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Accelerating Technology in the  
Commonwealth!



**CONNECT MARSHALL  
COUNTY**



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# MARSHALL COUNTY STRATEGIC TECHNOLOGY PLAN

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## **A. Executive Summary**

## A. Executive Summary

### Purpose

This document provides a “road map” for technology-based growth and economic development in Marshall County. Detailed assessments and recommendations are provided in Tabs C and D of this report. The full report provides an overview of ConnectKentucky’s findings and recommendations related to the assessment of Marshall County’s technology needs, particularly related to computers, broadband and Information Technology.

### Summary

Marshall County’s e-Community Leadership Team is leading the way into a new economy for Marshall County, working in partnership with ConnectKentucky. By leveraging the latest in technology and networking, ConnectKentucky is ensuring Kentucky remains the place of choice to work, live, and raise a family.

Pursuing the *Five A’s to technology acceleration in Kentucky* (Availability, Affordability, Awareness, Applications and Adoption) ConnectKentucky has established the Commonwealth as a national model for technology development. Over the past two years, Kentucky has achieved growth rates in technology availability and adoption that lead the nation.

Today, the world is smaller because technology makes it easier to work and to live nearly anywhere. In order to compete on a global scale, we must provide our citizens and businesses with the best available technology in the world, wherever they choose to live, learn, work or play. Central to technology-based development is access to and usage of computers and high-speed Internet, commonly referred to as “broadband.”

The need for improved technology in Kentucky is great. In 2003 rankings, Kentucky was 44<sup>th</sup> in its proportion of high-tech companies, 45<sup>th</sup> in household computer use, and 43<sup>rd</sup> in resident Internet use. But that is changing fast, as Kentucky transforms from a technology laggard into a national leader in universal access and innovative technology solutions. Some evidence of the progress Kentucky has made:

- According to the Federal Communications Commission, Kentucky leads the nation in its rate of broadband adoption over the past two years.
- In 2003, about 60 percent of Kentucky households had the ability to subscribe to broadband. Now, an estimated 77 percent of households can access broadband, an addition of 240,000 households over two years. Increased investment from telecommunications companies is expected to bring the broadband coverage rate to 90 percent by the end of 2006.

Though Kentucky's recent progress has been swift, there remains much to be accomplished. If we do not act on our dreams, we are destined to remain at the bottom of most technology rankings.

With this vision of hope for all Kentuckians, Governor Fletcher introduced his ***Prescription for Innovation***, a comprehensive initiative to achieve aggressive goals for broadband deployment and technology adoption in Kentucky. ConnectKentucky is working community by community, provider by provider to ensure that each of these goals is achieved by 2007, including:

1. Broadband availability for all Kentuckians, businesses and local governments;
2. Dramatically improved usage (adoption) of computers and the Internet;
3. Meaningful online applications for local government, businesses, educators, etc.;
4. Establishment of local technology leadership teams in every county promoting technology growth for: local government, business and industry, education, healthcare, agriculture, libraries, tourism, and community-based organizations.

Governor Fletcher's *Prescription for Innovation* is being implemented through ConnectKentucky, in partnership with local community leaders. The leadership of Marshall County asked ConnectKentucky to facilitate an evaluation of its current uses of technology, identifying and filling broadband coverage gaps and developing a strategic plan to increase the use of technology in each sector of the local community, including:

- Local government
- Business and industry
- K-12 education
- Higher education
- Healthcare
- Libraries
- Agriculture
- Tourism
- Community-based organizations

This project has culminated in the development of initiatives to increase the competitiveness of Marshall County through the expansion of broadband availability and the increased usage of computers and broadband-related applications. In completing this analysis, ConnectKentucky engaged local leaders in all economic sectors, led the group through a visioning exercise and developed a unique strategic plan for the county.

Additionally, ConnectKentucky has engaged its network of telecommunications and Information Technology resources to determine which technology resources are currently available to Marshall County, and which services are expected in the near future.

ConnectKentucky found that broadband is readily available in larger cities and communities, which contain more than 75% of the county's population, and there are broadband services of some kind available in various locations throughout the county. ConnectKentucky will work with current and potential broadband providers to achieve full broadband availability to all residents of Marshall County by 2007.

ConnectKentucky recommends that Marshall County focus on these general areas in order to encourage further build-out of broadband throughout the community and to create awareness of the broadband-related services that already exist.

- Creating awareness of the many available digital applications that provide convenience, growth, productivity, and empowerment.
- Developing and expanding community applications that will drive the use of broadband access and ultimately encourage residents to become more technologically savvy.

### **Methodology**

**Activity 1** – Kickoff meeting and follow-up benchmarking meetings defined existing and future uses of broadband:

- How stakeholders currently use telecommunications and broadband services and applications
- What telecommunications and broadband needs are not currently being met
- What applications would be useful to increase the economic competitiveness of the area
- What telecommunications and broadband services and applications key stakeholders desire for the future

**Activity 2** – Interviews with key telecommunications and Information Technology providers in the community determined what services and infrastructure are in place now and what services and infrastructure are planned for the future.

**Activity 3** – ConnectKentucky reported the findings, provided analysis of potential alternatives and made recommendations on potential future initiatives:

- Benchmarked current uses of technology
- Researched applications that will enhance the economic vitality of the community in various participating sectors

- Recommended a strategic approach to adopting appropriate applications
- Provided project management to assure successful implementation
- Collected coverage data from existing broadband providers in the Commonwealth. In GIS format, mapped coverage footprints of all providers
- Provided data for areas not served by broadband
- Shared relevant market data with potential providers to encourage additional investment
- Identified possible grant and low-interest loan availability to areas not currently served
- Encouraged investment from all providers, including cable, telecommunications companies, municipals, satellite and wireless, to fill remaining gaps.

#### **How Do We Get There?**

ConnectKentucky will continue to assist the e-Community Leadership Team, working together to ensure that Marshall County remains a strong place to work, live, and raise a family. ConnectKentucky will remain engaged with the leadership and stakeholders from each sector to implement the recommendations provided in this report.



## **B. WHY DOES THIS MATTER?**

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### **Business and Industry**

Today, a number of factors are forcing businesses to change time-honored models of operation, including global competition, a trend toward partnering/outsourcing for all but core functions, and a demand for more personalized services. Each of these trends can save businesses time and money, but they require a sound technological infrastructure. The good news is that while these trends are emerging, the costs of technology are falling. Businesses cannot be sheltered from competitors. The reality is that Marshall County businesses must adapt to the changing world in which they operate. Businesses have to learn the tools of the networked economy and innovate to survive.

Business and industry often experience the most direct benefit of high-speed Internet with increased sales, profit, and growth. However, many businesses and industries are utilizing high-speed Internet to simplify processes, increase efficiency, and develop new marketing methods. While the employees benefit immediately, the consumer ultimately sees lower prices and better quality.

Gaining benefits from the implementation of high speed Internet is not just for large corporations. For smaller businesses, technology creates an even playing field with companies much bigger than themselves. E-commerce (the buying and selling of goods over the Internet) allows small or even home-based businesses to operate and sell their goods on a national and sometimes international scale. Where small businesses were once limited to whatever local customers they could attract through local advertising and word of mouth, the Internet now allows them to attract customers across the globe.

Technology has allowed larger businesses to maximize efficiency in order to better serve customers. E-mail, intranets, paperless operations, and automated logistics processes are just a few examples of how the Internet is allowing large companies to work with much greater efficiency and at lower costs. This allows those businesses to expand into other markets and grow their companies, or even pass the savings on to their customers.

### **K-12**

For our children to succeed in the New Economy, the tools of the Information Age should be as comfortable to use as a pencil and paper. The future health of the nation's economy depends on how broadly and deeply we reach a new level of literacy – that includes strong academic skills, thinking, reasoning, teamwork skills, and proficiency in the use of technology. Our schools must equip every student, regardless of family income, with the ability to use these tools. Equally important is the use of these tools in the educational process itself. The interactive nature of the Web provides a richer learning experience that engages and motivates students to explore and learn.

In Kentucky, Internet applications used in elementary and secondary schools continue to develop. Typically, the Internet is a communication tool for teachers and parents to remain up-to-date on the recent happenings of the classroom. Everything from homework assignments to scheduled activities and pictures can be found on classroom Websites, keeping everyone connected to educational resources. Elementary and secondary schools provide students with the opportunity to learn more about computer technology and explore the Internet with school computer labs. Committed to protecting students and maintaining a safe, educational environment, schools monitor and restrict Internet access of students to ensure the highest quality resources are being viewed and to ensure the safety of our children.

### **Healthcare**

The healthcare industry has unique challenges. It inherently generates mountains of information yet at the same time is duty bound to keep these mountains hidden for the sake of individual privacy. For companies charged with managing and working with this information, high-speed Internet access and technology innovations are crucial. On a daily basis, doctors must keep up with the latest research; patient records have to be easily accessible and accurate; and images, test results, and prescriptions have to be delivered promptly, without errors, to practitioners, pharmacies, and insurance providers. In healthcare, errors and delays are not only costly, but also dangerous. Many providers are converting to electronic medical records which can be easily updated and shared on secure, internal networks. Network-based technologies like video-conferencing and digital stethoscopes allow specialists to consult with rural patients, reducing travel time and hazards. This ability to reach rural patients through technology has allowed many people to seek treatment that otherwise might not. Bringing the best of healthcare to every Kentucky citizen is a worthy goal.

Because of the nature of their activities, the healthcare industry has found the perfect partner in high-speed Internet technology. The convenience of the Internet has simplified information transfers and improved medical equipment while maintaining the integrity of confidential patient information.

