

**Community Networks:  
Uses, Benefits, Set-Up, and Design**



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**EXECUTIVE SUMMARY**

Community networks could be characterized as a mini-Internet, open only to members of the community. Communities benefit from the use of community networks in several ways. Community networks bridge the digital divide, strengthen community life, and foster local economic development. First, community networks ensure residents have access to computers and the Internet. Second, community networks increase communication between residents and organizations, increasing residents' participation in their community. Third, improved communication and participation increases democratic participation, another benefit of community networks. Finally, community networks aid economic development by providing small businesses and entrepreneurs with resources often only available to larger companies.

Communities considering setting up a community network for their neighborhood will discover these networks are typically administered by non-profits and rely heavily on government and corporate grants and volunteers. There are different types of networks each designed to respond to different needs. Four types of networks and examples of each are highlighted in this study, Free-Nets, Bulletin Boards, Government Sponsored Networks, and Wired Cities.

## **COMMUNITY NETWORKS: USE AND BENEFITS**

### **Introduction**

A community network is a type of communications network that can be publicly accessed by all members of the community. Also known as a community information system, community networks are composed of a network of computers and modems interconnected by a phone line to a central computer. The computer network works to benefit the community members and therefore restricts access to residents only.

Community networks provide residents a range of electronic services, information, and means of communication. The most basic services provided by community networks are local information and the means to communicate electronically through e-mail<sup>1</sup>.

Community networks can be expanded to include on-line discussion forums and an extensive bank of on-line community information. These services can be used for community outreach, to raise community awareness on certain issues, and for training<sup>2</sup>.

### **Characteristics**

Community networks distinguish themselves from other types of computer networks in several ways.

First and foremost, community networks work to ensure that local communities have access to information technology (IT) infrastructure. Community networks work to bridge the digital divide by ensuring that all residents have broad and equitable access to a computer and on-line services. Often, computers and associated equipment will be placed in publicly accessible places, such as libraries, government buildings, and community centers. As a result, community networks can be accessed and used by all the members of a community.

Second, community networks focus on local issues and information important to the community. For example, these networks will often list information on city government

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<sup>1</sup> Beamish, Anne. *Communities On-Line: Community-Based Computer Networks*. MIT Thesis. Boston, 1994. <http://thesis.mit.edu/Dienst/UI/2.0/Page/0018.mit.theses/1995-35/3?npages=172>

<sup>2</sup> “Communities in a Nutshell”. Prairie Community Networks”. [www.parairienet.org](http://www.parairienet.org)

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offices and activities, such as city council meeting times and agendas. In other examples, community networks maintain a community calendar of events, contact information for local social services, local business information and advertisements, adult education classes, public transportation services, and job listings.

Third, community networks focus their resources on strengthening the community. Community officials, advocates, and organizers view community networks as a tool to foster, benefit, and contribute to community development. Community networks can be used to connect residents to their neighbors and local organizations, foster public awareness, organize residents around certain issues, and encourage local economic development.

### **Benefits of Use**

Community networks provide communities with a wealth of benefits. The use of community networks strengthen community life, improves the democratic process, ensure residents' access to the "information superhighway", and aids local economic development.

#### *Strengthen Community Life*

Community networks strengthen community life by increasing communication and the sharing of information between residents, organizations, and other entities. Increased networking among residents and organizations facilitate communities to better organize and collectively address issues facing the community<sup>3</sup>. Improved communication and community involvement leads to increased democratic participation which also strengthens communities.

#### *Increases Democratic Participation*

Increased democratic participation is another benefit of community networks. Community networks allow residents to more fully participate in the democratic process

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<sup>3</sup> Beamish, Anne. *Communities On-Line: Community-Based Computer Networks*. MIT Thesis. Boston, 1994. <http://thesis.mit.edu/Dienst/UI/2.0/Page/0018.mit.theses/1995-35/3?npages=172>

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with posted city council and town hall meetings, on-line discussions concerning local issues, information on local candidates and elections, and the ability to communicate with political officeholders through electronic mail. By increasing residents' access to and participation in political process, residents become empowered to positively affect political change<sup>4</sup>.

### *Access to Information Superhighway*

Among the most important benefits provided by community networks is access to information technology. As a result, residents have the opportunity to participate in global "information superhighway". Community networks make several education opportunities available at the local level. In addition, communities can access the network and engage in activities that support social services and economic growth and development<sup>5</sup>.

### *Supports Local Economic Development*

Local economic development rates among the primary benefits provided by community networks. The use of community networks to aid local economic development strengthens communities by supporting and developing the local economy and empowering its residents<sup>6</sup>. Community networks provide access to technology that many individuals and small businesses could not afford to access independently, especially in low-income and rural communities<sup>7</sup>. The infrastructure supports a range of business activities, from access to electronic mail, automated information management, document and photo scanning, and databases, to on-line Web casting, Web presentations, and electronic conferencing.

