

Building a
Digital Community:
A Leadership Guidebook



A Product of the Governor's e-Communities Task Force



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Executive Summary

On Aug. 31, 2000, Governor James S. Gilmore III and Secretary of Technology Donald W. Upson asked the newly established Governor's e-Communities Task Force to develop a template, or guide, for communities wishing to leverage the power of the Internet to improve their competitiveness and enrich the lives of their citizens. The Governor, the Secretary and the Task Force understand that many communities' economic vitality depends on their ability to connect seamlessly both to their communities and to the rest of the world. According to their vision, Virginia communities will create a network of individual community portals that reflect local priorities and maintain common elements, and that connect each community to the state, the nation and the world.

These portals will provide a spectrum of government, business, education and community services that together create a connected, seamless digital community statewide for people to access the services they use most. The uniqueness of this project has already captured attention worldwide. The Task Force regularly receives inquiries from as far away as Egypt, Scotland and New Zealand. When Virginia's communities fully embrace the vision and move toward the creation of new e-community portals or the integration of existing portals with a statewide effort, the power and potential of the e-community concept will emerge.

The Task Force, composed of leaders from local government, business and education, responded to the Governor's original request by developing a set of six Guiding Principles for communities to embrace, followed by a more practical handbook – this *Leadership Guidebook*.

The *Guiding Principles* present a strategy for all Virginia communities to use Internet and communications technologies to improve the quality of life for their citizens and the economic vitality of their communities and regions. The Task Force's follow-on product, this *Leadership Guidebook*, informs community leaders about:

- how to launch or expand a community- or government-led portal according to the *Guiding Principles*, and some considerations for each type of effort

Communities exist in a sea of governments competing across the globe to provide citizens services for economic purposes.

Citizens and businesses will be drawn to those communities that can provide convenient, relevant goods and harness the power of today's technology.

In this technology-driven global economy, what communities do on a local level has regional, national and global implications.

Strategy



- the Commonwealth's role in providing services and applications to communities
- what roles government, the community, businesses and the non-profit sector should play on the local level
- what common elements these portals should have

Communities sense the urgency of participating fully in the digital economy, but building an e-community portal that expresses the character and priorities of a community is not easy. Successful projects will have strong leadership and vision in common, and that vision must include defining each e-community's place in the larger enterprise of the Commonwealth.

The Task Force presents this *Guidebook* in the knowledge that building a successful e-community portal hinges on establishing e-community leadership with a vision compatible with that of the Commonwealth. As suggested by the *Guiding Principles*, local government can act as a catalyst, but it must also engage the other community leaders. The e-community concept is a broad model for civic engagement. The e-community portal can serve as its tangible representation, a means by which a community can focus its electronic and digital participation in the Information Age – for government, business, education and community services.

Community Initiative

The e-community portal can be either a public or a private endeavor. Whether government- or community-owned, e-communities' portals will have common elements and also unique characteristics, dictated by local preference or by legal structures. Either approach can adhere to the *Guiding Principles* and the direction laid out in this *Leadership Guidebook*.

The e-communities portal initiative:

- encourages all Virginia communities to use the power of the Internet to improve their economic vitality and the quality of life for their citizens
- provides resources and guidance for communities just embarking on building a government- or community-owned portal
- offers a seamless enterprise structure (via the "My Virginia" portal¹) for providing state-level services to the web-enabled communities and to those communities that already have portals or websites developed
- values leadership and vision and is a model for other states and governments to follow

¹ www.myvirginia.org



Communities across the Commonwealth find themselves at varying levels of e-readiness and digital connectivity. However, regardless of the level (see *Performing a Community Assessment*, p.34), communities can use the *Guidebook* to embark on this effort.

- Communities that have already developed a portal or website aimed at providing access to government and community services can become part of this project right away, simply by placing the *My Virginia* icon on the splash page of the community's site/portal. That icon will automatically link users to the official Virginia homepage and the innumerable information resources and online services provided by Virginia government entities.

Additionally, community portals may want to integrate the list of state government online services (available via the *My Virginia* portal's "Online Services" page) with those provided by a community's local government(s).

In return, the state portal – *My Virginia* – will provide a special ZIP code-based search engine that will automatically link users to their local community portals. Eventually, people will have a single access point through which they can access the services they want and conduct desired transactions with government, local business, local non-profits or local educational institutions without having to switch sites or portals. And through their portal, they can connect to other communities and businesses worldwide.

Additional information regarding local government services that can be provided by the Virginia Information Providers Network (VIPNet) can be found on the VIPNet website at www.vipnet.org/info and on the interactive CD-ROM inside the back cover of this *Guidebook*.

See Appendix I for instructions on adding the "My Virginia" Icon and the Virginia Government Online Services List to community portals and other websites

- For communities that do not have a portal or website, "*The Community Portal Concept*" section of this document begins to outline the process of building a local e-community portal, how to assess the community's e-readiness and who to engage in the process.
- Once a link has been established between the state and local portals and websites on the governmental side, the vision next turns to integrating local businesses, government, community and education with each community portal. When a community believes it has successfully begun the process, this Task Force recommends that the state afford it "*Certified e-Community*" status based on the guidelines established in the *Task Force Recommendations* (p.6).



Portal Options

Summarizing the Gartner Group's concept, "portal" broadly defines a particular class of website. It can be a gateway website that catalogs, links to and/or otherwise organizes other websites. It may employ a search engine, and it may provide these services to specific audiences by aggregating information according to the user's interest ("channels"), providing collaboration tools or community services. It may also personalize the information.

Most importantly, an e-community portal includes, but is not limited to, e-government initiatives.

The e-community portal concept must differentiate between a government-owned portal and a community-owned portal. Government-owned efforts will have more restrictions on content, linkage and partnership, but some communities may still choose to go forward with a publicly funded effort. Both are consistent with this initiative so long as they follow the basic structure and allow for links with community, business and non-profit groups.

The other option, a community- or non-profit-owned effort, can be *facilitated* by local government. In this case too, the e-community portal provides access to community groups, education, businesses (as appropriate) and business groups as well as electronic government.

Beyond the portal initiative, the e-community effort also attempts to consider user needs and preferences with regard to access, language, medium, and preferred products and services. The e-community effort will require a frank assessment of existing telecommunications and computing infrastructure, the timetable for improvement, and the cost and feasibility of potential infrastructure projects. (One recommendation of the Task Force is to aggregate infrastructure requirements of communities where and as appropriate.) E-community activities can also include training, services and support, but that is up to the project team and depends on the resources available to the community.



Guidebook Overview

This *Guidebook* presents the Task Force’s research on how best to guide communities in working to achieve the statewide network of e-community portals it envisions. The remaining sections of the Executive Summary summarize the Task Force recommendations and present the *Guiding Principles*. In the subsequent sections, the steps for building an e-community portal are laid out.

After the Introduction and a discussion of the role of the state, the Task Force considers the key applications and services on the four recommended channels: Government, Community Services, Business and Education. It then gives some examples from localities worldwide to give a flavor of what can be done. Last, it considers the major tasks that will be needed in order to prioritize local needs and get maximum community buy-in – establishing the leadership, developing a strategic plan and performing a community assessment.

Under the Project Implementation section, the Task Force suggests specific policies and guidelines that communities ought to consider and provides some guidance on obtaining funding for non-governmental efforts. The Bibliography and Appendices provide additional sources and guides.

Based upon the vision that Gov. Gilmore and Secretary Upson set forth for e-communities in the Commonwealth, the material developed for this *Guidebook* leverages the personal expertise of the business, education and community leaders who sit on the Task Force and builds on their work with local leaders across Virginia. Several months of additional research identified best practices worldwide. The Commonwealth’s Virginia Information Providers Network (VIPNet) offers technical expertise and information on seamlessly providing services and applications regardless of the level of government.





Utilize Technology

Task Force Recommendations

The Task Force considered the experiences of many Virginia, national and international communities to reach some concrete recommendations on how to achieve a network of community portals that adhere to the *Guiding Principles* (re-printed in the next section of this *Guidebook*). Specifically, the Task Force looked for means to stimulate community portal development and integrate services – particularly government services – from the local to the state to the federal levels, while keeping the effort accessible to as many as possible.

The Task Force recommends that the Commonwealth:

1. Create a **Governor’s Advisory Commission on e-Communities** to coordinate e-communities efforts statewide. The Commission should last 3 years, be led by the Secretaries of Commerce, Education, and Technology, with representatives from local government, state agencies, institutes of higher education, and business in equal portions. The purpose of the Commission will be to:
 - a. Advise the Governor and General Assembly on policy issues related to maintaining a robust e-communities environment
 - b. Recommend allocation of resources from the e-Communities Infrastructure Fund (ECIF)
 - c. Hold topical conferences across the Commonwealth to assist communities in establishing leadership and technical expertise for a robust e-communities environment
 - d. Establish guidelines for a *Certified e-Community* program
 - e. Provide updates to keep current this *Guidebook*
 - f. Conduct a statewide **e-Communities competition** to include categories reflecting different size and geographical communities. The purpose of this competition is to stimulate marketing awareness of the opportunities that committed e-communities can offer—to citizens and business, the actual portal participants—and encourage development of the initiative as an attractive component of economic development.

We propose a \$150,000 operating cost for 3 years for administration of this Commission. Resources should be provided through the Governor’s Budget to the Secretary of Technology.

2. Establish through the biennial budget process an **e-Communities Infrastructure Fund (ECIF)** to aggregate infrastructure costs for web hosting and related services. The fund would sunset after three years, and should concentrate on communities and regions of the Commonwealth least able to provide resources for portal development and to gain the natural economy of scale efficiencies such a fund fosters.



3. Create an optional multi-vendor, state-wide contract procurement vehicle that will help localities facilitate the contracting of development, hosting, and co-location services in the creation and development of local portals

This *Guidebook* is a work in progress. Additional resources and best practices will be updated and posted to the Task Force Web site, <http://www.councils.cit.org/ecommunities>

Guiding Principles

The following text reprints the *Guiding Principles for e-Communities* that this Task Force produced in support of the vision for a statewide e-communities initiative. These principles can act as a guide for e-community initiatives in every locality in the Commonwealth.

Guiding Principles for e-Communities **Building Virginia's Digital Communities** **March 14, 2001**

1. Individuals Want to Participate in the Prosperity and Growth of the Information Economy

Individuals and local government leaders increasingly believe that technology is critically linked to quality of life and community economic development. Using technology to build a broadly accessible online community presence reaps positive results in several ways:

- ✓ It encourages people to get involved and both seek information and transact business online.
- ✓ It spurs technical learning, encourages technology infrastructure investment and focuses efforts on increased access.
- ✓ It increases the attractiveness of communities for technology business investment and growth.

2. Local Government Should Lead

Information technology and the Internet drive power, choice and control to the individual and, consequently, from federal to state and local government. Local government can use that power to convene business, education, government and community leaders – the stakeholders – and work with them to decide how best to build the community portal.



Resources

- ✓ Local government provides focus, structure and leadership to the effort.
- ✓ Local elected governmental bodies should move quickly to create an online community presence, a task that can be carried out by private, public or non-profit entities of the community's choosing.
- ✓ Professional local government organizations need to be active participants and facilitators in the effort to define and build an e-communities environment.

3. The Electronic Community Provides a Spectrum of Government, Education and Business Services and Content

The Internet has progressed well beyond informational Web pages, and people expect easier and faster access and full-time availability. Communities need a portal strategy to port applications and content that drive the greatest use and benefit to individuals.

- ✓ Content and applications should address citizens' needs.
- ✓ Content and transaction services must be secure.
- ✓ Portal development leaders need to plan for an expanding user pool with expanding bandwidth requirements while maintaining accessibility for all.

4. The Electronic Community Should Be Accessible to All

Unlike networks of previous centuries – those of canals, railroads and highways – the 21st century Internet network has the potential to be everywhere and empower everyone.