### **Libraries**

Today, libraries are more than just books on the shelves. Everything from the card catalog to check out can be simplified with the help of high-speed Internet. Public libraries often play a vital role in the community by providing every resident with the opportunity to receive instruction and use the Internet free of charge. Though they are not available 24 hours a day as a home computer is, libraries are still a central point of access to the Internet that is available to each and every citizen in the community. Many businesses have been launched as a result of research done on a computer in a Kentucky library. Many children are able to do their homework online or research reports because of the Internet

access provided by the local library. Because the library plays such an important role in the community, it is essential that local libraries are on the cutting edge of technology and continue to develop new methods of keeping their patrons up to date. High speed Internet can help libraries continue their tradition as a trusted and indispensable resource.

### **Higher Education**

Colleges, universities, and community colleges in Kentucky continue to find new ways to use the Internet to improve everyday activities. Websites are an important source of information about the institution, from providing news and information concerning campus activities to online registration of classes. Colleges and universities often implement the use of the school websites to attract prospective students, remain connected to alumni, and allow for online donations.

The most common application of high-speed Internet on college and university campuses, however, is typically not actually used on-campus. Most colleges and universities offer online classes and academic programs to better equip students with the opportunity to learn. In 2004, 35,000 students participated in higher education classes through Kentucky Virtual University, [www.kyvu.org](http://www.kyvu.org). By bringing the classroom to the students, participants from every walk of life and region of the state were able to participate in higher education classes. However, it is necessary to have high-speed Internet to participate successfully in online classes. High-speed Internet is crucial to supporting the capabilities and the possibilities of higher education in Kentucky.

### **Community-Based Organizations**

Non-profit agencies provide a wide variety of services to citizens, including health services, religious services, community sports and athletic facilities, and public entertainment. Like any organization, community-based organizations need technology to manage operations, apply for grants, reduce costs, improve client services, and better serve the community. Unfortunately, their budgets are typically limited, and they often depend on outdated technologies and donated services. As a result, community-based organizations must be creative in order to serve their constituents in the best manner possible. Fortunately, there is no shortage of creativity among community-based organizations, and many are using innovative solutions to offer important local services. As with other sectors, the Internet is an enabling factor for these creative solutions.

### **Government**

Government serves citizens in numerous ways, from providing services such as vehicle registration to providing information such as election results. While it is common for people to feel disengaged from the everyday actions of state and

local government, technology has allowed governments to begin closing that gap. On the state level, Kentucky has developed Kentucky.gov, a comprehensive website that provides government services and information to all citizens. On this site, residents can purchase and update hunting licenses; car dealers can access title searches on cars; and citizens can monitor the progress of legislation when the General Assembly is in session. By bringing the services of the state government to the convenience of residents' homes, the Kentucky.gov site provides participants a greater sense of relevance in the actions of state government.

Local governments have also seen the importance of an online presence. Local governments provide communities with many services, offer a great deal of local information, and encourage public involvement and awareness. With a web presence, local governments can distribute information to more citizens, provide more opportunities for interaction with the agencies that affect them, and make more convenient transactions that previously required a drive to the courthouse.

### **Tourism, Recreation, and Parks**

As citizens become more comfortable with the Internet, they typically continue to find more uses for it. One of the industries benefiting from this trend is the tourism industry. Increasingly, people are using the Internet to research, book, and pay for airline tickets, hotels, rental cars, and to make other logistical arrangements for their vacations and business travel. In light of this fact, hotels, travel agents, restaurants, attractions, and other support businesses in the tourism industry are taking advantage of this trend and making their information and services available on the Internet.

Additionally, with the help of high-speed Internet and computer technology, the leisure time planned and purchased over the Internet can also be used more efficiently, allowing for a more enjoyable experience. Whether it is vacation, recreation, or a visit to a local park, high-speed Internet is making the travel experience more enjoyable and more convenient. Already, a number of innovative tourism attractions are using high-speed Internet to improve services and meet the changing demands of their guests.

### **Agriculture**

Too often, the agricultural community sees little need for broadband technology in the day-to-day activities of maintaining farms and livestock. However, broadband technology allows for growing innovation in agriculture, simplifying and mainstreaming important daily tasks, and developing marketing and sales. With high-speed Internet, farmers can remain up-to-date with everything from the weather to the conditions of the chicken coops equipped with temperature-sensitive monitors. Livestock farmers can access market prices and gain access to the latest in livestock management techniques. Farmers can advertise and even sell goods on the Internet, generating customers from all over the world. The Internet can also help Kentucky farmers diversify their operations and develop cutting edge revenue streams thus alleviating some of the loss of

revenue from the Tobacco Quota Buyout program. Internet resources can give Kentucky farmers an edge on production and results. The possibilities are virtually endless. The marriage of agriculture and high-speed Internet can produce abundant success for farmers across Kentucky by creating opportunities.



**C. WHERE ARE WE AND  
WHERE ARE WE GOING?**

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### **BUSINESS AND INDUSTRY**

Marshall County industries employ 10,600 workers. Manufacturing and services employ virtually equal number of employees (2,768 and 2,739 employees respectively). The trade/transportation/utilities sector employs 1,900 workers. The construction industry employs 800. The leading single employer is ISP Chemicals Inc., [www.ispcorp.com](http://www.ispcorp.com), with 515 employees. Westlake Monomers Corporation, [www.westlakechemical.com](http://www.westlakechemical.com), employs 353, while Arkema, [www.arkema-inc.com](http://www.arkema-inc.com), employs 264 and Air Products & Chemicals Inc., [www.airproducts.com](http://www.airproducts.com), employs 220. Marshall County has undergone five manufacturing expansions and four support/service expansions since 2002.

Marshall County is fortunate in that it has two major sources for economic growth: manufacturing and tourism. The county's annual per-capita income consistently ranks above state levels due in large part to the strong manufacturing presence here, and this economic dynamo is further illustrated by the average weekly wage being some 60 percent above the state average. Fully 32 percent of the total workforce can be found distributed among the thirty-one manufacturing facilities that make a home in Marshall County.

The business and industry sector in Marshall County is served by the Marshall County Chamber of Commerce, [www.marshallcounty.net](http://www.marshallcounty.net), and the Marshall County Economic Development Corporation, [www.marshallcounty.net/economic](http://www.marshallcounty.net/economic). These entities realize the value of technology and education, along with their impact on the community. Through their websites, visitors can learn about the local community, where to go and what to do, along with a calendar of events.

The business and industry sector identified the following items as important:

- In order for the business and industry sector to expand its Internet use, education is a must.
- Videoconferencing should be used to coordinate economic development and business expansion growth.

### **The Assessment**

- **Networked Places** – In the category of networked places, Marshall County's business and industry sector scored a 3 on a 0 to 5 scale, with most office employees having always-on connections to the Internet at their desks. Some mobile workers have laptop computers and can access the office network remotely.
- **Applications and Services** – In the area of technology applications and services, business and industry scored a 3 on a 0 to 5 scale with most businesses having informational websites. Some retail websites can accept credit card transactions. Additionally, some businesses participate in the electronic supply chain.
- **Leadership** – In terms of technology leadership within the business community, Marshall County scored a 2 on a 0 to 5 scale. Some view the Internet as essential to business operations. Employees are trained on basic applications.

### **The Vision**

While the Marshall County eCommunity Leadership Team found that business and industry's current use of technology is somewhat limited, the team has an aggressive vision for how the county's business and industry sector will be using technology in two years. The team set goals that would move the business and industry sector from the middle of the scoring system to scores of 4 in the three categories outlined above. The team's vision includes:

- Some businesses use **Voice over Internet Protocol (VoIP)** to save money
- Some office workers have converted from desktop computers to **portable devices with wireless connections**
- Some office computers have **webcams for videoconferencing**
- Some businesses **outsource** most of their computing services to **local service providers** to allow for concentration on core business functions
- Some retailers and manufacturers **sell goods out of state or internationally**
- Some employees **work remotely**, some out of state
- Some businesses permit some employees to **telework** one or two days a week
- Some businesses encourage employees to take work related **courses online**
- Businesses are working with educational partners to **raise workforce skill level**

### **K-12**

The Marshall County School District enrolls 4,573 students. The school system consists of six elementary schools: Benton, Calvert, Central, Jonathan, Sharpe, and South, three middle schools: Central, North, and South, and one high school. The district has a preschool/Head Start program for 3- and 4-year-old students and all-day kindergarten for 5-year-old students.

The Marshall County Technical School and the Marshall County Adult Learning Center are housed on the high school campus, providing services to students and to adults seeking their GED certificates. Marshall County rates of retention, attendance, and dropout exceed state averages. The percentage of Marshall County graduates who attend voc/tech training is 7.9 percent, while the state average for that category is 4.9 percent. Each classroom in the Marshall County School system has a computer with Internet access. All schools have digital cameras and projection devices which are used by students and teachers for class presentations.

The district and all schools have a website, and many teachers have their own classroom websites. The district site is [www.marshall.k12.ky.us](http://www.marshall.k12.ky.us). The high school offers A+ Certification, a national certification program designed for students to become computer technicians, through its Technical Center. It also offers programs in Microsoft Certified Professional and Cisco Networking I and II. Students completing the programs successfully will receive college course credit to Kentucky Community and Technical College System (KCTCS). The district purchased CPS - Classroom Performance Systems - for schools. High school students are enrolled in courses in the Kentucky Virtual High School.

The district technology department offers computer-related training for all staff. It also offers computer courses to the community. Current offerings include: Basic Terminology, Basic Computer Use, Introduction to Office XP, Internet and Email Safety, How to use Digital Cameras, and "I have a new computer, Now what?"

