of the project in December of 2005. They utilize



The Historic City Hall hosts one of the main Wi-Fi towers.



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PRODUCT FEATURES:

- Dualband AP delivers maximum wireless signal rates of up to 54Mbps*
- Uses both 802.11a and 802.11g wireless bands (simultaneous use)
- Designed to withstand virtually any outdoor environment
- Die-cast, watertight housing
- Built-in heater monitored by a temperature sensor
- Operates in Access Point (AP), Point-to-Point (PtP) bridge, Point-to-MultiPoint (PtMP) Bridge, or Wireless Client modes
- Integrated 802.3af Power over Ethernet (PoE) port allows you to install the device in areas where power outlets are not readily available
- Dual detachable antennae can be replaced with higher gain antenna for greater wireless signal coverage

a city bucket truck to access local power poles where new access points are installed. They also have access to city buildings in strategic locations. Currently they have units up at the Daily Journal office, City Hall, the farmer's market and downtown area, the historic depot and train museum, concert and outdoor event venues, and the hydroelectric facility on the dam of the Kankakee river. Even local fishermen have Wi-Fi access!

Phase two covers the Kankakee Community College campus, the entire riverfront, boater access areas, the year-round ice rink, the model aviation airfield, the waterpark, the boat harbor across the river, and the parking lot on the north side of the



The Daily Journal teamed up with the Municipal Utility to create a self-supporting Wi-Fi network.

river. Phase three includes apartment complexes, new development areas like the Garden Suite Hilton, the Super Walmart south of town, and a new commercial growth center south of town. A main strip off of the interstate, a huge mall, and several restaurants off of the interstate will also be included, so people can Web surf from the food court or compare prices on Froogle while they shop.

Set-up has been very easy for Kankakee. They have the right equipment and expertise for the job. "The hardware is simple to install, and setting up the access points is piece of cake these days," said Schiel. Kankakee has been equally impressed with the performance of the D-Link AirPremier

DWL-7700AP units. "The telcos here offer 850Kbps service. Cable offers 1 to 1.2 Mbps service," explained Schiel. "The D-Link 7700's are rated at 56 Mbps, and in some areas we're sending 500 byte packets in less than 5 milliseconds. On the furthest outskirts of the system we're sending 500 byte packets in 9 milliseconds. One of our longest shots is a backhaul link that covers 1.7 miles. We're sending 500 byte packets down that in 9 milliseconds."

Now that high-speed Wi-Fi has invaded the town, things aren't quite the same. People are texting, emailing and IM'ing each other during the annual summer open-hull speed boat races. There are plans to pipe local community access video over the network. Schiel envisions residents pulling up streamed videos about local attractions on their PSPs or laptops while they're touring the city. He already has a multi-media Wi-Fi system set up for himself. Schiel uses a PSP and Sony's Location Free Player software to connect with his home DVD, satellite dish, and cable TV systems. While out in the field, he can wirelessly tap into his own home audio video system with the PSP. The software uses IP-to-IR controls (Internet Protocol to Infra-Red), allowing him to access any component in his living room and play it over the Internet.

As for the future, Kankakee is beta testing new D-Link VOIP Wi-Fi phones. With a completely Wi-Fi town, they might be able to chuck their cell phones at some point.

Conclusion

Overall the Wi-Fi project has been a smashing success. They're revenue positive, local businesses are buying cheap advertising, and the businesses are able to get close to local users and tourists. The future is looking bright for these information pioneers of the Midwest.

* Maximum wireless signal rate derived from IEEE Standard 802.11g specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput rate. Environmental factors will adversely affect wireless signal range.