- ✓ An e-community strategy requires a commitment to provide access to all – disadvantaged and minorities, senior citizens and the disabled.
- ✓ Access to the e-community requires consultation with stakeholders to define their preferred delivery channels for information and service – such as the PC, TV, kiosks or handheld devices – and to identify the best technologies to enable people with special needs.
- ✓ Network infrastructure must be flexible enough to meet minimum accessibility requirements.



5. An Electronic Community Must Recognize Community Identity, Culture and Values

State, federal and local governments, as well as businesses and national non-profit organizations, must recognize this basic concept.

- ✓ A successful electronic community reflects distinct community values, preferences and culture.
- ✓ It also provides access and connectivity to multiple levels of government, educational institutions and businesses.
- ✓ It links to other communities across the state, the nation and the world.

6. Virginia Communities Should Work in Concert to Develop Flexible, Simple Standards That Will Aid in the Completion of a Commonwealthwide e-Communities Environment

Working with the Governor's e-Communities Task Force and the Secretary of Technology, Virginia communities can set the standard for creating a comprehensive statewide e-communities model.

- ✓ The Virginia community portal initiative is about individual communities, Commonwealth of Virginia communities collectively and communities globally.
- ✓ Its goal is to empower both the individual and the community with the magnified force of the Internet.





Introduction

By following this Guidebook, Virginia's communities can structure the development of their e-community portals to work toward the development of a statewide network of stakeholder-defined portals.

Some of these portals will be government-owned, and others will be owned by private or non-profit groups, but each will reflect the needs and priorities of the locality which it serves.

As stated by the Secretary of Technology, when this is done well (with coordination and foresight) at the early stages, the whole state will become even more competitive for jobs, quality of life and more.

The processes and systems of the paper-based, 20th century models for government will not work in the Digital Age. Because the Internet drives power, choice and control to the individual, the individual now demands government to be responsive and innovative in its delivery of services. This *Guidebook* requires leaders, particularly government leaders, engaged in this initiative to think innovatively.

Responses to a nationwide survey by the Council for Excellence in Government in January 2001 echo some of the sentiments that led to the formation of the Governor's e-Communities Task Force. The survey showed that most people want electronic government, and they think public/private partnerships are the best way to make that happen. A partnership, they reason, will make government more accountable and will be mandated to protect users' privacy.

Other research indicates that:

- Communities are clamoring for best practices and models to help them develop their own portal strategies for e-government and other community information, services and products.
- Individuals are not interested in governments' traditionally hierarchical presentation of information and resources, yet they want access via multiple delivery channels to the information and services of their choosing – from local, state and federal government as well as businesses and non-profit organizations.
- Even those who say they do not trust government are in favor of the *Guiding Principles* approach put forth in this *Leadership Guidebook*.

This is not a technical manual. This *Guidebook* presents the planning and management steps that community leaders must take to put together a successful e-community initiative involving government, business, education and community service organizations.

Partnership



Those communities embracing the *Guiding Principles* understand that in order to be successful, they must agree on a common approach, develop a strategy and a work plan, and gain the buy-in of their constituents, local organizations and businesses. They recognize that in facilitating the initiative, local government can shoulder the burden of mobilizing key players, developing a strategy to maintain local culture and values, and ensuring that the initiative is accessible to every member of the community. This responsibility applies both to government owned- and private or non-profit-owned initiatives.

Electronic Community (Defined)

A community portal with different types of ownership structures, through which people can transact business, interact with community organizations, government and education at all levels, seek information and communicate with peers, thereby mirroring and enlarging the physical place and creating a whole greater than the sum of the parts.

Logon

According to this vision, any user, by entering a ZIP code or tax jurisdiction, when prompted, on *My Virginia* (www.myvirginia.org)² will be routed automatically to the correct community portal (e.g., “My Richmond”), and that portal will provide information and services through channels associated with



Government



Education



Local Business or Business Groups



Community Services

While user participation will determine content and priorities, a common structure will create seamless access to information and services at all government levels. Pilot projects such as “Government Without Boundaries” (Governor’s e-Communities Task Force, 2001) – a seamless government effort among local, state and federal government entities – can provide a vehicle for testing this degree of integration and all its implications.

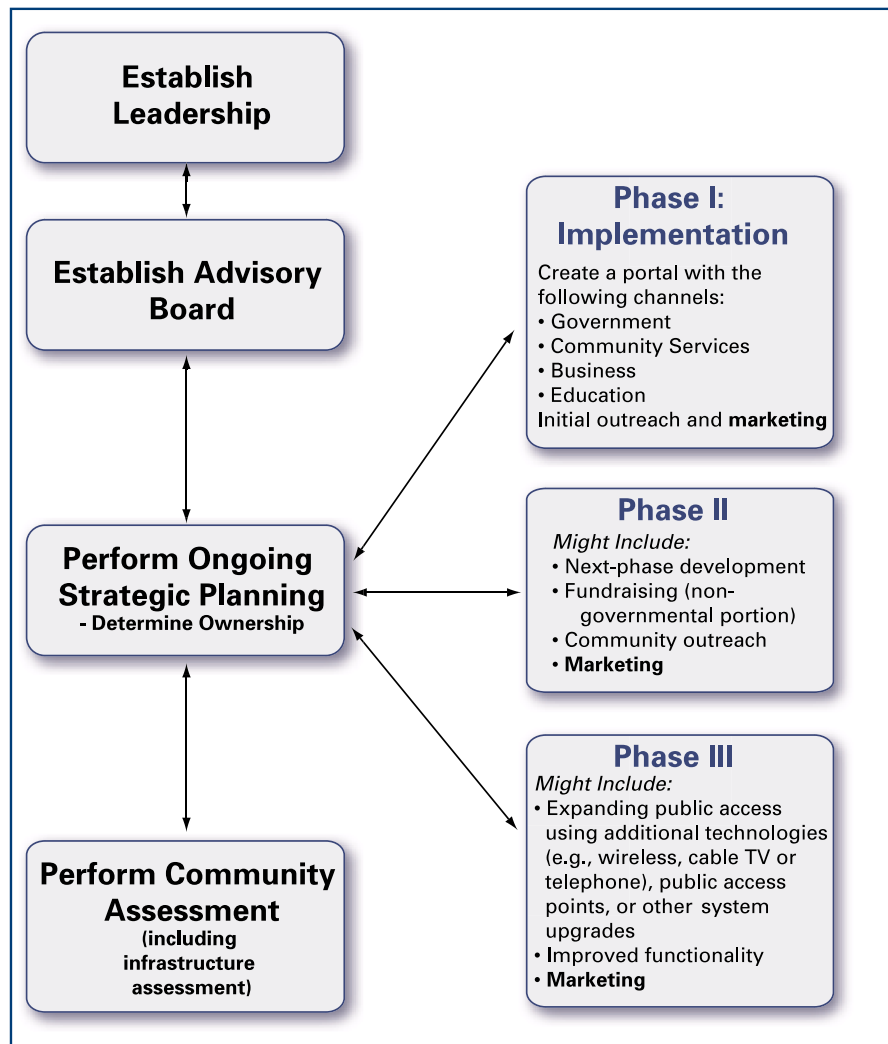
The leadership team will need to decide, *a priori*, whether the effort will be government-, community- or non-profit-owned. Each type of structure will have certain legal implications.

² or eventually on any of the local, state or national browsers under the *My Virginia* icon



Many entities and partnerships, such as the community's internal team, a commercial developer, local non-profits, university resources or the Virginia Information Providers Network (VIPNet)³, which developed and maintains "MyVirginia.org," can carry out portal development and hosting.

The Process of Building an Electronic Community



The drawing above illustrates that a successful effort will require repeated cycles of strategic planning and community assessment as the project goes forward and stresses the importance of marketing the effort to participants and constituents.

³ VIPNet (www.vipnet.org) is a state entity that assists other Virginia government entities in providing information services via the Internet.



Partnership

In order to launch a successful effort, the community will have to establish a leadership group from all sectors of the community. There will be a few champions who devote their time, paid or unpaid, to moving the effort forward. Other leaders will be involved through the advisory board.

Before implementation, however, the community will need to make some strategic decisions and validate their assumptions through the community assessment. At each phase of the project, the leadership will have to revisit its strategic objectives and re-examine the community assessment to evaluate the available resources, and at each phase of implementation leaders will have to include marketing and outreach as components of their plan. The *Guidebook* discusses considerations for strategic planning and several assessment approaches in upcoming sections.





The Role of the Commonwealth

Virginia is recognized nationally and globally as a leader on technology issues.

From the creation of the nation's first Secretary of Technology, to its forward-thinking use of technology to deliver information and services to its citizens through the Internet, Virginia continues to move forward with innovative technology initiatives.

It is critical that all of Virginia (citizens, businesses, government and communities) fully participate in the digital economy to remain competitive in today's environment and prepared for tomorrow's technological advances.

Community efforts will benefit from the Commonwealth's strong commitment to enabling the e-communities initiative.

The Commonwealth is currently activating e-government on all fronts. As part of this, the Commonwealth has created a simple, straightforward mechanism for the public to locate information and services available from the state.

In July 2000, Gov. Gilmore launched the nation's first personalized state Web page, *My Virginia*. It was the first state portal in the country to allow users to personalize the state Web page and receive tailored government information and services.

This portal was developed and built in coordination with the Virginia Information Providers Network (VIPNet). VIPNet is a state entity that assists other Virginia government entities in providing information services via the Internet. VIPNet also manages the *My Virginia* state portal at www.state.va.us. The VIPNet-managed state portal receives more than 20 million hits per month and provides access to thousands of state, local, education and business-related websites. Since its inception, VIPNet has developed partnerships with more than 100 government entities to create more than 200 Web-related e-government services for citizens and businesses. VIPNet processed more than 3 million Web-based government services transactions in 2000.

The state and VIPNet have enabled the *My Virginia* homepage to connect citizens directly to their appropriate local portals based on a user's ZIP code. This will ensure that any citizen who logs on to *My Virginia* and enters his/her ZIP code can be taken to a list of community or government portals and related local resources within that ZIP code.

Work Plan



To support the e-communities initiative VIPNet can create an e-communities website template for communities to adopt, free of charge, for their e-community initiatives and facilitate the integration of the Commonwealth's interactive applications within locality websites wherever feasible.

- **VIPNet** can assist communities by providing the basic e-community website template. The website will consist primarily of an icon identifying the locality, supported by four basic channels: government, community services, business and education.
- **VIPNet** can assist communities in the integration or porting of state online services to the appropriate channels (see Government Online Services List information below). If necessary, VIPNet also may be able to host the community portal (see www.vipnet.org/info for additional information).
- **VIPNet** also can assist localities in developing interactive and electronic commerce services (see interactive services development information, page 16).
- **The community** will develop the content and substance in each of the four core areas, described in the next chapter.

Web Resources

The state and VIPNet are encouraging community portals to link to and integrate state government online services with their community websites. The *My Virginia* portal's "Online Services" page includes a comprehensive listing and description of the online services provided by Virginia state government entities. Those interactive services include:

- Driver's license and vehicle registration renewal
- Voter registration status check and polling place look-up
- Legislative and regulatory tracking
- Professional license renewal
- State tax filings
- Consumer complaint assistance
- Virginia travel planning
- Many, many more

Community portals may copy that list of state online services and add it to their portal's government services listing by accessing the *My Virginia* "Online Services" page at <http://www.vipnet.org/portal/services/index.htm>. Alternatively or



additionally, community portals may want to include a hyperlink to that page. See Appendix I of the *Guidebook* or the VIPNet website www.vipnet.org/info or the interactive CD-ROM at the back of this book for more information on integrating the state online services list with a community portal.

VIPNet also offers programming services for the development of a number of interactive and electronic commerce services for Commonwealth local governments. Those services include:

- Online real property tax assessment search and electronic payment options.
- Parking ticket fines electronic payment options.
- Business forms filing and electronic payment options.
- Community calendar for public meeting announcements and information.
- Parks and recreation facility scheduling.
- Constituent notification services.
- Personalization features for homepages or portals.