According to the 2003-2004 Marshall County District Report Card, Marshall County Schools has a ratio of four students for every computer, just below the state average of 3.8 students per computer. North Marshall Middle School is connected to the High School (hub site) via a point-to-point T1. South Marshall Middle and Elementary Schools share a T1 Frame Relay back to the hub site, as do Benton Middle and Elementary Schools. Calvert City, Sharpe, Jonathan, and Central Elementary Schools connect back to the hub site via 256 Kb Frame Relay connections.

Marshall County also has a private school, Christian Fellowship School, [www.christianfellowship.org](http://www.christianfellowship.org), which enrolls 260 students in PK-12 program. Christian Fellowship School has voluntarily entered the accreditation process offered for Christian schools by International Christian Accrediting Association (ICAA). CFS is also accredited by CITA (Council on International and Transregional Accreditation).

### **The Assessment**

In its evaluation, the Marshall County eCommunity Leadership Team determined that the K-12 education sector has made significant progress in making technology a priority, and the team set goals for enhanced access and use of technology and its applications. The current assessment includes:

- **Network Places** – In the category of network places, Marshall County's K-12 education sector scored a 3 on a 0 to 5 scale. Most schools provide at least one computer for every five students in grades seven and above. Most classrooms have computers for student use, and some teachers use computer-based presentation tools and projectors for their lessons.
- **Applications and Services** – In the category of technology applications and services, the education sector scored a 4 on a 0 to 5 scale. Many schools have an interactive website that offers access to homework assignments and e-mail contact with teachers and administrators. All teachers are trained to use the Internet for instruction. Parents and family members are encouraged to participate in student learning via e-mail and online applications. Some seniors are taking college-level classes on the Internet.
- **Leadership** – In terms of technology leadership within the education sector, Marshall County scored a 4 on a 0 to 5 scale. Some schools have comprehensive plans for learning activities using technology in the classroom. New hires are required to have experience using new technology in the classroom. Computer labs are made available to family and community members. Schools take responsibility for continuing e-rate and other discounts.

### **The Vision**

The Marshall County eCommunity Leadership Team recognizes that the school systems have made technology a priority and the team has outlined a clear vision for enhanced technology usage and application in the classroom. The goal set forth by the Marshall County eCommunity Leadership Team includes reaching a rating of 5 in the category of Networked Places, as well as move to the level of 5 on a 0 to 5 scale in the Applications and Services and Leadership categories. The vision includes:

- Some students bring their own laptop computers to school.
- Some computer labs close.
- Many classrooms teachers have access to **digital projection capabilities**
- Most middle and high schools have video programs that allow **students to produce and share shows** on a public network
- Some schools use **wireless sensors** to monitor energy consumption
- Schools use the network to connect students, teachers and parents, **improve learning via online resources**, and **manage administrative responsibilities**
- Schools have **information technology literacy requirements** in place
- **Technology training** is offered in the community
- Many high school **students use online resources** to explore subjects and develop learning plans
- Many schools have comprehensive plans for learning activities **using technology in the classroom**
- School districts actively **promote information technology literacy** to drive positive impacts on economic performance, skills and innovation in the classroom
- The school system plays a vital role in **raising the skill level and awareness** of community and family members

### **HEALTHCARE**

Marshall County's healthcare/hospitalization needs are met by two entities: Marshall County Health Department and Marshall County Hospital. The Marshall County Hospital, [www.marshallcountyhospital.org](http://www.marshallcountyhospital.org), is a short-term acute care facility with 36 beds. The mission of Marshall County Hospital is to provide primary and certain specialty services with high quality care, concern, dedication and value in a cost-effective manner. Through the Marshall County's website, a visitor can send a greeting card to any patient within the hospital. With that mission in mind, the hospital identified two goals that would help them:

- A PACs system would help to speed up time spent on waiting for x-rays and CT's to be read
- An electronic medial records system would make the care that patients received faster and better

Marshall County is also served by the Marshall Center of the Purchase Area Health District. Purchase District Health Department, [www.purchasehealth.org](http://www.purchasehealth.org) provides services to seven counties in the Purchase District. It participates with Kentucky's Cabinet for Health Services in electronic disease surveillance, which better prepares the organization to respond in the event of a major disease outbreak. Environmentalists communicate electronically with Frankfort to keep environmental information timely, and restaurant inspection scores for Marshall County are posted on the Department's website for public review. Satellite technology is used to maintain a communication network for community safety, and web employee training sessions are available to reduce travel without impacting the readiness level of the staff.

Additionally, the Marshall County Health Department is a Kentucky Telehealth Network (KTHN) site. This allows for residents of Marshall County to get additional medical training that may not otherwise be available and to get remote care without the need of travel.

### **The Assessment**

The Marshall County eCommunity Leadership Team found that the healthcare sector is beginning to use technology to its advantage and identified a large opportunity for technology applications within the healthcare community.

- **Network Places** – In the category of network places, Marshall County’s healthcare sector scored a 2 on a 0 to 5 scale with some doctors regularly using computers to enter and maintain patient records. Digital instruments and imaging equipment are being acquired.
- **Applications and Services** – In the category of technology applications and services, the healthcare sector scored a 2 on a 0 to 5 scale. Some providers have informational websites. Some providers store patient records electronically. Telemedicine is being evaluated. Some offices are electronically transmitting records to insurers for reimbursement.
- **Leadership** – In terms of technology leadership within the healthcare community, Marshall County scored a 2 on a 0 to 5 scale. Some providers have begun the conversion to electronic medical records. Some providers are investigating how to deploy wireless technologies for mobile workers.

### **The Vision**

The Marshall County eCommunity Leadership Team sees great potential for the use of technology in the healthcare sector but understands the industry is limited in its resources and ability to implement changes within a brief period. The team has set goals to move each of the three categories to a rating of 4 on a 0 to 5 scale. The team’s vision includes:

- Some doctors and nurses are **using laptop and palmtop devices** connected to wireless networks to enter patient information and access databases
- **Internet-based videoconferencing** is used to consult experts and for training programs
- Some patients are being **monitored at home and at work via portable devices** using wireless transmitters and/or broadband Internet
- Many providers have **informational websites**
- Most providers **store patient records electronically**
- Some providers allow **patients to e-mail doctors**
- Some lab **results and images are received electronically**
- Work is underway by some providers to begin **online exchanging of test results and other medical records** with appropriate parties
- Healthcare leaders are talking with the community about **enhancing online services** and using the network to **improve communitywide healthcare**

### **LIBRARIES**

Marshall County Public Library maintains three facilities: the Main Office, the Hardin Branch, and the Calvert City Branch. Patrons with a library card can access the Kentucky Virtual Library. Library visitors can gain access to the Internet on library

computers for basic personal applications. The library has over 120,000 books in its collections and is ranked 10<sup>th</sup> out of the 116 libraries in Kentucky.

The Marshall County Public Library at Benton offers a wireless Internet service to the public. Each of the individual branches has an online catalog that can be searched from the web through the Marshall County Library's Webpage at <http://www.marshallcolibrary.org>. The Marshall County Public Library System has 35 computer terminals, placing Marshall County Library 20<sup>th</sup> among the 116 libraries. Among those are 12 Internet Access Public Computers, five card catalog computers and two game computers for children.

With a library card, username and password, patrons of the Marshall County Library can access a number of online resources and databases. Some include: The Learn-A-Test database, the NetLibrary, Learning Express Library, and Kentucky Virtual Library. The Chilton's Automotive Online Manual will be available soon. Also available online is homework help, which contains a number of web links for various topics aimed at helping students with reliable research for courses.

### **The Assessment**

The Marshall County eCommunity Leadership Team found that the library sector had a great deal of potential with technology and could benefit a great deal from the implementation for more.

- **Network Places** – In the category of network places, libraries scored a 3 on a 0 to 5 scale. There is rarely more than a 10-minute wait to use the Internet-enabled computers.
- **Applications and Services** – In the category of technology applications and services, libraries again scored a 3 on a 0 to 5 scale. Most libraries have catalogs online. Patrons may use the Internet to place books on hold and request books from other libraries in the library system. Patrons can search online databases from home, school, or work. Libraries host live video feeds of public interest events.
- **Leadership** – In terms of technology leadership within the library system, the sector again scored a 3 on a 0 to 5 scale. The library research desk is an online community resource. Staff training on new technologies is a priority at most libraries. Libraries are using consultants to take advantage of e-rate and other discounts. Library policies reflect appropriate filtering requirements.

### **The Vision**

The Marshall County eCommunity Leadership Team has set forth a two-year vision for enhancing the library so that it serves the community more effectively and efficiently, concentrating on network places and leadership. The team set a goal to move to a rating of 5 on a 0 to 5 scale for the three categories. The vision includes:

- Most public libraries offer patrons a **100 mbps or faster wireless** network.
- Public libraries offer **live video consultations**.
- Public libraries allow patrons to borrow **e-books over the Internet**. They help patrons conduct research and assist with legal access to copyrighted databases and publications, including music and movies.
- **Two-way videoconferencing** is available to the general public.
- Libraries continue to upgrade their facilities to offer the community the **next generation in technology, services, and training**.
- Libraries actively **promote information technology literacy** to drive positive impacts on economic performance, skills, and innovation in the community.

## **HIGHER EDUCATION**

Marshall County is situated less than 30 miles from Mid-Continent University, [www.midcontinent.edu](http://www.midcontinent.edu), Murray State University, [www.murraystate.edu](http://www.murraystate.edu), and West Kentucky Community and Technical College, [www.westkentucky.kctcs.edu](http://www.westkentucky.kctcs.edu).

For its 815 students, Mid-Continent University offers a BS program and associate degrees. Mid-Continent University now offers a variety of online courses each year. There are currently over 45 courses offered online through Mid-Continent College. Mid-Continent University has developed the Online Program, an accelerated Degree Completion in Business Management, to meet the needs of working adults who have approximately two years of college credit and significant life experience.

