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IN THE CITY OF FORT WAYNE, INDIANA, PUBLIC AND PRIVATE SECTORS COME TOGETHER TO SPUR LOCAL ECONOMIC DEVELOPMENT.

By Trish Cusack
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CASE STUDY

PUBLIC AND PRIVATE SECTORS COME TOGETHER TO SPUR LOCAL ECONOMIC DEVELOPMENT.

BROADBAND WIRELESS TECHNOLOGY PROVIDES ENGINE FOR GROWTH

Synopsis

The City of Fort Wayne, Indiana working in concert with civic and business leaders developed a broadband plan to help ensure continued economic development in the region. Realizing that the City owned powerful resources that could help off-set the cost of providing high quality, broadband services to anyone that needed them at reasonable prices, the City elected to use these – *Right of Way* – resources to encourage an informal partnership. After developing a long-term plan of action, issuing a Request for Proposal (RFP) and deciding on a winner – the Indiana Data Center – the community has started to realize some immediate benefits. One customer even describes the service as utopia and says that it far exceeded their expectations.

Challenge

Mayor Graham Richard recognized the importance of technology and communication to Fort Wayne's economic development. As the second largest city in Indiana, the City of Fort Wayne had a vision that provided businesses and residents in all parts of the greater Fort Wayne area with access to high-speed broadband services at reasonable costs. The City believed that ubiquitous broadband deployment would bring valuable new services to businesses and consumers, stimulate economic activity, improve local productivity and advance many other worthy objectives such as improving education and advancing economic development.

The challenge for the city was to encourage broadband development without actually financing Internet access throughout the city. They needed a partner – *preferably a local partner* - who shared their ideas in the area of broadband access and one who was willing to invest in this *infrastructure for the future* without receiving direct capital investment from the city.

Situation/Solution

A Community-Based 'Think Tank'

In February/March of 2001, the City of Fort Wayne Department of Economic Development (DED) coordinated the development of the Northeast Indiana Broadband Initiative. This process brought together more than 50 people representing business, education, telecommunications providers and other concerned citizens to discuss how to make broadband connectivity more ubiquitous in Fort Wayne and Northeast Indiana.

Together, the group developed a set goals and objectives for accomplishing their vision. In addition, they agreed to a common definition of broadband by using the Federal Communications Commission's (FCC) definition:

Broadband is a variety of mediums such as fiber optics, copper wire, coaxial cable and wireless channels that fulfills four requirements. It must be:

- Digital in Structure
- Always On
- Able to Support Multi-Layered Format and Time Procedures; and
- Able to Evolve as New Uses Develop and Applications Emerge.

To market Fort Wayne as a business location, "We have to make sure we have a competitive telecommunications infrastructure. It's mandatory; if you don't have it, people aren't even going to look at you," said Regan Scruggs, chief technology officer for the City of Fort Wayne.

A Key Member of Broadband Initiative Provides Insights

Mayor Richard acted on his commitment to promote technology and communication in Fort Wayne when he asked Bob Kniskern to co-chair a committee on the topic as part of the Mayor's Economic Development Action Plan in 2000. Out of that grew the Broadband Initiative. A key member of that initiative, Kniskern is president of Adaptive Micro-Ware, Inc. Adaptive is an electronics design firm, based in Fort Wayne and has more than 22 years of experience in developing high performance electronic products and system solutions. Based on his experience along with a thorough understanding of the City's goals and objectives, Kniskern volunteered to apply his vast knowledge and experience to Fort Wayne. "I have been personally very active in staying in touch with both the local and regional communities and truly understood – based on first hand experience – the broadband requirements for the community at-large and wanted to apply this knowledge toward helping the community have a long-term, viable broadband service offering that was available to all."

Kniskern continued, "I live in a fairly affluent part of town, but the local telephone provider can't give me DSL service. They've got an old digital loop carrier out in that area that they haven't gotten around to upgrading yet." Kniskern added, "It is pretty critical for me to have good connections back to my engineering business and dial-up just simply wasn't an alternative." His only choice was from the local cable service provider.

At Adaptive Micro-Ware, which is located on the other side of town from Kniskern's home, just the opposite situation existed. At Adaptive's location, only telco-based services were available, where the company's needs have migrated from ISDN (128-Kb) to T1 (1.544-Mb) bandwidth. "To continue long-term economic growth and serve the needs of those in the *digital divide,* Fort Wayne needed to develop a long-term broadband strategy for all members of the community. Broadband wireless in the unlicensed 5 GHz spectrum offered tremendous opportunity," said Kniskern.

Leveraging Community Resources

Kniskern suggested, "If someone would step-up and supply data services to the City, the City could, in return, provide royalty-free or free *Right of Way* access on any of the public structures that it owns." Part of these royalty-free *Right of Way* structures included: communication towers for public safety, water towers, and rooftops on fire stations, police stations and city-county buildings.

Kniskern said, "So the theory was that the City has a valuable resource, a community resource, called *Right of Way.* Rather than sell these resources to the highest bidder and hope that they would do something valuable with them, we are taking a more active role in ensuring that these resources are used in a way that benefits economic development for the community as well as reasonable profits for those companies involved." He noted, "It is a unique model."

Keeping Local Data Local

In a traditional national Internet Service Provider's (ISP) network, Internet traffic may, in some cases, travel extremely long distances – sometimes around the country – simply to transmit data from one side of a city to another. While the data doesn't actually cost any more to the user to transmit, it is inherently more expensive – *because of the infrastructure costs -* for the local ISP. The data has to compete with the long distance ISP and with leased Internet lines. According to Kniskern, "Having a local ISP – where the local data stays local – opens up tremendous opportunities to do some innovative data services. It makes doing things like real-time video over broadband not only possible but superior in service."