The VIPNet Authority Board of Directors reviews all government entity requests for VIPNet assistance and must approve any fee services that VIPNet provides. As a state entity, the VIPNet Authority may partner with any Virginia government entity on Web-related projects. In consultation with the government entity partner, VIPNet outlines the scope of its services in an interagency agreement.



The Community Portal Concept

As envisioned by the e-Communities Task Force, the community portal *shapes an individual's interface with the World Wide Web* and presents information about government, education, business and community groups that has been gathered as part of an e-community initiative. Individuals launching a browser, set to one of the major search engines, could choose to see a front page tailored to the local community portal.

Implementation

While the content of portals developed with the same set of *Guiding Principles* will differ, generally there are **common attributes** in most community portal initiatives. Through the portal:

- Easy-to-access services address citizens' everyday needs to obtain information or transact business.
- The initiative plans for ubiquitous access via multiple delivery channels that suit the needs of constituents – e.g., cell phones, personal digital assistants (PDAs), kiosks, cable television, telephones, etc.
- The public interface strives to meet the needs of the user. More advanced versions, for example, might allow for customization by a general category of user (e.g., "visitor" or "resident") or for complete personalization if users request this.
- Government services are presented in a way that makes sense to the user and do not resort to hierarchical and bureaucratic organizations, levels or distinctions.

Advantages of a Community Portal

Externally - markets the community and promotes economic development

Internally - provides information, facilitates transactions and broadens democratic participation.

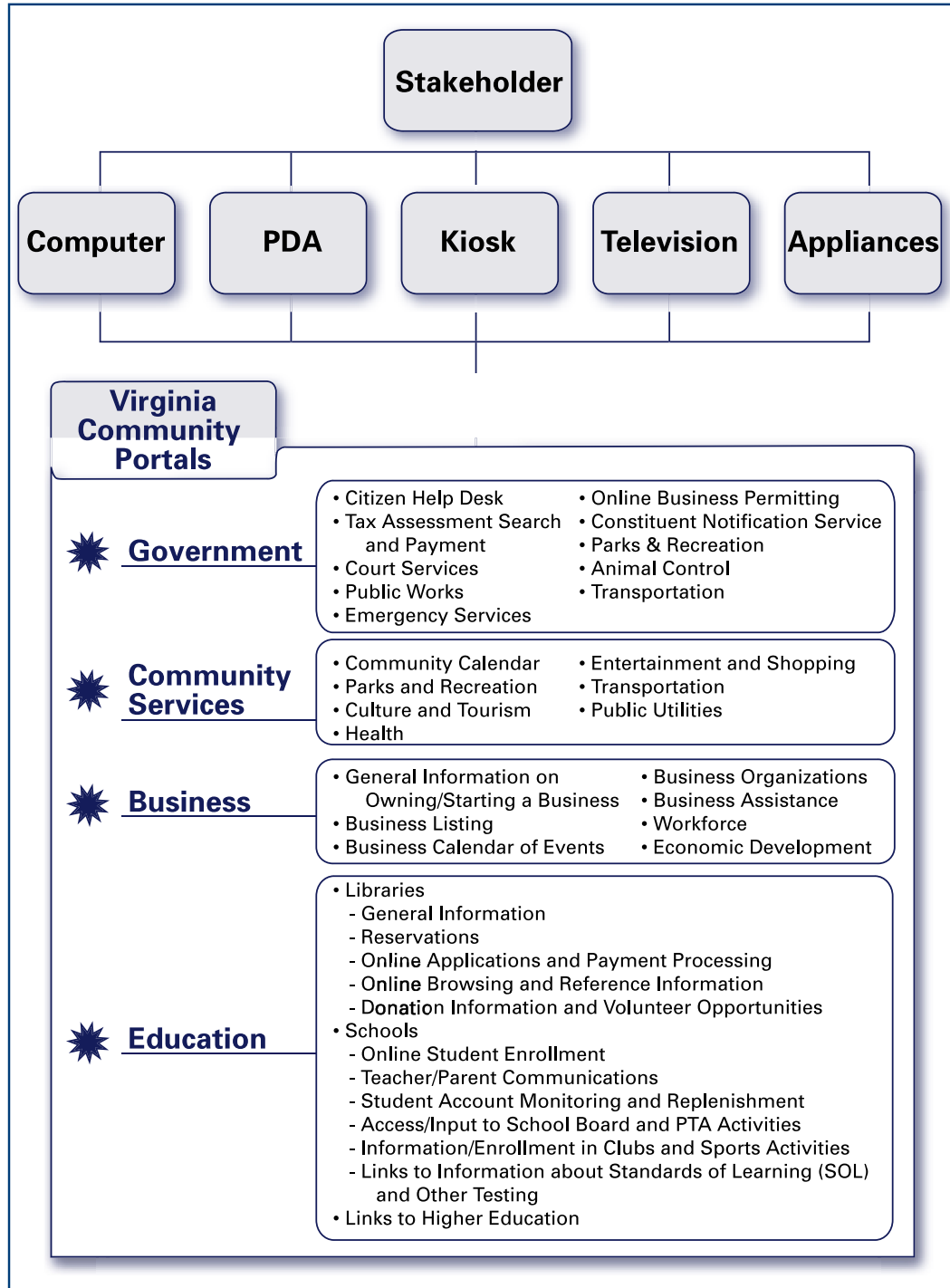
Operationally - governed by an organized local entity and reflects local culture.

Philosophically - shows dedication to bringing benefits of the Information Age to as many people as possible at the lowest possible cost.

Politically - acts as a neutral platform for government, community organizations and businesses.



The following drawing suggests a common architecture for the community portal:



Community Portal Channels



Government

The following list reflects a preference for interactive services, given that most local governments in Virginia already have an informational website. (Those local governments without any Web presence also need to offer basic informational pages – e.g., who to contact, board of supervisors information, code of ordinances, budget details, etc.)⁴

1. Citizen help desk

Many localities have a special phone number to handle general questions, complaints or requests. Often there is a centralized information kiosk as well. The community portal (and its underlying databases) integrates these functions, making the same services available via the World Wide Web. Communities have to establish and clearly communicate how this system will be staffed – when the information can be retrieved only from existing databases, for example, vs. having staff to handle phone, Web or in-person requests.

2. Tax assessment search and payment

Public tax records can be made available and searchable via the Internet. Individuals and businesses should be able to pay state taxes (a service that is already available) and any local assessments via the community portal. Online help would be provided, and requests would be tracked.

3. Court services

This would include daily publication of dockets and schedules (general district plus any other courts in the local area) as well as e-mail (or another preferred channel) notification for jurors and those called for duty. Police activity reports (sorted by neighborhood) and communications channels for reporting unlawful or nuisance activities could be included, along with traffic court services such as payment for parking tickets and moving violations not requiring a court appearance.

4. Public works

When government operates the public utilities, such as water, sewer and gas, these functions should reside on the government portion of the portal. This section should give general information and regular notices/updates on scheduled projects in the area. It also should accommodate citizen inquiries and complaints, publish reports on needed repairs and allow for the scheduling of special trash hauling or other services. Payment should be processed online via secured credit card or electronic funds transfer.

5. Emergency services

This could include links to fire and rescue, safety information, children's programs, reporting unsafe or unsanitary conditions, evacuation routes and donation possibilities.

⁴ See the Task Force website for a presentation by Task Force member David Molchany, CIO of Fairfax County, on what specific e-government applications Fairfax and other localities currently run (www.councils.cit.org/e-communities – "Reports").



6. Online business permitting

This could include online access to building, electrical, plumbing and other permits as well as provide integrated service that enables contractors/citizens to apply for permits and receive notification of approval online.

7. Constituent notification service

Through automated e-mail lists, this would enable citizens to request e-mail notification from local government officials (mayor, city manager, county manager, etc.) of local government announcements and news items (e.g., updates on proposed ordinances, public meeting announcements and new procurements).

8. Parks and recreation

In addition to general information about local, regional and state parks and facilities, this feature could provide information about volunteer opportunities and enable users to reserve and pay for the use of facilities, classes, sports teams, leagues, etc. (Some state and federal park applications are already available on local sites.)

9. Animal control

Here users could get information about animal health, register complaints, pay for dog licenses, view adoptable animals, learn about volunteer opportunities and have donations processed online.

10. Transportation – see “Community Services – Transportation.”



Community Services

1. Community calendar

Modeled after Virginia’s Commonwealth Calendar, entities authorized by the e-community portal leadership would post public meeting and event announcements via a publicly accessible, Web-based calendar.

Announcements should include location, directions, description, agenda and contact information with an e-mail address as well as hyperlinks to any relevant website. Translation into other languages is an important option, as is the capability to custom-design simple informational websites using a “Web wizard” for community groups, such as that provided by Gannett Media. This service also should be searchable by neighborhood.

2. Parks and recreation – See “Government – Parks and recreation.”

3. Culture and tourism

This could include information from local tourism centers. Interested parties could submit requests for additional information and/or schedule tours, purchase tickets, etc. Other capabilities might include reservations for local hotels, B&Bs and restaurants as well as a “Web wizard” for simple informational websites.

Content

Content

4. Health

Users might find a searchable database of local health care practitioners (with hours and locations), facilities, organizations, consumer resources (support/advocacy groups) and events. Transactional applications could include payment processing and appointment scheduling. Online access to health records would be possible via a secure site. Users also could get notifications for check-ups, vaccines, etc.

5. Entertainment and shopping

If appropriate and legal, this could include a searchable database of local merchants, restaurants and entertainment events (including appropriate hot links). It could provide for online ticket sales, reservations and “buy local” coupons and specials. Additionally, marketplaces to facilitate virtual flea markets and sales could be created. A “Web wizard” should be available to participating merchants.

6. Transportation

This could provide schedule and ticket purchase options for public transportation as well as links to other options, such as taxis, ride-share programs, courtesy shuttles, etc. It also could give links to local transportation projects and allow for public comment and problem reporting as well as provide maps of bicycle paths and trails. (This also should be available under “Culture and tourism.”)

7. Public utilities

Users could find information on local utilities, including cable, gas, electricity and water. Applications might include appointment scheduling, account inquiries, online payments and problem reporting. (This information also should be listed in the “Government” section if the utilities are publicly owned or managed.)



Business

1. General information on owning/starting a business

This might provide information on required permits, taxes, licensing, etc., plus links to zoning departments and utilities.

2. Business listing

This could offer a searchable database of all local companies, including website links where applicable, legal and appropriate.

3. Business calendar of events

Authorized entities (as defined by the e-community leadership) would post event announcements, including location, directions, description, agenda, contact information with an e-mail address, hyperlinks to any relevant websites and event registration, where applicable and appropriate.



4. Business organizations

Users could find a database of local business groups, including general information, contact forms, membership applications and dues processing for groups such as the Chamber of Commerce. Contact information with e-mail addresses and hyperlinks to relevant websites also could be included.

5. Business assistance

This might offer general information on local assistance groups and links to federal and state resources such as Incubators and the Small Business Development Center (SBDC).

6. Workforce

Users could access links to the Virginia Employment Commission, local Workforce Investment Board and internship programs and learn about public/private vocational schools, community colleges and military outplacement offices.

7. Economic development

This could offer access to local economic development organizations by providing information on activities, funded initiatives and industry programs. Users also could request an on-site visit by local staff.

Content



Education

1. Libraries

a. General information

Users could find out about locations, hours of operation, special collections, programs and events, information and availability of foreign language publications.

b. Reservations

Here users could secure high-demand books as well as register for special programs and upcoming events.

c. Online applications and payment processing

Applying for a library card, viewing an individual's borrowing history, paying fines and participating in book sales might all be done through this service.

d. Online browsing and reference information

This could enable users to browse the catalog or ask questions of the reference librarian.

e. Donation information and volunteer opportunities

This could explain how to donate books to the library and explain literacy and tutoring opportunities.