Murray State University is a tax-supported institution composed of five academic colleges and a school of agriculture. About 58 percent of the students come from Murray State's 18-county service area. With 316 international students and 31 percent of the student body being older than 25, technology plays a major role in Murray's learning community. Students access the Internet for research and to communicate with teachers, etc. Nearly a third of the students are from out of state. With an approximate \$50 million budget, technology is an important tool for making those funds a catalyst for student achievement.

Murray State University has expanded its traditional course offerings to include a range of online and distance learning degree programs. Current programs online include Murray State's Program of Distinction in Telecommunications Systems Management, Business Administration, Bachelor of Independent Studies, ESL Certificate Endorsement Program for Kentucky Teachers, and Gifted and Talented Certificate Endorsement Program for Kentucky Teachers. These online courses and programs allow students the ability to participate in on-campus life without needing to be physically present. Courses are not time- and place specific. Second, online courses are highly interactive with a constant flow of communication between the instructor and the student through various methods.

West Kentucky Community and Technical College offers not only traditional two-year Associate in Arts and Associate in Science transfer degrees, but also awards Applied Science (technical) degrees and diplomas as well as many certificates. It has 6,475 students enrolled. The Information Technology (IT) program at West Kentucky Community and Technical College is an associate of applied science (AAS) degree that prepares graduates for entry-level positions in the areas of network administration, computer programming, database administration, and electronic commerce. Students will learn the skills needed to problem solve and communicate effectively within the complex information technology industry.

In addition, West Kentucky Community and Technical College and Murray State University have joined efforts to promote technology in the community. WKCTC and MSU established a transfer agreement between the Associate in Applied Science in Information Technology offered by KCTCS and the Bachelor of Science Degree in Telecommunications Systems Management offered by Murray State University. Students completing IT programs at WKCTC can enter the MSU program without losing any credits. In addition, students can complete this four-year technology degree without leaving Marshall County.

Since no higher education institution exists in Marshall County, all assessments have been combined into the K-12 Education sector as part of an education plan for the community.

### **COMMUNITY-BASED ORGANIZATIONS**

There are approximately 150 community-based organizations in Marshall County. Many community-based organizations meet together through the community connections organization. These community-based organizations include religious, educational, charitable, scientific or literary organizations. Some examples of community-based organizations in Marshall County are:

- Forget-Me-Not Children's Center
- Kiwanis International, [www.kiwanis.org](http://www.kiwanis.org);
- Rotary International, [www.rotary.org](http://www.rotary.org);
- Marshall County Needline
- Habitat for Humanity, [www.habitat.org](http://www.habitat.org);
- Senior Citizens Program
- Kentucky Sheriffs Boys & Girls Ranch, [www.kysheriffsranch.com](http://www.kysheriffsranch.com); and
- Kentucky Lake Vacation Land / Lodging Association, [www.linksaroundthelakes.com](http://www.linksaroundthelakes.com).

A resident of Marshall County can learn about community-based organizations by going to [www.marshallcounty.net/help/general.htm](http://www.marshallcounty.net/help/general.htm) and [www.kentuckylake.org/marshall/reference.htm](http://www.kentuckylake.org/marshall/reference.htm).

### **Assessment**

The Marshall County eCommunity Leadership Team found that the community-based organization sector is just beginning to use technology to its advantage and identified a large opportunity for technology applications within the community-based organizations.

- **Network Places** – In the category of network places, Marshall County's community-based organization sector scored a 2 on a 0 to 5 scale. Some organizations have computers that are no older than three years old. Many organizations have e-mail. Some office employees have always-on connections to the Internet at their desks.
- **Applications and Services** – In the category of technology applications and services, the community-based organization sector scored a 2 on a 0 to 5 scale with some organizations have an informational website.
- **Leadership** – In terms of technology leadership within the community-based organization community, Marshall County scored a 2 on a 0 to 5 scale. Organizations are minimally involved in community economic development issues. Little or no plans exist for better using telecommunications services and technologies. Some organizations provide technology training to their staff at least once a year.

### **The Vision**

The Marshall County eCommunity Leadership Team sees great potential for the use of technology in the community-based organization sector but understands the sector is limited in its resources and ability to implement changes within a brief period. The team has set goals to move each of the three categories above to a rating of 3 on a 0 to 5 scale. The team's vision includes:

- Most community-based organizations with at least five paid staff have at least **one computer for every three employees**
- Many organizations have **e-mail**
- Many organizations have an **informational website**
- Many local chapters are able to **share data electronically** with the national parent organization
- Some organizations **accept online donations**
- Some organizations are **involved in specific economic development initiatives**, but most do not participate
- Some organizations plan to use **telecommunications services and technologies** within the next year
- Some organizations provide **technology training to their staff** at least once a year

### **GOVERNMENT**

Marshall County government entities include Marshall County, Benton (county seat), Calvert City, Gilbertsville, and Hardin.

Marshall County's official website, <http://www.marshallcounty.ky.gov>, ranks 19<sup>th</sup> out of 60 official Kentucky county websites. The Marshall County allows residents and visitors to learn about the various departments within the county such as Emergency 911, Animal Shelter, Road Department, Planner's Office, and Parks. Also available on the site is information regarding local officials, communities, and attractions. The goals of the Marshall County Government are:

- To have active participation by all offices and departments of local government
- To have better interaction among elected officials and the public
- To encourage the general public to use technology and the Internet

Calvert City's official website, <http://www.calvertcity.com>, ranked 76<sup>th</sup> out of 116 official Kentucky City websites. From the Calvert City website, a visitor can find a community calendar, a profile of the city, and information regarding industry, commerce and education. The goal of Calvert City is to use the web as:

- An online presence that is user-friendly and will be an easy-to-use tool for forms, application payments, and service orders
- A marketing tool for the City

Marshall County Property Valuation Administration, [marshallpva.ky.gov/pva](http://marshallpva.ky.gov/pva), also has an online presence. The site provides property values and ownership information. It provides information regarding tax information such as: forms and fees, revaluation, and a calculator. Through the PVA website, one can request maps and GIS-based information regarding Marshall County. Among the new updates is an advertisement page, which allows a visitor to find a listing of appraisers, Realtors, surveyors, etc.

Benton, Gilbertsville and Hardin do not have official government websites.

### **The Assessment**

Although the government entities in Marshall County have a limited online presence, the Marshall County eCommunity Leadership Team found that the local government is currently using technology to improve processes in other areas.

- **Network Places** – In the category of network places, the government sector scored a 3 on a 0 to 5 scale, with many employees having e-mail accounts. Some field workers are collecting data on laptop computers or palmtops. Webcams are starting to be deployed.
- **Applications and Services** – In the category of technology applications and services, the government sector scored a 3 on a 0 to 5 scale. Some e-government applications are available, such as simple building permit applications, e-mail listserv and some downloadable forms. E-mail from residents is manually routed to the appropriate departments. Some agencies routinely use the network to share data.
- **Leadership** – In terms of technology leadership within the government community, Marshall County and its associated governments scored a 2 on a 0 to 5 scale. Public agencies do not have a strategy for how best to use e-government. Minimal telecommunications planning has occurred. Elected officials are not involved in telecommunications issues.

### The Vision

The Marshall County eCommunity Leadership Team has developed goals to provide a framework for robust e-government functions in the next two years, bringing the rating in the category of network places to a 5 on a 0 to 5 scale; the rating for applications and services to a 4; and the rating for leadership to a 5. The team's vision includes:

- The telephone system is being converted to **VoIP** to save money
- Many field workers use **wireless networks** to upload and download data in the field.
- **Critical traffic signals are connected**
- **Desktop videoconferencing** is widely available
- Customers can **make routine payments**, such as parking fines, **online** using credit cards or EFT
- Parks and recreation **classes have online registration**
- **Building inspections and violations** can be entered from the field
- The government has telecommunications, e-government and **information technology master plans** in place to guide its efforts
- **Innovative processes** are used to collaborate with the private sector

### TOURISM, RECREATION AND PARKS

The Marshall County/Kentucky Lake area offers a variety of attractions and activities for the whole family to enjoy. Kentucky Lake is comprised of 160,000 surface acres and 2,300 miles of shoreline. It is large enough to accommodate a variety of water activities including fishing, boating, skiing and wildlife viewing. In addition to water and wildlife, the area has golfing, shopping, dining, antiques and crafts, hiking and biking, hunting, camping and much more. The Marshall County Tourist Commission's website can be found at [www.KentuckyLake.org](http://www.KentuckyLake.org), which promotes tourism in Marshall County. The website gets about 3,000 visitors each month, with that number climbing continually. The Tourist Commission sees technology and online advertising as a vital marketing tool that is important for the tourism sector to continue growing.