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<sup>4</sup> "Communities in a Nutshell". Prairie Community Networks". [www.parairienet.org](http://www.parairienet.org)

<sup>5</sup> Beamish, Anne. *Communities On-Line: Community –Based Computer Networks*. MIT Thesis. Boston, 1994. <http://thesis.mit.edu/Dienst/UI/2.0/Page/0018.mit.theses/1995-35/3?npages=172>

<sup>6</sup> "Communities in a Nutshell". Prairie Community Networks". [www.parairienet.org](http://www.parairienet.org)

<sup>7</sup> "Community Networks, Community, and Commerce: Networking Through Communication Technology", ILGARD (Institute for Local Government Administration and Rural Development). [http://www.ilgard.ohiou.edu/publications/table\\_of\\_contents.html](http://www.ilgard.ohiou.edu/publications/table_of_contents.html)

Access to these services provides multiple benefits to small business owners and entrepreneurs. First, with access to information technology, isolated communities and small business owners with limited resources can transcend the barriers imposed by distance and location. Work can be performed at a distance<sup>8</sup>. Second, it provides these businesses with a competitive advantage. An Internet connection allows businesses to access information on goods and services, production and distribution systems, and to distant markets. The Internet has become the new way for marketing services and products, and in an industry where “time is money” the Internet helps to expedite business transactions<sup>9</sup>. Third, the reduces cost of communication and marketing over the Internet allows for more cost-effective means of doing business. These two important attributes provide tremendous opportunities for local economic development and small business enterprise. The Internet and information technology allows businesses to do business cheaper, faster, and more efficiently<sup>10</sup>.

## **SETTING UP YOUR OWN COMMUNITY NETWORK**

### **Set-up and Administration**

Hundreds of community networks exist around the world, with more than 300 based in the United States. Yet, each community network is unique because they differ by the nature of their setting, their technology set-up, and the nature of their organizational sponsors and structure. Unlike commercial networks, which are entirely self-financed, community networks are typically administered by non-profits and residents are charged little or nothing for these services<sup>11</sup>. As a result, community networks operate on low

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<sup>8</sup> Gurstein, Michael. “Flexible Networking, Information and Communications Technology”, First Monday. [http://www.firstmonday.dk/issues/issue4\\_2/gurstein/index.html](http://www.firstmonday.dk/issues/issue4_2/gurstein/index.html)

<sup>9</sup> “Community Networks, Community, and Commerce: Networking Through Communication Technology”, ILGARD (Institute for Local Government Administration and Rural Development). [http://www.ilgard.ohiou.edu/publications/table\\_of\\_contents.html](http://www.ilgard.ohiou.edu/publications/table_of_contents.html)

<sup>10</sup> Gurstein, Michael. “Flexible Networking, Information and Communications Technology”, First Monday. [http://www.firstmonday.dk/issues/issue4\\_2/gurstein/index.html](http://www.firstmonday.dk/issues/issue4_2/gurstein/index.html)

<sup>11</sup> “Communities in a Nutshell”. Prairie Community Networks”. [www.parairienet.org](http://www.parairienet.org)

budgets and rely heavily on government grants, corporate donations, and volunteer labor. Volunteer labor often becomes the key to the maintenance and survival of these systems.

## **TYPES OF COMMUNITY NETWORKS**

Non-profit organizations typically administer one of the following four basic types of community networks. These four types of networks are Free-Nets, Bulletin Boards, Government-Sponsored Networks, and Wired Cities. They differ in focus and in who initiates/maintains the system. Free-Nets are usually citywide and focus on community development and access, and are initiated and maintained by a small group with institutional support. Bulletin Boards also focus on community development and access, but operate at the neighborhood level. Bulletin Boards are usually initiated and maintained by a small group with limited support. Government-Sponsored Networks have a citywide or statewide focus and provide civic information. Local or state governments support these types of networks. Alternatively, Wired Cities focus on the physical connection and business at the citywide level with the support of private/public partnerships.

### **Free-Nets**

Free-Nets are among the most widespread and organized type of community network. As a result, Free-Net is often used as the generic term for community network. However, Free-Nets refer to a specific type of community network. Free-Nets are actually members of the National Public Telecomputing Network (NPTN) and follow the policies and procedures of the NPTN. As members of the NPTN, Free-Nets generally use the Freeport software developed at Case Western Reserve University in Cleveland, Ohio.