Content

2. Schools

a. Online student enrollment

This is being done as a statewide initiative in North Carolina. The community of North Lauderdale, Florida, gives another example (<http://north-lauderdale.fl.ibm.netfusion.com>).

b. Teacher/parent communications

Users could access confidential student information and e-mail (secure site).

c. Student account monitoring and replenishment

Lunch and activity fees.

d. Access/input to school board and PTA activities

Users could access this via the posting of meeting schedules and minutes, etc. Public comment would be facilitated via open bulletin boards.

e. Information/enrollment in clubs and sports activities

f. Links to information about Standards of Learning (SOL) and other testing

3. Links to higher education – Two- and four-year institutions





Best Practices

Towns and cities in Virginia, along with national and international communities at varying stages of development, illustrate elements of the *Guiding Principles* in action. Some examples include:

- The **e-Communities Task Force** website contains a list of community portals in Virginia (<http://www.councils.cit.org/eCommunities/Reports/ECommunitieslist.htm>).

Although there are dramatic differences in the size of the communities and the resources available to them, **Appendix II** presents the beginnings of a comprehensive list of government and community portals.

Several of these initiatives illustrate the variety of forms such a portal could take, using a variety of public, private and non-profit developers.

- **West Point, Virginia** (<http://www.westpointvirginia.org/>)
Community leaders have begun building their portal by focusing on local organization, information about the community and the establishment of a framework for users, including a privacy policy, a registration system and answers to anticipated “Frequently Asked Questions.” Future phases of the project will concentrate on bringing in more bandwidth and enabling access for all.

Resources

- **Blacksburg Electronic Village** (<http://www.bev.net/>)
Nationally recognized for its early adoption of technology as a tool to empower communities, this site has a robust offering of information stressing the role of the portal as a convener of communities of interest. The front page of the site is a community calendar, and there are numerous forums for registrants to join. The breadth of categories on the village mall shows the maturity of the site.
- **Fairfax County** (<http://www.co.fairfax.va.us/>)
As the most populous county in the state, and home to the highest concentration of technology companies, Fairfax County works to ensure access to all community members via a number of channels. It also allows a variety of business transactions, such as online vehicle registration and tax payments, and it customizes the information for visitors, businesses and residents.
- **Virginia Beach** (<http://www.virginia-beach.va.us/>)
Tourism information is put front and center on this very informational portal. But the site also provides links to government, information for



businesses and links to local news and weather. Additionally, this site targets the needs of businesses, residents and visitors in one well-organized and well laid-out package.

- **Hampton Roads** (www.smartregion.org).
The Smart Region Hampton Roads portal serves the 17 jurisdictions that comprise the area known as Hampton Roads and treats them as a “virtual region.” Content is arranged into three easy-to-navigate channels: Business, Education and Government.

- Nationally, there are numerous portals that demonstrate innovative harnessing of technology and gather government, business and community resources:

- **Austin, Texas** (www.ci.austintx.us)
A demonstration of how a portal can mean different things to different people, this portal is very government-focused but has the interesting feature of tailoring the navigation to the visitor. A user can choose the “Citizen connection,” “Business connection” or “Visitor connection.”

- **LaGrange, Georgia** (<http://www.lagrange-ga.org/>)
Requests for service can be submitted through the site, demonstrating how a community can provide connectivity options (dial-up and cable) to its residents. Additionally, the site is organized into eight categories: Economic Development, Online Shopping, City Government, Utilities, Community Links, Police, Fire and Online Education.

- **St. Paul, Minnesota** (www.ci.stpaul.mn.us)
This multifaceted portal offers downloadable government documents, user customization and numerous opportunities for constituent input.

- **Boulder (county), Colorado** (<http://bcn.boulder.co.us/>)
The site presents a simple interface to a wealth of information and resources. It is organized from the grass roots up – from local civic information to federal rules and regulations. The “About” part of the site lays out clear objectives for the project, describes the leadership and recounts success stories. This project secured initial funding as a demonstration project for the U.S. Commerce Department’s National Telecommunications and Information Administration.

Resources



- International examples offer other approaches and solutions that may be applicable to Virginia communities. Conversely, countries from Mexico to Egypt to Scotland are looking at Virginia's e-activities and have expressed interest in partnering in some type of sister e-communities initiative.
 - **West Lothian Council, Scotland** (www.wlonline.org)
Recognized by the United Kingdom as one of the best examples of a community portal, this site demonstrates how the portal can be a one-stop shop where interactive services are delivered via computer, telephone and other channels. When a resident of West Lothian Council dies, for example, the portal is organized so that upon submission of the death certificate, all of the relevant public and private services and utilities are notified – social services such as meals on wheels, tax agencies, water and power, bereavement counseling agencies, etc.
 - **Microsoft's Parthenay Project**
(<http://www.microsoft.com/europe/industry/government/casestudies/1838.htm> – in English) in **Parthenay, France** (<http://www.district-parthenay.fr/> – in French)

This project is focused on access and began by giving free e-mail and Internet access to citizens. For development of content and applications, local businesses took the lead, under the theory that they best understood residents' needs and interests with regard to a "digital town."

Resources

- **Smart City Project, Yellowknife, Canada**
(<http://city.yellowknife.nt.ca/index2.htm>).
The Yellowknife Smart City Project is sponsored by 22 public, private and non-governmental organizations as well as voluntary agencies. Yellowknife aims to become the first community in Canada to achieve 80 percent connectivity by adopting new technologies to meet the needs of individuals, the volunteer sector, government and business and by allowing access by telephone, digital TV, kiosks, wireless and a variety of other Internet-ready devices. It has five integrated components:
 1. **CityNET** to enable individuals to influence city council priorities and to do business with government.
 2. **HelpNET** to help people help themselves by simplifying access to services and by promoting improved collaboration and cooperation among caregivers.
 3. **BusinessNET** to give consumers better access to local products and services and to create new images of Canada's northern region as a place to do business and visit.

4. **LearnNET** to provide a learning forum accessible to all residents.
5. **YKSmart** City Center to provide a forum for exchanging ideas that will enable citizens to shape the kind of society they want for themselves and to bring the city to the electronic world.

Resources

- **Naestved, Denmark** (<http://www.naekom.dk/nk.nsf> – in Danish; tourist information in English)

Recently celebrating five years as a leading community portal in Denmark and in Europe, the effort focuses on the full range of economic development efforts – from using its connectivity as a reason to locate in Naestved, to promoting tourism, to providing public sites through which community members could access the portal in general or Web-based job training in particular. This project pioneered using the Internet to drive tourism by putting up locally maintained information (such as summer cottage rentals) and by providing access to national tourist databases. It also took advantage of widespread high-speed data access to develop many online municipal services.

The project's goals remain consistent with those it set out in December 1995.

- Creating the CityNet – a cable network for residents, organizations and businesses.
- Creating a regional information portal: NaestvedNet.
- Creating a TuristNet (TouristNet).
- Creating the Digital Administration for the municipality.
- Establishing free Internet access for all citizens throughout the community.
- Integrating information and communications technologies at the primary school level.⁵

As a tribute to its success, the non-profit spin-off NaestvedNet now operates for neighboring regional portals.

⁵ Anders Møller (project coordinator), Status Report: Naestved Info-Society 2000.



Resources

- **USJ-Subang Jaya e-Community, Malaysia** (www.usj.com.my).

The USJ-Subang Jaya community website is Malaysia's first full-fledged e-community initiated, developed, participated and administered by its own network of residents.

Priority areas:

- **e-Community:** To facilitate communities of interest and conviction to improve the quality of life and to enable them to interact electronically.
- **e-Public Services:** To facilitate the delivery of public services to the residents and businesses more efficiently and effectively via electronic means.
- **e-Learning:** To increase the capacity of organizations and/or individuals to acquire and develop knowledge, skills and values via electronic interaction.
- **e-Economy:** To facilitate and encourage e-commerce and e-business activities that support the development of a knowledge economy.
- **e-Sovereignty:** To facilitate the positive discussion of current issues affecting the USJ-Subang Jaya residents and fellow Malaysians with a view to enhancing the identity and integrity of the nation in an increasingly borderless world.



Establishing Leadership

The *Guiding Principles* set out clearly that local government must be involved and can facilitate an e-community project. The associated community portal initiative, however, will only succeed if it achieves buy-in from key constituencies.

“Portal” has become a catchall phrase for a website that gathers information for a targeted community and is the outward representation of the underlying e-community effort.

Creating an e-community and its associated portal is not easy. Nearly every new endeavor starts with a few dedicated partners who have “caught the vision” and will work hard to see it through. But having a few visionaries is not enough; the community must “buy in,” and the effort must be promoted and marketed.

To address this need for “buy-in,” and to spread the workload, most successful e-community and portal efforts are led by an oversight group or steering committee.

Essential

The steering committee:

- Provides guidance and direction, identifying the core content and applications needed for a portal initiative as well as potential development partners, hosting options and preliminary content.
- Develops plans and engages in systematic thinking about issues such as access, development, maintenance and upgrades.
- Serves as a coalescing point for people who are interested in the endeavor and can draw in others to assist.
- Raises community awareness of the project.
- Promotes community ownership and responsibility for the success of the project.

Key to the success of an e-community project is its leadership.

The leader must convene the stakeholders, provide guidance and remain attuned to the group’s priorities and values.

The leader must sift through the “noise” of competing priorities and conflicting values to make something happen.



Developing a Strategic Plan

Planning, the single most important task in establishing an e-community, is not a solitary endeavor. Customarily the leadership group or steering committee initiates the planning process, but they can only succeed by gathering input from interest groups within the community.

The community portal initiative's leadership should strive to employ a model of governance that achieves community ownership.

A Case Study

The city of Auckland, New Zealand has a well-developed Web presence (www.akcity.govt.nz) that aligns with many of the Guiding Principles. The city also has archived a white paper on community development from the bottom up – the “Community Governance Model.”⁶ This model illustrates how stakeholders begin to feel they are a part of the strategic planning process and take ownership of the project itself.

Specifically, Auckland civic leaders state explicitly that economic development and the health and well-being of the community are inextricably linked with the involvement of its people.

Resources

Their model for community governance lays out three states of engagement:

1. At the **first stage**, “community leadership,” everyone is basically on the same page, having a shared vision and shared values.
2. At the **second stage**, “community empowerment,” the community takes part in the decision making, as in the strategic planning process.
3. At the **third stage**, “community ownership,” community members have a sense of belonging and caring that will keep them invested in any project's success.

⁶ http://www.akcity.govt.nz/council/strategies_policies_plans/guiding_communities/community_governance_model/section1.asp

Building a Strategic Plan

The e-Community Portal Strategic Plan:

Determines purpose, guiding principles and vision for the stakeholders and, by extension, the community's portal project.

Identifies potential project partners and project owners.

Prioritizes the services and information most needed by community members and maps out a plan for future development.

Evaluates existing infrastructure, short-term needs and longer-term desires and feasibility to achieving those goals within the chosen ownership structure (government vs. non-profit).

Considers members' ability to access portal information and services and plans for educational outreach and marketing and future access and training needs.

In general, the plan should establish the purpose and vision of the project and break the process into critical functions and tasks – those activities on which the completion and success of the project depend. Because of the importance of these functions and tasks, specific planning items need to be addressed for each.

Planning

These **planning items** include:

- ✓ Who will be involved in carrying out this function?
- ✓ Who are the decision makers?
- ✓ What are the critical time elements (budget, timing, etc.)?
- ✓ What information is required? Who has it? In what format is the information required?
- ✓ What person or organization will be responsible for the task?
- ✓ What resources are required?

Answering these questions for each critical function will help more clearly define the partnerships with groups and resources that should be cultivated. Additionally, it will start to establish a critical success path based on those functions with strict time constraints.



Planning

Sample critical functions might include:

1. Determine priority content areas and desired applications.
2. Survey the existing infrastructure, personal computer penetration, other Internet-enabled devices and levels of connectivity.
3. Identify strategic partners.
4. Develop an e-communities requirements document.
5. Develop a portal management plan (including available budget, if government-owned, and budget and funding if non-profit/private owned)
6. Develop a portal marketing plan.