Some of the attractions within Marshall County include:

- Kentucky Dam Village State Resort Park, [parks.ky.gov/resortparks/kd](http://parks.ky.gov/resortparks/kd)
- Kenlake State Resort Park, [parks.ky.gov/resortparks/kl](http://parks.ky.gov/resortparks/kl)
- The Kentucky Opry, [www.kentuckyopry.com](http://www.kentuckyopry.com)

- Kentucky Lake Motor Speedway, [www.klmsllc.com](http://www.klmsllc.com)
- KenLake Marina, [www.kenlakemarina.com](http://www.kenlakemarina.com)
- Kentucky Dam Marina, [www.kydammarina.com](http://www.kydammarina.com)
- Maggie's Jungle Golf and Jungle Run, [www.maggiesjunglegolf.com](http://www.maggiesjunglegolf.com)
- The Brass Lantern Restaurant, [www.brasslanternrestaurant.com](http://www.brasslanternrestaurant.com)
- Captain Kirk's Guide Service, [www.captainkirksguideservice.com](http://www.captainkirksguideservice.com)
- Rodney Hairgrove Fishing Service, [www.kylakefishingguide.com](http://www.kylakefishingguide.com)
- Lazy Ridge Country Store, [www.lazyridgecountrystore.com](http://www.lazyridgecountrystore.com)
- Twilight Cabaret, [www.twilightcabaretproductions.org](http://www.twilightcabaretproductions.org)

The following are resorts in Marshall County that also have an online presence:

- Azar Lodge, [www.azarslodge.com](http://www.azarslodge.com);
- Bee Spring Lodge, [www.beespringlodge.com](http://www.beespringlodge.com);
- Big Bear Resort, [www.bigbearkentuckylake.com](http://www.bigbearkentuckylake.com);
- Cedar Knob Resort, [www.cedarknobresort.com](http://www.cedarknobresort.com);
- Cozy Cove Resort, [www.cozycovewaterfront.com](http://www.cozycovewaterfront.com);
- Cloverleaf Inn, [www.cloverleafmotel-kydam.com](http://www.cloverleafmotel-kydam.com);
- Early American Motel, [www.earlyamericanmotel.com](http://www.earlyamericanmotel.com);
- Gingerwood Lodges, [www.gingerwoodlodges.com](http://www.gingerwoodlodges.com);
- Hester's Spot in the Sun, [www.hestersresort.com](http://www.hestersresort.com);
- High Ridge Resort, [www.highridge-resort.com](http://www.highridge-resort.com);
- Hickory Hill Resort, [www.hickoryhillresort.com](http://www.hickoryhillresort.com);
- Inn By the Lake, [www.innbythelakeky.com](http://www.innbythelakeky.com);
- Ken Bar Lodge, [www.kenbarlodge.com](http://www.kenbarlodge.com);
- Ken Oak Resort, [www.kenoakresort.com](http://www.kenoakresort.com);
- King Creek Resort, [www.fishinkentucky.com](http://www.fishinkentucky.com);
- Lakeland Resort, [www.lakelandresortky.com](http://www.lakelandresortky.com);
- Magnolia Manor, [www.magnoliamanorofky.com](http://www.magnoliamanorofky.com);
- Malcolm Creek Resort, [www.malcolm creek.com](http://www.malcolm creek.com);
- Moors Resort & Marina, [www.moorsresort.com](http://www.moorsresort.com);
- Ross's Landing B&B, [www.rosslanding.com](http://www.rosslanding.com);
- Shawnee Bay Resort, [www.shawneebayresort.com](http://www.shawneebayresort.com);
- Southern Komfort Resort, [www.southernkomfort.com](http://www.southernkomfort.com)
- Sportsman's Lodge, [www.sportsmans-lodge.com](http://www.sportsmans-lodge.com);
- Sportsman's Anchor Resort, [www.anchorresortandmarina.com](http://www.anchorresortandmarina.com);
- Town & Country Resort, [www.kentuckylakeresort.com](http://www.kentuckylakeresort.com); and
- Whispering Oaks, [www.whisperingoaks.com](http://www.whisperingoaks.com);

There are also a number of guides and websites that can help visitors plan their trips to Marshall County. Some include:

- [www.kentuckylake.org](http://www.kentuckylake.org), Marshall County Tourist Commission
- [www.explorekentuckylake.com](http://www.explorekentuckylake.com), Kentucky Lake Productions
- [www.kentuckylake.com](http://www.kentuckylake.com), Kentucky Lake Online, LLC
- [www.kentuckylakebarkley.org](http://www.kentuckylakebarkley.org), Kentucky's Western Waterland

### **The Assessment**

The Marshall County eCommunity Leadership Team found that the tourism, recreation and parks sector is beginning to use technology to its advantage and identified a large opportunity for technology applications within the tourism, recreation and parks sector.

- **Network Places** – In the category of network places, Marshall County’s tourism, recreation, and parks sector scored a 3 on a 0 to 5 scale.
- **Applications and Services** – In the category of technology applications and services, the tourism, recreation and parks sector scored a 2 on a 0 to 5 scale. Some facilities have an informational website. Some facilities transmit or receive some reservations electronically.
- **Leadership** – In terms of technology leadership within the tourism, recreation and parks sector, Marshall County scored a 2 on a 0 to 5 scale. The Internet is seen as essential to business operations. Employees are trained on basic applications.

### The Vision

The Marshall County eCommunity Leadership Team sees great potential for the use of technology in the tourism, recreation and parks sector but understands the industry is limited in its resources and ability to implement changes within a brief period. The team has set goals to move each of the three categories above to a rating of 4 on a 0 to 5 scale. The team’s vision includes:

- Some facilities use **VoIP** to save money
- Some office workers have converted from desktop computers to **portable devices** with wireless connections
- Some office computers have **webcams for videoconferencing**
- Some facilities outsource most of their **computing services to local service providers**
- Some facilities **market out of state** or internationally
- Some employees **work remotely**
- Some facilities **permit some employees to telework** one or two days a week
- Some facilities encourage employees to take **work-related classes online**
- Facilities are working with educational partners to **raise workforce** skill levels

### AGRICULTURE

Marshall County’s base of farms increased 13 percent from 1997 to 2002, going from 799 farms to 902 farms. There are 120,500 Marshall County acres in farmland. The average size farm is 134 acres. The market value of farm production in 2002 was \$27 million, up 37 percent from the 1997 level of \$19.7 million. In 2002, crop sales accounted for \$8.7 million and livestock accounted for \$18.3 million. Government payments totaled \$1.45 million in 2002, with an average of \$3,500 per farm. The Leading ag products in sales in Marshall County are:

- Poultry and eggs = \$11,918,000
- Grains, oilseeds, dry beans, and dry peas = \$6,082,000
- Cattle and calves = \$4,341,000
- Nursery, greenhouse, floriculture, and sod = \$1,465,000

Marshall County received \$2.3 million in burley payments and \$4.5 million in dark payments from the Tobacco Buyout Program.

In Marshall County, the agricultural community is served by the Marshall County Office of the University of Kentucky Cooperative Extension Service, [ces.ca.uky.edu/Marshall](http://ces.ca.uky.edu/Marshall). From their website, a farmer can learn the latest information about grain, tobacco, livestock, agriculture policies, and hot topics such as soybean rust, soybean aphid and West Nile virus. From the Agriculture page, a farmer can view newsletters on grain marketing, corn and soybeans, and the latest news from the University of Kentucky, as well as the Marshall Cooperative Extension Service.

- It is important for the agriculture sector to understand that: Broadband can bring real-time access to weather, disease, and market information, improving decision-making abilities of users
- Education is available to teach users about new applications

### **The Assessment**

The Marshall County eCommunity Leadership Team found that the agricultural sector is just beginning to use technology to its advantage and identified a large opportunity for technology applications within the farming community.

- **Network Places** – In the category of network places, Marshall County's agricultural sector scored a 1 on a 0 to 5 scale. Some growers, suppliers, and processors have limited access through a dial-up connection.
- **Applications and Services** – In the category of technology applications and services, the agriculture sector scored a 1 on a 0 to 5 scale with some growers, suppliers, and processors using e-mail and the Internet.
- **Leadership** – In terms of technology leadership within the agricultural community, Marshall County scored a 1 on a 0 to 5 scale. The Internet is seen as a possible enhancement to the way daily business is conducted.

### **The Vision**

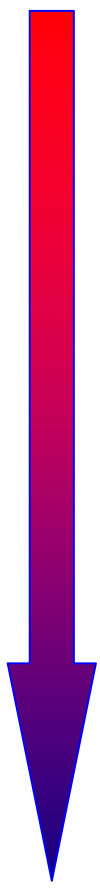
The Marshall County eCommunity Leadership Team sees great potential for the use of technology in the agricultural sector but understands the industry is limited in its resources and ability to implement changes within a brief period. The team has set goals to move its rating to a 3 on a 0 to 5 scale for all three categories: networked places, applications and services, and leadership. The team's vision includes:

- Most growers, suppliers, and processors have **always-on connections** to the Internet
- Some mobile workers have laptop computers and **can access the network remotely**
- Affordable **videoconferencing facilities are available** in the community
- Most growers, suppliers, and processors have **informational websites**
- Some **websites can accept credit card** purchases
- Some growers, suppliers, and processors participate in an **electronic supply chain**
- Some suppliers and processors **permit employees periodically to telework**
- Some growers, suppliers, and processors encourage employees to take **work-related classes online**

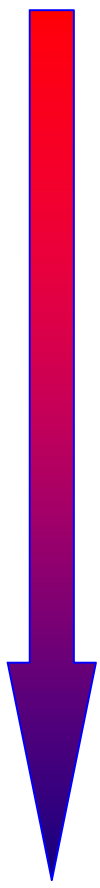
# Business and Industry

# Marshall County

- Marshall County's Benchmark Assessment Results are presented in red.
- Marshall County's Vision for this Sector is presented in blue.