#### *Example of a Free-Net*

The Cleveland Free-Net highlights the use and success of Free-Net network. Founded by Tom Grunder in 1986, the Cleveland Free-Net was the first community computer network. First developed as a bulletin board that posted health information to the public, initial success of the project drew the attention of AT&T, the Ohio Bell Telephone Company, and the University Hospitals of Cleveland. These entities formed a partnership



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to fund and expand the network, resulting in The Cleveland Free-Net, operated by Case Western Reserve University.

The Cleveland Free-Net became a community network providing services that range from free e-mail to information on such diverse topics as law, government, technology, health, the arts, and recreation. Public discussion has become one of the primary features and the main web page hosts a number of links to chat rooms. There are also sections where users can propose and vote on issues, some political and others ranging from what is the best book, film, or restaurant. The Cleveland Free-Net also has a Government Center. The Government Center is a clearinghouse for information and contacts at local, state and federal government; it also includes local weather, health facts and help lines. The Cleveland Free-Net fulfills the goal of community networks, in that it strengthens communities by increasing communication, increases the visibility and accessibility of the government in the community, and provides free access.

### **Bulletin Boards**

Neighborhood Bulletin Boards are the second type of community networks. These community networks are generally smaller, scaled-down versions of city networks. They can exist either as independent systems or as a part of a larger city network. Bulletin Board Systems (BBSs) focus on the neighborhood and thus the information and discussion is on a much more local level. Generally, BBSs are established and maintained by an individual who personally invests in the hardware and software and runs the system out of their home. Small groups of community activists also run BBSs. The prime focus of most BBSs is community development.

#### *Example of a Bulletin Board*

One example of a Bulletin Board System is MUSIC (Multi-User Sessions in Community). MUSIC is a computer network and shared database administered by Alan and Michelle Shaw in Dorchester, a neighborhood of Boston. This community network focuses on community organizing and development and addresses such issues as crime

watches, the food cooperative, and block festivals. The network also features all articles in the Boston Globe relating to the neighborhood.

### **Government Sponsored Networks**

A Government Sponsored Network is the third model for community networks. These networks have a citywide focus and are supported by the state or local government. They are used to provide residents with information on municipal affairs and events. Many of these systems provide records on-line through the network. Additional services provided by government-sponsored networks are electronic mail, electronic forums, and information on a variety of issues.

#### *Example of a Government Sponsored Network*

An example of a Government Sponsored Network is the Public Electronic Network (PEN) system in Santa Monica, California, established in 1989 for the residents of Santa Monica. Services provided are private e-mail between residents or between residents and city hall, read only boards with information posted by the Santa Monica city government, and a site for public postings on a wide range of topics. PEN hosts a wide number of conferences subdivided into topics. For example, in the City Conference, topics range from homelessness and crime to public transportation and youth. The PEN distinguishes itself from other community networks in that the city government has a major presence on the network.

### **Wired Cities**

The fourth type of community network is the Wired City. Wired Cities are defined in two ways. One definition refers to any project or experiment that works to put communication technology services and information in all city households and businesses. The second definition refers to the view of a future city where every type of electronic communication service is available to each city household and business.

*Example of a Wired City: Blacksburg Electronic Village (BEV)*

The Blacksburg Electronic Village (BEV), located in Virginia, provides one example of a Wired City. It is the result of a public/private partnership, uncommon for community networks, between the Town of Blacksburg, Virginia Tech, and Bell Atlantic Southwest. The goal of this partnership is to provide network connection for every home, business, and classroom in Blacksburg. Another goal for the project is to provide businesses with the opportunity to test new products and delivery mechanisms to Blacksburg residents. Among the services provided by the network is information on local issues, events, services and businesses in Blacksburg<sup>12</sup>.

*Example of a Wired City: City of Long Beach*

The City of Long Beach in Southern California provides a second example of a Wired City, although in a very localized area. The City of Long Beach has teamed up with an assortment of technology companies in a public-private partnership to provide free high-speed wireless Internet services for a four-block stretch of downtown Long Beach. The free wireless services are designed to attract visitors to cafes and restaurants in the area<sup>13</sup>, thus supporting local economic development.

## **CONCLUSION**

Community networks provide a myriad of uses and benefits to residents. These systems are used to strengthen communities, promote democratic participation, provide computer and Internet access, and encourage economic development. Typically, a non-profit will administer the network and the type of network designed for the community will depend on the needs of the community. The different types of networks focus on communities of varying size and orientation.

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<sup>12</sup> Beamish, Anne. *Communities On-Line: Community-Based Computer Networks*. MIT Thesis. Boston, 1994. <http://thesis.mit.edu/Dienst/UI/2.0/Page/0018.mit.theses/1995-35/3?npages=172>

<sup>13</sup> “Long Beach, Calif. Installs Free Wireless”, Reuters. January 7, 2003; <http://zdnet.com.com/2110-1105-979397.html>