Together, a preliminary planning matrix might look like the following:

Critical Tasks	Critical Functions					
	Priorities Defined	Infrastructure, PCs, Devices & Connectivity	Strategic Plan	Portal Requirements	Management Plan	Marketing Plan
Task Manager	Project manager	IT manager	Project executive	Development partner - VIPNet, internal or commercial provider	Project manager	Marketing manager
Decision Makers	Steering Committee	N/A	Steering Committee	Stakeholders	Project manager	Project manager
Timing Issues	Must be done before determining portal requirements	Important input to budget	Important input to budget	Finalized after determining existing infrastructure and available resources to build additional capacity	Follows requirements definition	Steering Committee
Information Required? From?	Partners such as VIPNet for government information and services and local content managers for remaining pieces	Fiber placement from telcos, cable and wireless availability/ deployment, PC penetration by household and connectedness	Potential steering committee members, local ISPs, grant writer, local media, etc.	Needs assessment, infrastructure survey, strategic plan	Needs assessment, infrastructure survey, strategic plan, and requirements definition	Needs assessment, infrastructure survey, strategic plan, requirements definition and strategic plan
Format Requirements	White Paper	GIS map	Report – paper and electronic, for broad dissemination	Network diagram, database	Internal – report executive summary available for wider distribution	Internal report
Resource Requirements	Facilitator and volunteer time commitment	Budget/available grants and loans	Members' time, in-kind donations	Development partner time	Staff time commitment	Time and money for outreach



Performing a Community Assessment

The community assessment is an important step in the strategic planning process.

Localities will need to launch the planning process to determine their priorities, but they will be unable to complete the plan without taking a hard look at available resources.

Self-assessment is the process of discovering and documenting what resources and information already resides in the community.

Through this process, project leaders will start building a thorough and honest "inventory" of who has a stake in the e-community project.

Building a broad base will require work with a balanced group of people from the **public sector** (schools, government, etc.), **private sector** (businesses, professionals, churches, civic organizations, etc.), **youth** and **youth-serving organizations**, and **representatives of cultural diversity** within the community. Common groups from which to draw community stakeholders include:

- Schools
- Local government
- Utilities
- Chambers of commerce/business owners
- Environmental groups
- Libraries
- Civic organizations
- State/federal government agencies
- Local computer users
- Racial/ethnic/cultural groups
- Public safety enforcement
- Economic developers
- Communities of interest (gamers, hobbyists, support groups, etc.)

While there is no set method for bringing these groups into the discussion, inclusion often requires going out to meet them on their turf. This is especially important when working to include people who feel as if they have been left out in the past, were not really welcome to participate or felt they had nothing to contribute.

Workplan



By simply asking people and organizations about their interests or concerns, an interest profile can be developed.

Unlike a needs assessment, a self-assessment should be approached with the assumption that many of the resources and contributions needed to complete the project are already available in the community; they need only be harnessed and coordinated. In no way does this imply that the community has all the answers, but it does begin to establish a level of ownership. Individuals are more likely to “buy in” to a project when they believe that they have resources that can make a difference.

Evaluate

Conducting the **self-assessment** should reveal at a minimum:

Existing infrastructure:

- Network architecture to the extent available
- Advanced telecommunications service availability (dial-up minimum 56k, and direct connection options such as ISDN, cable and xDSL where available)
- Wireless, satellite, microwave and other technologies available
- Internet penetration for households, schools, businesses, government and non-profits

Human capital:

- General demographic information
- Identification of project stakeholders
- Identification of key leaders to include in the planning effort

Organizational resources:

- Inventory of key organizations and institutions
- Identification of financial resources available to the project



Knowing what questions to ask to obtain the necessary information can be tricky, but there are models available:

- **The Computer Systems Policy Project Readiness Guide** (www.cspp.org). The 23 questions contained in this guide are presented in **Appendix III**.

Resources

- **The Missouri Express Resource Guide**

(www.outreach.missouri.edu/moexpress/guides/moex8-1.html) provides a framework for evaluating a community's level of knowledge about the World Wide Web and community information networks. It can also help determine the community's expectations of its information network and identify what the network can provide for the community. Suggested questions include:

- ✓ Do you own a computer?
- ✓ Have you been on the Internet?
- ✓ Would you like to connect to the Internet if not already connected?
- ✓ Who uses or would use Internet access in your household?
- ✓ Do you or would you use the Internet for: education? entertainment? business?
- ✓ How are you connected or planning to connect to the Internet?
- ✓ Would educational programs on the Internet be helpful to the community to help people understand the benefits of being connected?
- ✓ Do you understand what a community information network is?
- ✓ Do you think the community should have a presence on the Internet?
- ✓ What kinds of information would you like to see about your community on the Internet?
- ✓ What benefits do you think a community presence on the Internet would have for the community?
- ✓ Would you be willing to volunteer to find and format data for the community Web presence?

- **The Applied Rural Telecommunications Investment Guide**

(http://bcn.boulder.co.us/aerie/invest_guide/iguide.htm) provides an easy-to-follow outline for getting started in rural telecommunications and making telecommunications-related investments.

These models provide a systematic methodology for analyzing the community's current situation as well as recommending post-analysis "next steps" to assist the project's progress.

Resources

Regardless of whether the project leaders decide to apply one of these models or to use a custom-designed assessment, they will need to collect data from a number of groups. Some of the most common methods for data collection are as follows:

- ✓ one-to-one interviews
- ✓ small focus groups
- ✓ surveys
- ✓ outsourced data collection

Appendix V provides additional information on matching target groups and data collection methodologies.





Project Implementation

Public Access

As a result of the self-assessment, a community will have a clear indication of how it wants to structure ownership, what information needs to be included, what services need to be offered and who in the community is able (and willing) to **work together to develop** one or more of the components. Once these determinations have been made, the challenge then becomes to develop the idea into a deployable network that is right for each community.

Developing an online presence of any kind requires a combination of skills ranging from content development and marketing to computer programming.

There are three primary issues that should be considered when making access-related decisions:⁷

- Members of a community may not all own or have access to computers or other Internet-enabled devices.
- Dial-up for some individuals may be a long-distance call, and other individuals may have acceptable dial-up services but no access to broadband. Individuals, or portions of the community network service area, may be outside the local modem pool's calling area. This could make network connection inaccessible to some due to the higher cost of long-distance phone charges.
- Persons with home or business computers may be away from their computers, but they still have a need to access information.

One solution is to provide **public access workstations**. This option, like all other decisions, has financial and operational considerations, which may include:



Location

Placing public workstations in an office that is only open from 8:00 a.m. to 5:00 p.m. may not be in the best interest of public service. Locations best-suited to housing public workstations are those public facilities that have extended hours of operations (libraries or police stations), are located in areas of "need" and are equipped to handle users with special physical needs. When considering a location, ask:

- Is this location targeted for a specific need or group, especially if that group cannot easily travel to another public site?
- Does this location allow for general public access as well as access to a targeted group?
- Is this location truly accessible in terms of hours of operation, location and safety (personal and equipment)?

⁷ The Missouri Express Guide, Chapter 13 www.outreach.missouri.edu/moexpress/guides/



Funding

Those communities that do not buy equipment out of existing funds might want to consider:

- Soliciting charitable donations, sponsorships or partnership arrangements with the local business community.
- Using facilities of schools, public agencies or organizations during off-hours.
- Finding other opportunities for partnership in the community.



Maintenance

Each workstation represents a maintenance point for the community network. Technical support will be necessary to repair and upgrade the machines. Additional software, licenses and items such as spare parts and peripherals will need to be acquired and updated as appropriate.

Public access workstations are one way to enhance accessibility of the community portal, especially for those who would otherwise not have the means by which to participate. But providing such workstations is not the only way to go. Some communities decide to offer local dial-up or broadband access.

In most cases, a local ISP and/or the local telephone company can provide the services needed to support an e-community and should be viewed as a partner in this endeavor.

User Services

When planning what level of services to offer, it is important to consider that many of the users will be novices and can be easily overwhelmed by an onslaught of new applications and options. Users also occasionally will need assistance with other tasks related to accessing the network and computer usage, such as passwords and connectivity.

Communities should consider whether they want to offer **training** and/or **help desk** services. Each of these provides a level of user support, but they differ in availability and skills required for delivery.

The e-community will be judged by the quality and access provided by vendors.

*A suggested list of questions for evaluating the viability of an ISP can be found in **Appendix VI.***



Training

Some communities may choose to offer training, based on budget and priorities. The community decides what topics to offer, but it is generally recommended that at least one of the “classes” focus on how to interact with the newly developed portal.

Training content can vary greatly and will likely increase over time. Most training plans include computer literacy, information searching and use of the network, and instruction for individual application programs (such as e-mail, discussion groups, etc.).

Benefits

Formats for instruction can range from classroom-style instruction (again, space and availability may be an issue) to individual tutoring or peer instruction to online training, video and distance learning. The most effective e-training models, however, include some level of hands-on interaction.

The options are there; it is up to the community to discern which delivery formats will be most effective for their end users and to harness the power of local resources to deliver the content. Using existing community resources to develop and deliver the training will reduce the cost and likely make the training more user-friendly.

When looking for resources, communities should look to their schools, libraries, associations and corporations, retirees, universities, regional planning commissions, high school students and local citizens.

Help Desks

Help desks can provide day-to-day assistance to users of the portal, but they can also be very expensive. Generally, users interacting with the help desk are struggling with a piece of equipment or software and need to find someone who can help solve a problem.

As with the training aspect, there are three models for help desk service: live (real time), delayed and combination (real time and time-delayed).



Each community must decide which model best suits local needs and which format the available resources can support. Many communities choose to augment their “personal” help functions with online resources such as Frequently Asked Questions, mail groups, chat rooms and instant messaging to allow community members not involved in the help desk function to share experiences and expertise.

Policies and Guidelines

Policies and procedures follow from the *Guiding Principles*.

Government-owned portals will have a number of obligations and restrictions on the type of content they can post. Stating a policy in advance can prevent misunderstandings.

As a note of caution, however, the policies governing an e-community must cover a broad range of topics. As such, **it is advisable to have a local attorney review the policies for clarity, correctness and enforceability.**

Written policies should be developed and posted on the website and should be crafted in such a way as to establish accountability and protect all parties.

Essential

There are three categories of “rules” that need to be outlined for each e-community:

1. **Policy statements** – Clear definition of the objective, expected outcomes and areas of emphasis. No specific guidance on “how.”
2. **Standards** – Specific performance expectations that maintain the standards and provide for performance evaluation and control.
3. **Procedures** – A specific sequence of actions to be carried out, by whom and how. Accountability procedures focus on answering questions dealing with “to whom,” “for what,” “by whom” and “how.”

The policy statements developed by an e-community have to address a broad range of topics. At the very least, the statements should address expectations for content providers and users. In fact, some communities require that all parties sign an agreement before being allowed to participate.



In terms of user policies, the basic understanding to be communicated is that users are expected to be “good citizens” when interacting with others through the portal. A typical policy would include restrictions on inappropriate behavior. Behavior considered to be rude, harassing, vulgar, offensive or illegal will not be tolerated.

Included in the statement should be a strong statement of how offending users will be dealt with. Sanctions generally progress from advisement/warning, to removal from the network, to – in rare cases – legal action.

Appendix VII
contains
“Guidelines for
Information
Providers” and an
“Information
Provider Form”
obtained from the
website of
NorthStarNet in
Northern Illinois
(<http://nsn.nslsilus.org/policy.html>).

Appendix VIII
contains more
general policy
statements crafted
by the Seattle
Community
Network
(<http://www.scn.org/scnpolicy.html>).

Putting a policy in place, however, is not enough. There are operational issues that must be addressed for the policy to hold:

- How will a violation (complaint) be reported?
- Who will determine if the complaint is valid?
- Who will determine the appropriate sanction and enforce it?

A community must carefully consider these issues and ensure that all users are made aware of the policies before participating.

As a complement to the user policies, the **content provider policies**, established by the e-community, limit the liability of the organization if a provider should violate copyright law. The content policies also outline data and copyright ownership.