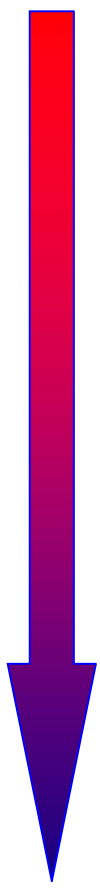
	Stage	Networked Places	Applications & Services	Leadership
<p style="text-align: center;">Least Connected</p>  <p style="text-align: center;">Most Connected</p>	0	Not using the Internet.	No computer use or Website. Customers use phone and postal mail.	No technology or telecom plan.
	1	Some employees have limited access to the Internet through a dial-up connection.	Utilize basic e-mail services through their connection.	Internet is considered a possible business enhancement.
	2	Some office employees have always-on connections to the Internet at their desks.	Some businesses have informational Website. Some businesses transmit or receive some orders electronically.	Some view the Internet as essential to business operations. Employees are trained on basic applications.
	3	● Most office employees have always-on connections to the Internet at their desks. Some mobile workers have laptop computers and can access the office network remotely. Affordable videoconferencing facilities are available in the community	● Most businesses have informational Website. Some retail Websites can accept credit card transactions. Some businesses participate in electronic supply chain.	● Some businesses permit some employees periodically to telework. Some businesses encourage employees to take work-related classes offline. Employee training on new technology is a priority.
	4	■ Some businesses use VoIP (Voice over IP) to save money. Some office workers have converted from desktop computers to portable device. Some office computers have webcams for videoconferencing.	■ Some businesses outsource most of their computer services. Some retailers and manufacturers sell goods out of state or internationally. Some employees work remotely, some out of state.	■ Some businesses permit some employees to telework one or two days a week. Some businesses encourage employees to take work-related courses online. Businesses are working with educational partners to raise workforce skill levels.
	5	Most businesses use VoIP to save money. Most computers have video cameras. Some retailers and manufacturers use RFID (radio frequency identification) to track inventory and equipment.	Some businesses send and receive video mail. Some businesses outsource most of their computing services. Some businesses routinely use multiparty videoconferencing to coordinate operations.	Some businesses have restructured to focus on their core contribution and outsource nonessential functions. New hires are required to have experience using new technology in business applications.

● Marshall County's Benchmark Assessment Results are presented in red.  
 ■ Marshall County's Vision for this Sector is presented in blue.

	Stage	Networked Places	Applications & Services	Leadership
 <p>Least Connected</p>	0	Not using the Internet.	Use phone and postal mail. No Website.	No technology or telecom plan.
	1	Few middle and high schools have computer labs for students. Few classrooms/teachers have access to computer projectors	Few schools have an informational Website. Internet is not used as a resource for instruction or homework assignments.	Few experienced teachers are trained in how to incorporate material from the Internet into their curriculum.
	2	Many middle and high schools have computer labs for students. Some classrooms and teachers have access to computer projectors.	Many schools have an informational Website. The Internet is rarely used as a resource for instruction or homework assignments.	Few schools have plans for better utilizing telecommunications services and technologies in their classrooms. Some teachers can incorporate Internet material into their curriculum.
	3	● Schools provide at least one computer for every five students in grades 7-12. Most classrooms have computers for student use. Some teachers use computer-based presentation tools and projectors for their lessons.	Some schools have an interactive Website that offers access to homework assignments and communication with teachers/administrators. Many teachers can incorporate Internet material into the curriculum Teachers welcome e-mail from parents/students.	The school board sees opportunities to use the network to raise test scores and operate the school more efficiently. Teacher training on new technologies is a priority at most school districts. Schools are using consultants to take advantage of e-rate and other school discounts.
	4	■ Some students bring their own laptop computers to school. Some computer labs close. Many classrooms teachers have access to digital projection capabilities. Most middle and high schools have video programs that allow students to produce and share shows on a public network. Some schools use wireless sensors to monitor energy consumption.	● Many schools have an interactive Website that offers access to homework assignments and e-mail contact with teachers and administrators. All teachers are trained to use the Internet for instruction. Parents and family members are encouraged to participate in student learning via e-mail and online applications. Some seniors are taking college-level classes on the Internet.	● Some schools have comprehensive plans for learning activities utilizing technology in the classroom. New hires are required to have experience using new technology in the classroom. Computer labs are made available to family and community members. Schools take responsibility for continuing e-rate and other discounts.
<p>Most Connected</p>	5	Most students bring their own laptop computers to school. Most computer labs have been closed. Many classrooms have large, flat-panel displays or projectors for video-based instruction. Most schools have converted their phone system to VoIP to save money.	■ Schools use the network to connect students, teachers and parents, improve learning via online resources, and manage administrative responsibilities. Schools have ICT literacy requirements in place. Technology training is offered in the community. Many high school students use online resources to explore subjects and develop learning plans.	■ Many schools have comprehensive plans for learning activities utilizing technology in the classroom. School districts actively promote ICT literacy to drive positive impacts on economic performance, skills and innovation in the classroom. The school system plays a vital role in raising the skill level and awareness of community and family members.

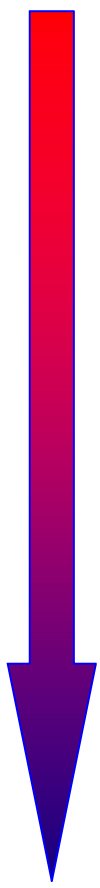
<b>Healthcare</b>	<b>Marshall County</b>
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● Marshall County's Benchmark Assessment Results are presented in red.  
 ■ Marshall County's Vision for this Sector is presented in blue.

	Stage	Networked Places	Applications & Services	Leadership
 <p style="text-align: center;">Least Connected</p>	0	Not using the Internet.	Customers use phone and postal mail. No Website.	No technology or telecom plan.
	1	Some physicians and/or staff have access to the Internet through a dial-up connection.	Physicians and/or staff are utilizing a dial-up connection in order to access health-related sites.	Considering what advantage may come from implementation of Internet in office.
	2	● Some doctors regularly use computers to enter and maintain patient records. Digital instruments and imaging equipment are being acquired.	● Some providers have informational Websites. Some providers store patient records electronically. Telemedicine is being evaluated. Some offices are electronically transmitting records to insurers for reimbursement.	● Some providers have begun the conversion to electronic medical records. Some providers are investigating how to deploy wireless technologies for mobile workers.
	3	Some doctors and nurses are using laptop and palmtop devices connected to wireless networks to enter patient information and access databases.	Many providers have informational Websites. Many providers store patient records electronically. Telemedicine is being evaluated. Some offices are electronically transmitting records to insurers for reimbursement.	Many providers have begun the conversion to electronic medical records. Many providers are investigating how to deploy wireless technologies for mobile workers.
	4	■ Internet-based videoconferencing is used to consult experts and for training programs. Some patients are being monitored at home and at work via portable devices with wireless transmitters.	■ Some providers allow patients to e-mail doctors. Most providers store patient records electronically. Some lab results and images are received electronically.	■ Work is underway by some providers to begin online exchanging of test results and other medical records with appropriate parties. Healthcare leaders are talking with the community about enhancing online services and using the network to improve communitywide healthcare.
	5	Most equipment has been converted to digital. Desktop videoconferencing is routine at all hospitals and major clinics. Telephone systems have converted to VoIP to save money. Remote monitoring of patients with chronic conditions is standard procedure.	All providers allow patients to schedule appointments, view records and get advice online. All patient records are stored electronically and routinely sent electronically to distant providers to aid diagnosis and treatment for emergency patients. Telemedicine routinely is used to access specialists. Wireless feeds in ambulances provide real-time patient assessment to ER staff.	Healthcare leaders see themselves as a key part of the community's overall economic strategy. Leaders are visible and active in strategy development and implementation. Executives of the region's hospitals, clinics, insurers, employers and other healthcare providers are meeting regularly to find ways to collaboratively reduce the cost of healthcare without compromising quality of service.
<p style="text-align: center;">Most Connected</p>				

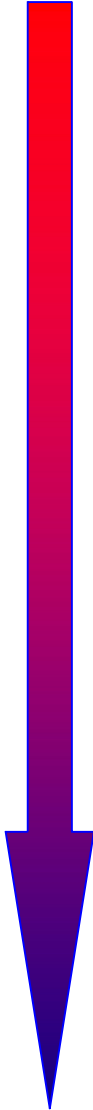
<b>Libraries</b>	<b>Marshall County</b>
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● Marshall County's Benchmark Assessment Results are presented in red.  
 ■ Marshall County's Vision for this Sector is presented in blue.

	Stage	Networked Places	Applications & Services	Leadership
	<b>Least Connected</b>	Libraries do not provide Internet access.	Customers use postal mail or phone. No Website.	There is no technology or telecom plan.
	1	Some employees have access to a dial-up connection.	Some employees are accessing e-mail and library-related Websites.	Employees are accessing Internet in order to help the patrons of the facility.
	2	Public libraries provide several computers with free access to the Internet.	Most libraries have a Website with basic information about hours of operation and location.	Libraries are the first to offer free access and instruction in the use of the Internet.
	3	● There is rarely a more than 10-minute wait to use the Internet-enabled computers.	● Most libraries have catalogs online. Patrons may use the Internet to place books on hold and request books from other libraries in the library system. Patrons can search online databases from home, school, or work. Libraries host live video feeds of public interest events.	● The library research desk is an online community resource. Staff training on new technologies is a priority at most libraries. Libraries are using consultants to take advantage of e-rate and other discounts. Library policies reflect appropriate filtering requirements.
	4	Public libraries have added network ports or wireless networks and electrical outlets to carrels.	Patrons may review their accounts online and pay fines by credit card. Patrons can access the library online as a portal for other online information services.	■ Libraries help the community understand copyright issues and how to protect privacy on the Internet. New hires are required to have experience using new technology. Libraries take internal responsibility for continuing e-rate and other discounts. Libraries have developed network management policies and technologies to prevent patrons from sending spam.
	<b>Most Connected</b>	5	■ Most public libraries offer patrons a 100 mbps or faster wireless network.	■ Public libraries offer live video consultations. Public libraries allow patrons to borrow e-books over the Internet. They help patrons conduct research and assist with legal access to copyrighted databases and publications, including music and movies. Two-way videoconferencing is available to the general public.