Fort Wayne iConnect

Aligned with a firm sense of their goals and objectives, The City of Fort Wayne issued a Request for Proposal (RFP) in October of 2001. In the opening paragraphs of the RFP, the city echoed the definition of broadband by the FCC and cited the following requirements.

In order to expand broadband Internet access and promote increased usage, the City of Fort Wayne is seeking proposals to provide scaleable, ubiquitous and affordable bandwidth through various service and technologies. For these purposes, the definitions are as follows:

- Scaleable: on-demand bandwidth, preferably web-enabled, ranging from 256 Kbps to 10 Mbps or higher

- *Ubiquitous: available to all businesses, residential, educational, governmental and institutional facilities throughout the service area.*

- *Affordable: competitively priced, cost-effective bandwidth at or below market pricing in comparable areas.*

In exchange for providing these services, Fort Wayne offered the contract recipient the *Right of Way* (i.e., rooftop rights, public buildings) and the City's broadband business.

Results

And the Winner Is…

In March 2002, the City of Fort Wayne, Indiana announced that the Fort Wayne Data Center *(which has subsequently changed its name to Indiana Data Center to reflect its broader market aims)* was selected to serve as the provider of the City's Broadband Initiative. According to the City, "The Data Center was chosen because of

its understanding of the City's purpose in leading the Broadband Initiative and its ability to complement the current technology infrastructure in Fort Wayne. Their vision of flexible technology, partnerships and their experience in data management is what set them apart from the nine other bidders on the project."

Indiana Data Center is already busy implementing their new Network Access Point (NAP) *(see illustration)* that will keep local data traffic local. With the Data Center's NAP, a company sending information to another entity located in Fort Wayne would not have to send the information outside of the regional network. The NAP is expected to increase transmission speeds and reduce costs.

Wireless is the Answer

While Indiana Data Center is a full service ISP offering DSL, ISDN, web hosting and a variety of other services, Stan Adams, owner of Indiana Data Center, felt strongly that a wireless metropolitan fixed access system was the best solution in order to deliver the types of services that the City wanted at the price points suggested. According to Jamie Till, director of wireless at Indiana Data Center, "We looked at a variety of wireless technologies and companies before selecting Motorola's Canopy™ broadband wireless platform." He added, "In fact, we had actually selected one of the competitive products and had planned to put access points on towers at 500 feet to cover the entire city. We were extremely concerned, however, with the interference issues associated with placing radios at that height."

Till continued, "Through our close working relationship with Adaptive Micro-Ware, we were introduced to Motorola's Canopy product. Canopy uses a cellular-like concept with more access points located closer to the ground." The Canopy system is very effective at mitigating the interference that one might experience in the unlicensed band. The product's modular design offers the utmost flexibility in expanding the system along with ease of installation *(less than one day),* and is designed to offer long-term cost reductions in the area of customer premise equipment. "Overall, the product was a perfect fit for our needs at the Indiana Data Center and the City of Fort Wayne and we are very pleased with the product's performance," said Till.

Initially, the wireless network will reach about 70 percent of Fort Wayne businesses. As demand for the service grows, cells will be added that will allow customers to access the network from many locations. The Indiana Data Center presently has seven sites with Motorola Canopy Access Points located on them. "We've been able to take advantage of the city's *Right of Way* program and have Canopy Access Points located on three city water towers and one city building. As the system grows, we anticipate using more of the City locations which will provide us with a tremendous cost-savings – savings that we can pass along to consumers." He continued, "Already, the wireless service is 10 to 50 percent less expensive than wired broadband service. The installation fee of $500 is about one-third of the typical connection cost for a T1 line."

Today, the Data Center is serving largely business customers. When asked why customers select the Motorola Canopy wireless broadband system by the Indiana Data Center, Till said that there are a variety of reasons. "In most cases, it is because they can't get DSL and other traditional forms are just simply too expensive." The Indiana Data Center offers scalable bandwidth to its customers. Till added, "One of our customers is a design firm who sometimes experiences peaks in their bandwidth requirements. With just a simple phone call to the Data Center, we are

able to scale their bandwidth up to 2-Mbps within 10 to 15 minutes. This provides the customer with a tremendous cost savings. They are only paying for the added bandwidth when they need it. The customer response has been amazing."

According to Adaptive Micro-Ware, plans are already underway to add wireless video communication components to the Canopy™ system that will enable fire stations in Fort Wayne to communicate with each other using video for training, command and response scenarios. They will be able to do this cost-effectively because of the bandwidth capacity of the Canopy radios. To provide the quality of service required for video communications via wired solutions would require a minimum of a T1 line (1.544 Mbps) to each station, entailing monthly leased line costs that would be cost prohibitive. The Canopy radios provide more than enough bandwidth for both video and data (network/ISP) communications with no additional monthly line costs. Incidentally, Adaptive Micro-Ware is talking about real-time, two-way, full screen, 30-frames-per-second video communications, not the "dancing postage stamp" type of video images one associates with video-over-IP.

What do Consumers Really Think?

In recent local news article the Indiana Data Center was lauded for its services as the City's broadband provider. Articles have cited several examples of local business customers and their experience with the Indiana Data Center. One customer describes the services provided by Indiana Data Center as "utopia" and says they have far exceeded their expectations.

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