Because the content providers are a vital part of the community portal effort, they must understand their rights, obligations and limitations as participants.

Content provider and user policies are the cornerstones for building an effective e-community. Through policy, expectations are established and limitations are set in an attempt to provide a positive experience for those on both sides of the portal. But most e-communities don't stop with these two policies.



Other policy areas to consider are:

- **Privacy and security** – Guides the collection and dissemination of personal information collected through the portal. Security policies address the level of security that will be upheld by the portal.
- **Collaborative efforts** – Guides the community’s collaboration with other organizations and partners. Included is the development of written formal agreements.
- **Accessibility policies** – Addresses the needs of “special” individuals. <http://www.cast.org/Bobby/> is a free service provided by CAST (Center for Applied Special Technology) to help Web page authors identify and repair significant barriers to access by individuals with disabilities.
- **Grievances** – Covers the handling of complaints filed by employees, volunteers, users, information providers, etc.
- **Governing body and its functioning** – Emerges from the development of articles of incorporation, bylaws, etc.

Content

The quality and relevance of the content available on an e-community site will be the reason that people return to the site. When there is a plethora of information out there, however, the question becomes how to select content for inclusion.

General guidance:

1. Use the information gained from the community self-assessment. From this process, it should become clear what organizations have information-based assets that can be leveraged into content for the e-community’s site. Additionally, the assessment may reveal where current information exchanges already occur.
2. Conduct a survey to find out what information people want and how they want to have it presented.
3. Examine other community sites to see what they are doing. Some active community sites are: Phoenix, Arizona (www.ci.phoenix.az.us), Charlotte, North Carolina (www.charlotte.com) and Jefferson County, Missouri (www.join-n.org).
4. Provide online opportunities for users to make suggestions. (See www.wammi.com for a survey available at the site.)

Implementation



Infrastructure and Access

Always plan for the maximum possible capacity.

Demand for bandwidth grows at a faster pace than anyone expects. Technologies should continue to be led by fiber optics in the near term, but the planning horizon should consider wireless, satellite and microwave technologies, to name a few. In addition, the computer is but one delivery mechanism for content. Mobile commerce (via cell phone or other devices), kiosks and television also can broaden access to community portal initiatives.

*For a glossary of technical terms, see **Appendix IV.***

Be conservative with graphics, required plug-in applications, and other bells and whistles.

High-intensity graphics require a great deal of bandwidth and will slow user access. Moreover, if older or reconditioned equipment is being used, if dial-up access is slower than 56k, if the portal is to be accessed from wireless devices such as PDAs and cell phones, the speed of access to high-intensity graphics sites will be further reduced.

Apply thinking and planning unconstrained by current technical limitations.

- Localizing traffic through a multi-service access point (MSAP) can help allay network congestion and improve site performance. The Virginia Tech Center for Wireless Telecommunications (www.cwt.vt.edu) and the Blacksburg Electronic Village (www.bev.net) provide information to assist communities in establishing and improving their networks.
- Technological changes for infrastructure, transmission and access are occurring at a staggering pace, but they are not radical changes. They are enhancements to traditional communication techniques. Nevertheless, we are rapidly approaching an on-demand capability from anywhere to anyone.
- Balancing the need for an advanced, reliable telecommunications infrastructure with the fact that most communities cannot make large continuous investments every few years is a formidable task. It is often difficult to convince community leaders that tax revenue should be spent on a telecommunications network that probably will not show significant return on investment for several years.



Utilize Technology

To help with this “sell,” *The Applied Rural Telecommunications Investment Guide* (www.bcn.boulder.co.us/aerie/invest_guide/topten.htm) offers the following “top 10” reasons to invest in telecom infrastructure:

1. Telecommunications resources can help diversify rural economies, open regional and global markets, and create economic opportunities.
2. Telecommunications can make rural companies or organizations more efficient and more competitive.
3. Telecommunications resources can help reduce the impact of vanishing or seasonal jobs.
4. Telecommunications-based industries are typically cleaner and safer for their workers, the community and the environment.
5. Telecommunications resources can leverage a rural area’s best features into competitive advantages in the challenge to attract new businesses.
6. Telecommunications resources protect the future.
7. Telecommunications resources help build a more informed citizenry and more efficient and responsive local government.
8. Investment in rural telecommunications assets has a significant ripple effect.
9. Cyberspace needs the influence and perspective of rural participants.
10. Telecommunications can improve the quality of rural life.

Success in this arena often comes after hard-fought funding battles. The key is to consider both the community’s long- and short-term interests and access needs.

Also crucial in this process is the identification of technologies capable of delivering the level of sophistication and functionality required for what the community wants to do “today,” coupled with a level of scalability to accommodate where the community wants to be in three to five years.



Funding (for non-governmental sites)

Developing a sustainable e-community and its associated portal is not an easy or inexpensive process.

Keeping a community vibrant in the 21st century requires 21st century models for government and citizen involvement.

Technology is critically linked to the health, and in some cases the survivability, of communities, and investment must be made into digital projects for the Digital Age.

Finding creative financing options and opportunities, coupled with a willingness to ask for specific resources, will be key, but the approach outlined below is more appropriate for community-owned efforts because government must work within the constraints of how it obtains outside funding.

Four primary sources of revenue have been identified for community-owned e-communities:

Users – Revenue potentially can be garnered by charging membership fees to organizations, information providers and advertisers who will benefit from a presence on the network, where appropriate. Also, private donations and fundraisers fit into this category.

Indirect resources – Foundations, local, state and federal government sources.

In-kind contributions and partnerships – Contributions of hardware, space, training services, software, etc. While in-kind contributions do not put money in the bank, they do reduce cash outlay, which feeds directly to the bottom line.

Redirected funds – Funds from economic development or other government programs that are channeled to support the e-community and portal efforts.

Some places to look for *potential private and corporate investments* are:

- **The Catalog of Federal Domestic Assistance**
Governmentwide compendium of federal programs, projects, services and activities (<http://www.cfda.gov/default.htm>).
- **The National Telecommunications and Information Administration**
(<http://www.ntia.doc.gov/>).
- **The Federal Community Reinvestment Act**
(<http://www.fdic.gov/consumers/index.html>).
- **The Foundation Center**
(www.fdncenter.org:80/).

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- **The U.S. Department of Housing and Urban Development**
(www.hud.gov).
- **The Rural Economic Policy Program**
(www.aspeninst.org/rural).

Additional Best Practices and Resources

Resources

Self-assessment

- **Computer Systems Policy Project Readiness Guide** (www.cspp.org)
- **Missouri Express Resource Guide** (Chapter 8 – “Community Technology Profile”) (www.outreach.missouri.edu/moexpress/guides/moex8-1.html)

Funding

- **The National Telecommunications and Information Administration**
(www.ntia.doc.gov/)
- **The Foundation Center** (www.fdncenter.org:80/)
- **The U.S. Department of Housing and Urban Development** (www.hud.gov)
- **The Rural Economic Policy Program** (www.aspeninst.org/rural)
- **The U.S. Agriculture Department** (www.usda.gov/rus/telecom/index.htm)

Grant Writing Resources

- **IBM** and the **National League of Cities** have a very innovative effort under way with pilots in 60 cities and 12 states.

Through the state Municipal Leagues, small jurisdictions can take advantage of Web development and hosting at very affordable rates. For a minimal set-up and monthly fee, IBM hosts the site, and the jurisdiction has access to a full set of templates to create a website.

Training and workshops are part of the package, and soon the sites can also have transaction capability.

A sample site is: (<http://north-lauderdale.fl.ibm.netfusion.com/>).



- **Grantsmanship Center** (<http://www.tgci.com>)
Offers grantsmanship training and low-cost publications to non-profit organizations and government agencies.
- **Grantwriters.com** (<http://www.grantwriters.com>)
For local governments, community-based and non-profit organizations. This site provides free information and access to the best in grant writing materials. Resources include books, guides and diskettes loaded with sample documents, training and services.
- **Grantwriting for Success** (<http://www.technogrants.com/grantwri.htm>)
Focuses on educators and community members working together.
- **How can a community network get initial support and funding?**
by Angela Napili (<http://www.si.umich.edu/Community/faq/initialfund.html>)
- **How can we make our community network self-sustaining?**
by Meredith Bauch (<http://www.si.umich.edu/Community/faq/sustain.html>)
- The **Grant Proposal Guide** contains guidelines for preparing and submitting unsolicited proposals to the National Science Foundation.
(http://www.nsf.gov/home/grants/grants_prep.htm)
- **Technology Fundraising Resources**
Excellent site containing information on preparing technology-related proposals; it even includes some sample documents. Also contains potential funding information.
(<http://www.npower.org/resourcesandlinks/TechFundraising/TechnologyFundraisingResources.htm>)

Resources

Telecommunications

- **The Applied Rural Telecommunications Investment Guide**
(http://bcn.boulder.co.us/aerie/invest_guide/iguide.htm).
Outline for getting started in rural telecommunications and making telecommunications-related investments.
- **Telecommunications** (<http://www.cwt.vt.edu/>). Information on initiatives to assist communities in improving their network performance.

Commercial and Acceptable Use Policies

- **Prairienet** (<http://www.prairienet.org/about/policies.phtml#top>)
- **NorthStarNet** (www.nsn.nslsilus.org/NSN/Docs/policy.html)
- **Seattle Community Network Policy Statement**
(<http://www.scn.org/scnpolicy.html>)



Content Development

- Free service provided by **CAST (Center for Applied Special Technology)** to help Web page authors identify and repair significant barriers to access by individuals with disabilities.
(<http://www.cast.org/Bobby/>)
- **Community Information Network Resource Guides**
Office of Administration, state of Missouri. This is a joint project of MOREnet, University Outreach and Extension, the Missouri Department of Economic Development and the Missouri Association of Councils of Government
(<http://outreach.missouri.edu/moexpress/guides/index.html>).
- **WAMMI** (www.wammi.com). Website Analysis and Measurement Inventory (WAMMI) is a questionnaire-based tool designed to determine if a site is accomplishing its goals in the eyes of site visitors.

General

- **Association for Community Networking**
(www.bcn.boulder.co.us/afcn/cn/resources.html)
- **The Community Resource Institute** (www.granted.org)
Provides a directory of community resources on the Internet.
- Cowell, Ellen M., Kindleberger, Charles P. and Quay, Ray.
Planners for Networked Communities: Guide to On-Line Resources
(www.asu.edu/caed/proceedings99/COWELL/COWELL.HTM)
- **Creating Citizen-Centric Digital Government**
NASIRE 1998 (www.nasire.org)
- **CTCNet** (www.ctcnet.org)
CTCNet has a wealth of information on setting up and running local technology centers (computer labs).
- **Innovation Network Inc.** (www.innonet.org/)
Dedicated to enabling public and non-profit organizations to better plan, execute and evaluate their structure, operations and services.
- **National Association of Towns and Townships** (www.natat.org/natat/).
Educates lawmakers and public policy officials about how small town governments operate and advocates policies on their behalf in Washington, D.C.
- **Rural Telecom Registry** (www.ruraltelecon.org/index.asp).
Facilitates the growth and development of rural telecommunications infrastructure, applications and policies that benefit rural community and economic development by compiling a searchable body of information on



people and projects; helping people find useful information, resources and contacts in their area of interest; automatically advising people of new content that matches their interest; and helping people develop a consensus basis for advocacy.

- **Yellowknife** (Northwest Territories)
Microsoft® Encarta® Online Encyclopedia 2000
(www.encyclopedia.msn.com) 1997-2000 Microsoft Corporation.