**Higher Education**

**Marshall County**

	Stage	Networked Places	Applications & Services	Leadership
<p style="text-align: center;">Least Connected</p>  <p style="text-align: center;">Most Connected</p>	<b>0</b>	Not using the Internet.	Use phone and postal mail.	There is no technology or telecom plan.
	<b>1</b>	Some on-campus residents have broadband connections through non-university providers.	Few faculty members are trained to use the Internet for instruction. Few classes use digital content and/or web-based content for instruction.	Few departments have plans for better utilizing telecommunications services and technologies in their operations.
	<b>2</b>	Most on-campus residences have a 10 mbps connection to the network. Some classrooms are wired to the college/university network and are equipped with digital projection capabilities.	Some faculty members are trained to use the Internet for instruction. Some classes use digital content and/or web-based content for instruction.	Few departments have plans for better utilizing telecommunications services and technologies in their operations.
	<b>3</b>	Most on-campus residences have connections to the network in every room at least 10 mbps. Some classrooms have projection equipment that allows the instructor to display videos from the Internet into the classroom.	Many of the faculty are trained to use the Internet for instruction. Many classes use digital content and/or web-based content for instruction. Students use chat rooms to discuss lessons and ask questions of instructors outside of class hours. Online registration, catalogs, and payment available.	Specialized courses have been developed to cater to area businesses seeking to improve the skills of workers. Some colleges and universities have or are developing online classes to provide greater convenience for students and to increase student enrollment. Faculty training on new technology is a priority.
	<b>4</b>	Some classrooms have been remodeled to include network connections and power outlets at every seat. Many students bring laptop computers or other network-enabled devices to class. Some classrooms have video equipment for recording lectures.	Most of the faculty are trained to use the Internet for instruction. Most classes use digital content and/or Web-based content for instruction. Some undergraduate students take distance learning classes for specialized subjects and graduate-level research.	Higher education and local businesses are working together to raise the skill level of the current workforce. Community colleges are expanding their capacity by using distance learning technologies to reduce the need for classroom time. Some colleges and universities are developing online classes to market to students in other parts of the country and the world.
	<b>5</b>	Many classrooms have been remodeled to include network connections and power outlets at every seat. Most students bring laptop computers or other network-enabled devices to class. Many classrooms have video equipment for recording lectures.	Many undergraduate students take distance learning classes for specialized subjects and graduate-level research. All aspects of higher education are available through the network including instruction and administration.	The college/university sees itself as a vital partner in the community's economic development strategy and has formed partnerships with local businesses to provide skilled technology workers and innovative solutions. The colleges/universities actively promotes ICT literacy to drive positive impacts on economic performance, skills, and innovation in the classroom.

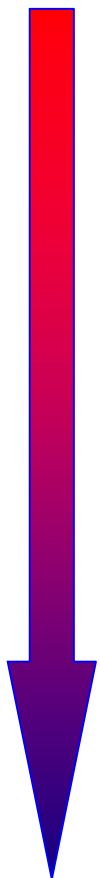
<b>Community-Based Organizations</b>	<b>Marshall County</b>
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● Marshall County's Benchmark Assessment Results are presented in red.  
 ■ Marshall County's Vision for this Sector is presented in blue.

	Stage	Networked Places	Applications & Services	Leadership
	<b>Least Connected</b>			
	<b>0</b>	Not using the Internet.	No computer use. No Website. Use phone and postal mail.	No technology or telecom plan.
	<b>1</b>	Accessing the Internet through a limited dial-up connection.	Currently utilizing e-mail and possibly other basic Internet functions.	Internet is seen as a possible enhancement and marketing tool.
	<b>2</b>	● Some CBOs have computers that are no older than three years old. Many CBOs have e-mail. Some office employees have always-on connections to the Internet at their desks.	● Some CBOs have informational Websites.	● CBOs are minimally involved in community economic development issues. Little or no plans exist for better utilizing telecommunications services and technologies. Some CBOs provide technology training to their staff at least once a year.
	<b>3</b>	■ Most CBOs with at least five paid staff have at least one computer for every three employees. Many CBOs have e-mail.	■ Many CBOs have an informational Website. Many local chapters are able to share data electronically with the national parent organization. Some CBOs accept online donations.	■ Some CBOs are involved in specific economic development initiatives, but most do not participate. Some CBOs plan to use telecommunications services and technologies within the next year. Some CBOs provide technology training to their staff at least once a year.
	<b>4</b>	Many CBOs with at least five employees have direct connections to the Internet. All paid staff have e-mail accounts. Some CBOs use VoIP to save money. Some office workers have converted from desktop computers to portable wireless devices. Some office computers have video cameras.	Most CBOs have an informational Website. A unified CBO portal provides access to a broad range of community information and services. Most local chapters are able to share data with the parent organization.	Some CBO leaders are actively involved in community economic development issues and there are visible leaders taking a significant role in economic development. Many CBOs plan to use telecommunications services and technologies within the next year. Most CBOs provide technology training to their staff at least once a year.
<b>Most Connected</b>	<b>5</b>	Many CBOs use VoIP. Every CBO is connected to the Internet. Every computer can access the Internet via a local area network. Many computers have video cameras Most CBOs use affordable videoconferencing facilities.	Most CBOs accept online donations. Some CBOs utilize an interactive service to further engage the community and make their services more broadly available. Electronic data sharing is a common practice between CBOs locally and with national parent organizations.	CBOs collaborate with one another regularly to share resources and provide up-to-date training to their employees and volunteers. CBOs have a defined role in supporting local economic development initiatives. Most CBOs plan to use telecommunications services and technologies within the next year.

<b>Government</b>	<b>Marshall County</b>
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● Marshall County's Benchmark Assessment Results are presented in red.  
 ■ Marshall County's Vision for this Sector is presented in blue.

	Stage	Networked Places	Applications & Services	Leadership
	<b>0</b>	Not using the Internet.	No Website.	There is no technology or telecom plan.
	<b>1</b>	Select employees have access to the Internet through a dial-up connection.	Some employees use the Internet for e-mail purposes.	The Internet is seen as a possible way to enhance the basic daily operations.
	<b>2</b>	Some employees have e-mail accounts.	Most public agency Websites offer informational features such as community calendar, staff directory, and downloadable forms. Customers rely mostly on postal mail and telephone to conduct business.	● Public agencies do not have a strategy for how best to use e-government. Minimal telecommunications planning has occurred. Elected officials are not involved in telecommunications issues.
	<b>3</b>	● Many employees have e-mail accounts. Some field workers are collecting data on laptop computers or palmtops. Webcams are starting to be deployed.	● Some e-government applications are available, such as simple building permit applications, e-mail listserv and some downloadable forms. E-mail from residents is manually routed to the appropriate departments. Some agencies routinely use the network to share data.	Government staff is actively involved in framing technology and telecommunications issues. Processes are underway for enhancing connectivity, rights-of-way management, and IT innovation. Employees are trained and knowledgeable on basic applications.
	<b>4</b>	Some field workers use wireless networks to upload and download data in the field. Some employees are using desktop videoconferencing. Sensors and webcams monitor locations, such as rivers, that may be a threat to public safety.	■ Customers can make routine payments, such as parking fines, online using credit cards or EFT. Parks and recreation classes can be registered for online. Building inspections and violations can be entered from the field.	Some agencies have a formal policy that allows some employees to work at home at least one day a week. Rights-of-way and tower sitting policies are in place. Elected officials understand the importance of the network for economic development and quality of life.
	<b>5</b>	■ The telephone system is being converted to VoIP to save money. Many field workers use wireless networks to upload and download data in the field. Critical traffic signals are connected. Desktop videoconferencing is widely available.	Interactive applications, such as customer relationship management, online GIS, and video streaming are in regular use. Employees manage benefits programs on an intranet. Emergency response teams can reliably communicate across jurisdictions. Council meetings are indexed and available for searching and retrieval online.	■ The government has telecommunications, e-government and IT master plans in place to guide its efforts. Innovative processes are used to collaborate with the private sector.
<b>Least Connected</b>				
<b>Most Connected</b>				

# Tourism, Recreation, and Parks

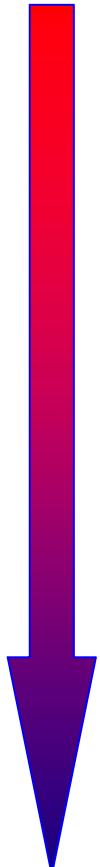
# Marshall County

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Least Connected    Most Connected	Stage	Networked Places	Applications & Services	Leadership
	0	Not using the Internet.	No computer use. No Website. Customers use phone and postal mail.	There is no technology or telecom plan.
	1	Some employees can access the Internet through a dial-up connection.	Some employees currently utilize the Internet for the purpose of e-mail.	The Internet is seen as a possible way to enhance operations.
	2	Some office employees have always-on connections to the Internet at their desks.	● Some facilities have an informational Website. Some facilities transmit or receive some reservations electronically.	● The Internet is seen as essential to business operations. Employees are trained on basic applications.
	3	● Most office employees have always-on connections to the Internet at their desks. Some mobile workers have laptop computers and can access the office network remotely. Affordable videoconferencing facilities are available.	Most facilities have an informational Website. Some Websites can accept credit card purchases. Some facilities participate in an electronic supply chain.	Some facilities permit some employees periodically to telework. Some facilities encourage employees to take work-related classes online. Employee training on new technology is a priority.
	4	■ Some facilities use VoIP to save money. Some office workers have converted from desktop computers to portable devices with wireless connections. Some office computers have webcams for videoconferencing.	■ Some facilities outsource most of their computing services. Some facilities market out of state or internationally. Some employees work remotely.	■ Some facilities permit some employees to telework one or two days a week. Some facilities encourage employees to take work-related classes online. Facilities are working with educational partners to raise workforce skill levels.
5	Most facilities use VoIP to save money. Most computers have video cameras.	Some facilities send and receive video mail. Some facilities outsource most of their computing services. Some facilities routinely use multiparty videoconferencing to coordinate operations.	Some facilities have restructured to focus on their core contribution and outsource nonessential functions. New hires are required to have experience using new technology in business applications.	

<b>Agriculture</b>	<b>Marshall County</b>
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	Stage	Networked Places	Applications & Services	Leadership
 <p style="text-align: center;"><b>Least Connected</b></p>	<b>0</b>	Not using the Internet.	No computer use. No Website. All contacts via phone and postal mail.	There is no technology or telecom plan.
	<b>1</b>	● Some growers, suppliers, and processors have limited access through a dial-up connection.	● Some growers, suppliers, and processors utilize e-mail and Internet.	● The Internet is seen as a possible enhancement to the way daily business is conducted.
	<b>2</b>	Some growers, suppliers, and processors have always-on connections to the Internet at their desks.	Some growers, suppliers, and processors have an informational Website. Some growers, suppliers, and processors transmit or receive some orders electronically.	The Internet is seen as essential to business operations. Employees are trained on basic applications.
	<b>3</b>	■ Most growers, suppliers, and processors have always-on connections to the Internet. Some mobile workers have laptop computers and can access the network remotely. Affordable videoconferencing facilities are available in the community.	■ Most growers, suppliers, and processors have informational Websites. Some Websites can accept credit card purchases. Some growers, suppliers, and processors participate in an electronic supply chain.	■ Some suppliers and processors permit employees periodically to telework. Some growers, suppliers, and processors encourage employees to take work-related classes online.
	<b>4</b>	Some growers, suppliers, and processors use VoIP to save money. Some workers have converted from desktop computers to portable devices with wireless connections. Some office computers have webcams for videoconferencing.	Some suppliers and processors outsource most of their computing services. Some growers, suppliers, and processors sell goods out of state or internationally.	Training on new technology is a priority. Some processors and suppliers permit employees to telework one or two days a week.
	<b>5</b>	Most growers, suppliers, and processors use VoIP to save money. Most computers have video cameras. Some use RFID to track inventory and equipment.	Some growers, suppliers, and processors send and receive video mail. Some outsource most of their computing services. Some routinely use multiparty videoconferencing to coordinate operations.	Some suppliers and producers have restructured to focus on their core contribution and outsource nonessential functions. New hires are required to have experience using new technology.
<b>Most Connected</b>				



## **D. HOW DO WE GET THERE?**

## **D. HOW DO WE GET THERE?**

### **PROJECT CONCEPT: Education, Training and Awareness for Marshall County**

#### **LONG-TERM GOAL**

Organization, promotion and delivery of technology education, training and awareness to the entire community of Marshall County.

#### **WHY IT'S IMPORTANT**

An educated community is essential in today's global economy. There are opportunities to leverage existing resources in Marshall County to expand and enhance workforce training programs, encourage more post-secondary education, and create additional awareness within the community in regard to technology. Education, training and awareness are essential in our ability to expand technology within each sector of the community. These community sectors include: agriculture, business and industry, community-based organizations, government, healthcare, higher education, K-12 education, libraries, and tourism, parks and recreation.

#### **SPECIFIC MEASURABLE OUTCOMES**

(Criteria: clear, compelling, outcome-oriented, achievable within one year)

1. Inventory of all education/training/awareness resources in Marshall County.
2. Development of additional education, training and awareness materials to further the use of technology and broadband applications.
3. Increase the citizen usage rates of computers and broadband in Marshall County.

#### **STEPS TO ACHIEVE OUTCOME**

1. Identify all organizations within Marshall County performing community education, training and awareness.
2. Divide current resources offered by organizations into three categories: education, training and awareness.
3. Determine which sectors could benefit from education/training/awareness opportunities.
4. Create new ways to market and promote opportunities to appropriate groups within the community.
5. Determine gaps in education/training/awareness and ways to fill those gaps.

#### **NAMES OF IMPLEMENTATION CHAMPIONS**

##### **Educational Team**

Marshall County, [www.marshallcounty.ky.gov](http://www.marshallcounty.ky.gov)

Marshall County Cooperative Extension Service, [ces.ca.uky.edu/marshall](http://ces.ca.uky.edu/marshall)

Marshall County Public Library, [www.marshallcolibrary.org](http://www.marshallcolibrary.org)  
Marshall County Schools, [www.marshall.k12.ky.us](http://www.marshall.k12.ky.us)  
Purchase Area Development District, [www.purchaseadd.org](http://www.purchaseadd.org)

## **PROJECT CONCEPT: Conceptual Plan for E-Government Services in Marshall County**

### **LONG-TERM GOAL**

Using technology, improve internal and external efficiencies within city and county government, allowing for better communication between the different government entities and the citizens of Marshall County.

### **WHY IT'S IMPORTANT**

Technology will allow local governments to deliver more applications and improved services to constituents while saving money. With growing public acceptance of online transactions, a well-planned e-government strategy will allow people to request and receive local government services over the Internet.

### **SPECIFIC MEASURABLE OUTCOMES**

1. Determine the public need for electronic access to government.
2. Develop a strategy for significantly reducing visits by the public to government offices for routine transactions.
3. Identify applications specifically designed to help businesses interface with governments more efficiently.

### **STEPS TO ACHIEVE MEASURABLE OUTCOMES**

1. Review current e-government applications to identify areas containing gaps.
2. Develop a survey instrument to identify applications of public interest. Use the survey to examine potential e-government applications.
3. Identify high-volume services to target for automation/online service.
4. Identify partners and entities to assist in implementation.
5. Develop and launch applications.

### **E-GOVERNMENT TEAM**

City of Calvert, [www.calvertcity.com](http://www.calvertcity.com)

City of Benton

Marshall County, [marshallcounty.ky.gov](http://marshallcounty.ky.gov)

Purchase Area Development District, [www.purchaseadd.org](http://www.purchaseadd.org)

## **Potential Action Items**

### **Business and Industry**

- Use videoconferencing to coordinate economic development and business expansion growth.
- Develop a directory for information technology services in the County, including business-to-business opportunities.
- Educate small businesses on what telecommunications services are available and the benefits of using technology in business.

### **Education: K-12**

- The school district must educate the community in order for Internet use to expand in the community.
- Complete the process of upgrading servers and switches. Replace all existing hubs within the school district and upgrade existing frame-relay T1 lines to fiber (or equivalent) solutions.
- Begin implementing video streaming and online/interactive courses upon completion of network upgrade.
- Develop informational websites for all schools with interactive features, including expanding student, parent and teacher access to student information such as homework assignments and attendance records.
- Develop a curriculum that integrates web-based instructional materials.
- Implement online or computer-based testing.
- Establish a countywide educational consortium (made up of public and private schools and adult education) to consolidate the various groups working on technology planning.
- Provide training in information technology resources for districts, especially for support staff and classified personnel.
- Improve countywide access to distance learning classes through the area colleges and universities and allow for post-secondary tele-learning courses to be delivered to students' homes in both real-time and archived formats.
- Develop wireless networks to allow students and faculty seamless access to the campus network.

### **Healthcare**

- Increase access to clinical information among providers and increase access to individual patient information by that patient.
- Educate healthcare professionals on available technologies and the benefits of technology in medicine.
- Seek grants for implementing technological upgrades and training for medical staff.
- Increase access to clinical information among providers and increase patients' access to their own patient information.
- Increase use of videoconferencing- and web-conferencing tools to educate healthcare professionals through distance learning and inform public of current healthcare activities.
- Installation of a PACs System which would speed up time spent waiting for x-rays and CTs to be read.
- Installation of electronic medical records which would make patient care faster and better.

### **Libraries**

- Equip bookmobile with Internet access. Librarian can answer reference questions, maintain live contact with library's automation system and instruct people on how to use library's website. Resources needed: Internet connection, laptop, accessories to connect to automation system.
- Provide assistive technology for Internet and computer use for disabled patrons. Resources needed: applicable software and specialized hardware (keyboard, monitor, microphone, etc.).
- Work with organizations that benefit the disabled to find out what type of technology is needed to help people use computers and the Internet.
- Seek out all viable Internet connections for the bookmobile by networking with other libraries and library organizations and transportation-related businesses, such as trucking companies, delivery vehicles, etc.
- Find funding for technology expansion, upgrades, and training.
- The library is currently in the planning stages of rearranging the main library shelving to add additional PCs and ports for laptops.

### **Community-Based Organizations**

- Enhance education for organizations to better use broadband.
- Develop a networking event to share information, ideas and innovations in technology deployment.
- Encourage organizations to use e-mail and the web by eliminating the use of paper mail.
- Facilitate collaboration and cooperation among organizations to help them share the costs of technology and expertise.

### **Government**

- Improve the ability to conduct business with government over the Internet, such as permitting, purchasing and payments.
- Increase the number of public access terminals in the county.
- Encourage intergovernmental sharing of software, information, and e-commerce concepts.
- Develop more e-government applications that provide value to the consumer.
- Increase public awareness through presentations and literature for personal applications.
- Speed up Internet response from dial-up.

### **Tourism, Parks and Recreation**

- Educate the public about what is trying to be accomplished in Marshall County.
- Use creative advertising showing the positive results technology would have on business and the quality of life.
- Encourage more local companies to sell their goods and services online to promote local businesses and increase sales.
- Encourage resorts to allow online reservations.
- Use technology to market county attractions to potential in-state and out-of-state tourists.

### **Agriculture**

- Use broadband to get real-time access to weather, disease, and market information
- Offer classes to farmers about new applications
- Develop educational materials to help the agriculture community to understand the importance of broadband.
- Create and/or promote materials for the new eXtension service, a national web-based information and education network providing 24/7/365 access to objective, science-based information from universities and partners nationwide.