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Virginia Sites

- **MyVirginia.org** (www.state.va.us).
- **The e-Communities Task Force** website maintains a list of community portals in Virginia
(www.councils.cit.org/ecomunities/Reports/Ecommunitieslist.htm).
- **Guiding Principles for e-Communities**, Governor's e-Communities Task Force
(www.councils.cit.org/ecomunities/)

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Community Examples

- **West Point, Virginia** (www.westpointvirginia.org)
Community leaders have begun building their portal by focusing on local organization, information about the community and the establishment of a framework for users.
- **Blacksburg Electronic Village** (www.bev.net)
A robust offering of information stressing the role of the portal as a convener of communities of interest.
- **Fairfax County** (www.co.fairfax.va.us)
Works to ensure access to all community members via a number of channels and enables a variety of business transactions, such as online vehicle registration and tax payments.
- **Austin, Texas** (http://www.ci.austintx.us)
Very government-focused but has the interesting feature of tailoring the navigation to the visitor. A user can choose the "Citizen connection," "Business connection" or "Visitor connection."
- **LaGrange, Georgia** (www.lagrange-ga.org/
Focuses on gathering informational resources in an easy-to-navigate form and manages to incorporate local community organizations and businesses.
- **St. Paul, Minnesota** (www.ci.stpaul.mn.us)
Another example of how to customize the view, depending on whether a user is a resident or a visitor.



Resources

- **West Lothian Council, Scotland** (www.wlonline.org)
Recognized by the United Kingdom as one of the best examples of a community portal. Demonstrates how the portal can be a one-stop shop where interactive services are delivered via computer, telephone and other channels.
- **Microsoft's Parthenay Project**
(www.microsoft.com/europe/industry/government/casestudies/1838.htm – in English) in Parthenay, France (<http://www.district-parthenay.fr/> – in French)
Focused on access and began by giving free e-mail and Internet access to citizens. For development of content and applications, local businesses took the lead, under the theory that they best understood residents' needs and interests with regard to a "digital town."
- **Smart City Project, Yellowknife, Canada**
(www.city.yellowknife.nt.ca/index2.htm). The Yellowknife Smart City Project is sponsored by 22 public, private and non-governmental organizations as well as voluntary agencies. Yellowknife aims to become the first community in Canada to achieve 80 percent connectivity by adopting new technologies.
- **Auckland, New Zealand** (www.akcity.govt.nz)
A well-developed Web presence that aligns with many of the Guiding Principles. This model states explicitly that economic development and the health and well-being of the community are inextricably linked with the involvement of its people.

Other active community sites include:

- **Phoenix, Arizona** (www.ci.phoenix.az.us)
- **Charlotte, North Carolina** (www.charlotte.com)
- **Jefferson County, Missouri** (www.join-n.org)





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(<http://outreach.missouri.edu/moexpress/guides/index.html>)

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| Appendices





Appendix I

Instructions for Adding the *My Virginia* Icon and Virginia Government Online Services List to Community Portals and Other Websites

My Virginia Icon



Community portals and other websites that wish to add the *My Virginia* icon to their splash pages may do so by copying the icon as a JPEG image file via the VIPNet website <http://webmaster.vipnet.org/myvirginia/>

Websites displaying the *My Virginia* icon should add the hyperlink <http://www.myvirginia.org> so that users selecting the icon will automatically link to the official Virginia homepage.

The website <http://webmaster.vipnet.org/myvirginia/> also includes instructions for HTML code that may be added so that the *My Virginia* image will be updated automatically if any changes are made to it by VIPNet.

Virginia Government Online Services List

The *My Virginia* portal's "Online Services" page includes a comprehensive listing and description of the online services provided by Virginia state government entities. For the convenience of their users, community portals and other websites may wish to include that same list of online government services on the appropriate pages of their sites (e.g., a community portal page that lists online government services offered by local, state and federal government entities).

Community portals and other websites may copy that list of services and add it to their portal's government services listing by accessing <http://www.vipnet.org/portal/services/index.htm> and using the "copy and paste" functions of an HTML code editor. (VIPNet designed the services page in Macromedia™ Dreamweaver; the copy and paste of other editors such as Microsoft™ FrontPage should work as well.)

In order to receive updates to the Government Online Services List from VIPNet as new services are added or the Web addresses for existing services change, please subscribe to the e-mail updates list at <http://webmaster.vipnet.org/myvirginia/>.



Alternatively, community portals and other websites may prefer only to include a hyperlink to the *My Virginia* "Online Services" page. Under that option, add the text description "Virginia Government Online Services" and hyperlink to <http://www.vipnet.org/portal/services/index.htm>.

For more information on utilizing the *My Virginia* icon and the Government Online Services List, please visit <http://webmaster.vipnet.org/myvirginia/> or use the interactive CD-ROM at the back of this book.



| Appendix II

e-Community Initiatives Under Way in Virginia

- Abingdon Electronic Village (www.abingdon.com)
- Access Damascus (www.damascus.org)
- Albemarle County (www.avenue.org), (www.albemarle.org)
- Arlington County (www.co.arlington.va.us/scripts/default.asp)
- Blacksburg Electronic Village (www.bev.net)
- Bland County Electronic Village (www.bland.org)
- Bristol Electronic Community (www.bec.org)
- Carroll County (www.co.carroll.va.us)
- Charlottesville (www.avenue.org)
- City of Bristol (www.naxs.com/bristol)
- City of Falls Church (www.ci.falls-church.va.us)
- City of Galax (www.ingalax.net)
- City of Radford (www.radford.va.us)
- City of Suffolk (www.suffolk.va.us)
- City of Williamsburg (www.ci.williamsburg.va.us)
- Clintwood (www.clintwood.virginia.com)
- Damascus (www.damascus.org)
- Electronic Village of Abingdon (www.eva.org)
- Fairfax County (www.co.fairfax.va.us)
- Floyd Information Network (www.fin.org)
- Franklin County (www.franklincountyva.org)
- Giles County Electronic Village (www.pearisburg.org)
- Gloucester County (www.gloucesterida.org)
- Grayson County Electronic Village (www.grayson.va.us)



Hampton Roads (www.smartregion.org)

Herndon (www.herndonweb.com)

Loudoun County (www.co.loudoun.va.us)

Marion (www.marionva.org)

Pulaski (www.pulaskitown.org)

Pulaski County Internet Connection (www.pulaskicounty.org)

Reston (www.restonvillage.org), (www.restonweb.com)

Scott County and Region (www.scarlet.org)

Tazewell (www.tazewellcounty.org)

Town of Blacksburg (www.blacksburg.va.us)

Town of Marion (www.naxs.com/marion)

Town of Middleburg (www.middleburg.org)

Town of Rocky Mount (www.rockymountva.org)

West Point (www.westpointvirginia.org)

Wise County (www.MyWiseCounty.com)

Wise & Norton Digital Access (www.wanda.org)

Wytheville-Wythe Information Network (www.wytheville.org)



Appendix III

Questions taken from the CSPP Readiness Guide (www.cspp.org)

QUESTION 1—Choose the closest description of the online access services offered in your community for residential use:

- a. 56k dial-up available to 100% of homes.
Only analog mobile wireless services offered.
- b. DSL/cable or fixed wireless equivalent available to 20% of homes.
Mobile digital wireless data service covers 30% of the community at 12kbps.
- c. DSL/cable or fixed wireless equivalent available to 80% of homes.
Mobile digital wireless data service covers 50% of the community at 12kbps.
- d. Every home has access to high-speed connections, and people can access the network wirelessly from anywhere in the community.

QUESTION 2—Choose the closest description of the online access services offered in your community for commercial use:

- a. 56k dial-up available to 100% of businesses.
Only analog mobile wireless services offered.
- b. High-speed (DSL/cable or dedicated T1+) access available to 40% of businesses.
Mobile digital wireless data service covers 30% of the community at 12kbps.
- c. High-speed access available to 80% of businesses.
Mobile digital wireless data service covers 50% of the community at 56kbps.
- d. Every business has access to high-speed connections, and employees can access the network wirelessly from anywhere in the community.

QUESTION 3—Choose the closest description of the competitiveness of wired and fixed wireless services in your community:

- a. 1 high-speed data provider for residential and business markets. Installation takes 2 weeks.
- b. 2 residential high-speed data providers servicing more than 50% of the community.
3 high-speed data providers for the business market.
Installation takes less than 2 weeks.
- c. 3 residential high-speed data providers servicing more than 75% of the community.
5 high-speed providers for the business market.
Installation takes 1 week.



- d. High-speed data services for the residential and business markets are highly competitive for price, innovation and quality of service.

QUESTION 4—Choose the closest description of the number of voice and data wireless providers servicing your community:

- a. 1 mobile voice and data wireless provider.
- b. 3 mobile voice and data wireless providers.
- c. 5 mobile voice and data wireless providers.
- d. Mobile wireless services are highly competitive for price, innovation and quality of service.

QUESTION 5—Choose the closest description of the level of access to network services provided to employees in the business sector of your community:

- a. Employees dial up for Internet access.
25% of employees have e-mail accounts.
- b. 30% of employees have access to an always-on connection to the Internet.
50% of employees have e-mail accounts.
50% of mobile employees use wireless devices.
- c. 60% of employees have access to an always-on connection to the Internet.
75% of employees have e-mail accounts.
100% of mobile employees use wireless devices.
- d. All businesses of all sizes and in all sectors are always connected to the network, and every employee is able to access the network when it is needed to perform their job, even when mobile.

QUESTION 6—Choose the closest description of the level of access to network services provided to employees in the government sector of your community:

- a. 50% of government buildings have an always-on connection.
25% of employees have e-mail.
- b. 100% of government buildings have an always-on connection to the Internet.
100% of employees have e-mail.
50% of mobile employees use wireless devices.
- c. 100% of mobile employees use wireless devices.
Public terminals are available in 50% of public buildings accessible to the public.



- d. Governments make the network always available to employees and become a point of network access for the public when they are in a public building.

QUESTION 7—Choose the closest description of the level of access to network services provided in elementary and secondary (K-12) schools in your community:

- a. 10% of classrooms have an always-on connection to the Internet.
25% of teachers have e-mail accounts.
- b. 50% of classrooms have an always-on connection to the Internet.
100% of teachers have e-mail accounts.
- c. 75% of classrooms have an always-on connection to the Internet.
100% of students have e-mail accounts.
Public ports and terminals are available in common areas.
- d. All K-12 campuses are highly networked environments where the network is available to everyone from anywhere on campus.

QUESTION 8—Choose the closest description of the level of access to network services provided in higher education institutions (community colleges, colleges and universities) in your community:

- a. 100% of offices, libraries and labs have an always-on connection to the Internet.
25% of dorm rooms have an always-on connection to the Internet.
100% of students, faculty and staff have e-mail accounts.
- b. 50% of dorm rooms have an always-on connection to the Internet.
25% of campuses have a wireless network.
- c. 100% of dorm rooms have an always-on connection to the Internet.
50% of campuses have a wireless network.
- d. All higher education campuses are highly networked environments where the network is available to everyone from anywhere on campus.

QUESTION 9—Choose the closest description of the level of access to network services provided in health care provider operations in your community:

- a. 25% of providers have dial-up Internet access.
25% of providers have e-mail accounts for external communication.
- b. 25% of providers have an always-on connection to the Internet.
50% of providers have e-mail accounts for external communication.
- c. 50% of providers have an always-on connection to the Internet.



100% of providers have e-mail accounts for external communication.

- d. All health care providers have high-speed access for communication and telemedicine purposes.

QUESTION 10—Choose the closest description of the level of access to network services provided in homes in your community:

- a. 25% of homes have a computer/access device.
15% of homes use the Internet.
- b. 50% of homes have a computer/access device. 30% of homes use the Internet.
- c. 80% of homes have a computer/access device. 80% of homes use the Internet.
- d. All homes are connected to the network and enable people and devices to access the network from multiple sites in the home.

QUESTION 11—Choose the closest description of how businesses in your community are using the network to run their operations:

- a. 10% order goods online.
10% transact with customers online.
10% manage human resources (HR)/administrative information online.
- b. 25% order goods online.
25% transact with customers online.
25% manage HR/administrative information online.
- c. 50% order goods online.
50% transact with customers online.
50% manage HR/administrative information online.
- d. Businesses incorporate the network into every aspect of their operations, creating greater efficiencies, spurring innovation and connecting online with everyone who is part of the business, both internally and externally.

QUESTION 12—Choose the closest description of how government in your community is using the network to run their operations:

- a. 50% of agencies have informational websites.
25% of agencies manage HR/administrative information online.
- b. 25% of agencies have transactional websites for citizens and suppliers.
50% of agencies share data electronically.
50% of agencies manage HR/administrative information online.



- c. 75% of agencies have transactional websites for citizens and suppliers.
75% of agencies share data electronically.
75% of agencies manage HR/administrative information online.
- d. Governments use the network to run operations more efficiently internally and to serve constituents in a 24x7 self-service model externally.

QUESTION 13—Choose the closest description of how elementary and secondary (K-12) schools in your community are using the network to run their operations:

- a. 100% of schools have an informational website.
25% of teachers are trained to use the Internet for instruction.
- b. 25% of schools have an interactive website including access to homework assignments and communication with teachers and administrators.
50% of teachers are trained to use the Internet for instruction.
- c. 75% of schools have an interactive website including access to homework assignments and e-mail contact with teachers and administrators.
100% of teachers are trained to use the Internet for instruction.
50% of schools manage forms/reports online.
- d. Schools use the network to connect students, teachers and parents, improve learning using online resources and manage administrative responsibilities more efficiently.

QUESTION 14—Choose the closest description of how higher education institutions (community colleges, colleges and universities) in your community are using the network to run their operations:

- a. 25% of campuses offer online registration.
25% of faculty is trained to use the Internet for instruction.
- b. 50% of campuses offer online registration.
50% of faculty is trained to use the Internet for instruction.
- c. 75% of campuses offer online registration.
75% of faculty is trained to use the Internet for instruction.
- d. All aspects of higher education are available through the network, including instruction and administration.



QUESTION 15—Choose the closest description of how health care providers in your community are using the network to run their operations:

- a. 10% of providers have an informational website.
- b. 25% of providers have an informational website.
10% of providers store records electronically.
- c. 75% of providers have an informational website.
25% of providers have an interactive website for scheduling and basic questions.
50% of providers store records electronically.
- d. Providers interact with their patients online and perform some consultations and procedures remotely.

QUESTION 16—Choose the closest description of how community-based organizations in your community are using the network to run their operations:

- a. 25% of community-based organizations have an informational website.
- b. 50% of community-based organizations have an informational website. 75% of community-based organizations have an informational website.
A unified community portal provides access to a broad range of community information and services.
- c. Community-based organizations are able to use the network to engage people in the community and make their services available to everyone.

QUESTION 17—Choose the closest description of how your community enables innovation and the extent to which businesses are using the Internet to transform themselves:

- a. Business permits and licenses take up to 3 months to secure.
25% of existing businesses have transformed their internal and external practices due to the Internet.
- b. Business permits and licenses take up to 1 month to secure.
50% of existing businesses have transformed their internal and external practices due to the Internet.
- c. Business permits and licenses take less than 2 weeks to secure.
75% of existing businesses have transformed their internal and external practices due to the Internet.
- d. Starting a new business has minimal bureaucratic and economic barriers, and support mechanisms are in place to assist and encourage new business development. Existing businesses are embracing new technologies and best practices.



QUESTION 18—Choose the closest description of how the workforce in your community is adopting new skills, how jobs and job seekers are matched, and how telecommuting is being embraced:

- a. 10% of the workforce participates in training/education programs either online or in person every 5 years.
10% of employers post job openings on online job-listing services.
- b. 25% of the workforce participates in training/education programs either online or in person every 5 years.
25% of employers post job openings on online job-listing services.
5% of the workforce telecommutes at least once a week.
- c. 50% of the workforce participates in training/education programs either online or in person every 5 years.
75% of employers post job openings on online job-listing services.
15% of the workforce telecommutes at least once a week.
- d. People are continually upgrading their skills to adjust to new technologies and best practices. Online job banks are able to dynamically match employees with openings and connect to training/education programs to identify increased needs. Telework becomes a standard operating procedure in most work environments to accommodate workers' needs and tap into global labor pools.

QUESTION 19—Choose the closest description of how many consumers in your community are using the network to do their buying for some goods and services:

- a. 10% of households purchase goods or use services online.
- b. 33% of households purchase goods or use services online.
- c. 75% of households purchase goods or use services online.
- d. Consumers can find information, compare and buy any good or service located anywhere in the world online.

QUESTION 20—Choose the closest description of how easy it is for a visitor to your community to find access to the network from a public terminal or port (either paid or unpaid):

- a. A visitor can find high-speed access to the network within a 20-minute drive from the center of the community on 24x7 basis.
- b. A visitor can find high-speed access to the network within a 10-minute drive from the center of the community on a 24x7 basis.
- c. A visitor can find high-speed access to the network within a 10-minute walk



from the center of the community on a 24x7 basis.

- d. High-speed access terminals or ports are available everywhere in the community, and getting on the network wherever you are does not take a second thought.

QUESTION 21—Choose the closest description of how network users in your community are adopting security best practices:

- a. 10% of always-on connections have firewalls.
Sensitive business and personal e-mail is never encrypted.
Virus software is updated annually.
- b. 50% of always-on connections have firewalls.
Sensitive business and personal e-mail is sometimes encrypted.
Virus software is updated monthly.
- c. 100% of always-on connections have firewalls.
Sensitive business and personal e-mail is always encrypted.
Virus software is updated weekly.
Digital signature or equivalent authentication technology is used by 50% of users.
- d. Organizations and individual users use tools to protect online security and are prepared to make themselves “well” again when security is breached.

QUESTION 22—Choose the closest description of how network users in your community are adopting privacy best practices:

- a. 75% of public- and private-sector websites post privacy policies.
10% of people feel they understand how to protect their privacy when online.
- b. 25% of public- and private-sector websites meet the privacy guidelines of the Better Business Bureau (BBBOnline, www.bbbonline.org) or TRUSTe (www.truste.org).
25% of people feel they understand how to protect their privacy when online.
- c. 50% of public- and private-sector websites meet the privacy guidelines of BBBOnline or TRUSTe.
75% of people feel they understand how to protect their privacy when online.
- d. Users are enabled to easily protect their privacy through a combination of technology tools and best practices. Public- and private-sector organizations make it easy for users to understand how they use information.



QUESTION 23—Choose the closest description of how policy makers and business leaders are addressing connectedness issues:

- a. Policy makers and business leaders are familiar with key connectedness policy issues such as privacy, telecommunications competition, taxation, authentication, intellectual property, security and online criminal activity.
- b. Policy makers and business leaders are working to ensure that new policies are in place to encourage and support the emergence of connectedness. Policy makers and business leaders are working to eliminate barriers to connectedness, such as requirements for physical signatures.
- c. Regular assessments are made of 1) connectedness and 2) the effect policies are having on connectedness.
- d. Policies related to connectedness — such as privacy, telecommunications competition, taxation, authentication, intellectual property and criminal conduct for disrupting networks — are clearly established and are favorable to promoting connectedness and use of the network.

Appendix IV

Technical Terms

Analog mobile wireless: Voice and data services that are transmitted over networks using analog protocols to people using wireless devices that do not require staying at a fixed location.

ATM: Asynchronous Transfer Mode. A network technology capable of transmitting data, voice, audio, video and frame-relay traffic in real time. ATM has proven very successful in supporting such applications as local-area network interconnection, voice transmission, high-speed data transfer, private line circuit emulation, high-resolution imaging, high-definition video transport, multimedia communications, host-to-host internetworking, interactive and concurrent engineering, and PBX interconnect.

Bandwidth: The capacity of a transmission channel to move data among locations.

Cable: Cable TV network composed of fiber and/or coaxial cable. Modern cable networks can use cable modems to enable two-way high-speed Internet access.

Connectedness: The measure of how well connected to the Internet a person is.

DSL: Digital Subscriber Line service provides high-speed Internet access over traditional copper telephone infrastructure and is usually available only to locations within 18,000 wire feet of a local exchange carrier's central office.

Dial-up Internet access: Obtaining connectivity to the Internet by using a modem and standard telephone line to connect to an Internet Service Provider or other provider of Internet service. Maximum access speed is 56kbps.

Digital signature: An authentication process using encryption to ensure that a communication that has been received has not been tampered with.

Firewalls: A software process for protecting undesired access to a network or access device.

Fixed wireless: Service that is provided wirelessly to a device that is located in a single place and that is not mobile.



Frame relay: A packet-switching protocol for use on wide area networks (WANs). A high-speed delivery technology for units of data, which are assembled into variable-length packets referred to as frames. The standardized interface facilitates multiplexed access to the networked facilities. This approach to data networking was developed to satisfy the needs of managers of data WANs for:

- Improved performance over traditional packet technology.
- Integration of legacy data traffic with that from local area network applications.
- More streamlined network design and management.
- Reduced network costs.

Geographic information system (GIS): A system for viewing and creating maps with a Web browser, and a server for managing maps and data.

High-speed access: Access to the Internet at transmission speeds greater than 128kbps.

Hits: Accessing a file on a website. Each separate file accessed on a site, including HTML documents and graphics, counts as a “hit.”

Hosting: Providing services to client computers that connect from remote locations – for example, to offer Internet access or to be the source of a news or mail service.

Informational websites: Websites that only present information and do not allow for any interactivity or transactions.

Interactive websites: Websites that enable real-time communication and/or transactions between the user and the website.



IP (Internet Protocol): The protocol within TCP/IP that governs the breakup of data messages into packets, the routing of the packets from the sender to the destination network and station, and the reassembly of the packets into the original data messages at the destination. IP runs at the Internet work layer in the TCP/IP model, equivalent to the network layer in the ISO/OSI reference model.

ISDN: Integrated Services Digital Network. A high-speed digital communications network evolving from existing telephone services, with the idea of replacing digital-to-analog conversions with facilities totally devoted to digital switching and transmission.

ISO/OSI reference model: International Standards Organization/Open System Interconnection reference model. A layered architecture standardizing levels of service and types of interaction for computers exchanging information through a communications network.

ISP: Internet Service Provider. A company or organization that provides a user with a connection to the Internet.

IT: Information technology

Kilobyte (K): A data unit of 1,024 bytes.

Kbps: Kilobits per second. A measurement of the rate of speed that data is being transferred. 1kbps equals 1,000 bits per second.

LAN: Local area network. Computers and other devices spread over a limited area that interact through a common platform.

Mobile digital wireless: Voice and data services that are transmitted over networks using digital protocols to people using wireless devices that do not require staying at a fixed location.

Network infrastructure: The physical plant of wires, switches, routers, hubs, satellites, broadcast towers, dishes and other hardware that allows communications signals to be delivered across networks.



PBX: Private branch exchange. An automatic telephone switching system enabling users within an organization to place calls to each other without going through the public telephone network.

PC: Personal computer.

PDA: Personal digital assistant. A lightweight palmtop device designed to provide specific functions for personal organization (calendar, note-taking, database, calculator, etc.) as well as communications.

.pdf: The file extension developed by Adobe Systems identifying documents encoded in the Portable Document Format. The Adobe Acrobat Reader software is necessary to be able to view or print a .pdf file.

Portal: A website that aggregates content and provides a methodology for accessing that content.

Privacy policy: The stated methodology used by a website for handling information collected about users of that website.

Public ports: Publicly available data jacks where people can plug in their access devices to connect to the Internet.

T1: A dedicated connection providing transmission capacity at up to 1.54Mbps.

TCP: Transmission Control Protocol.

TCP/IP: Transmission Control Protocol/Internet Protocol. A set of protocols developed by the U.S. Defense Department for communications over interconnected networks.

telco: Telephone company, specifically referencing a telephone company's provision of Internet services.

Telecommuting: Using networked technologies to perform work-related activities away from the office or business using information and communications technologies.



Teleconferencing: The use of audio, video or computer equipment linked through a communications system to enable geographically separated individuals to participate in a meeting or discussion.

Terminals: Access devices that enable the user to view Web pages and transmit e-mail.

Transactional websites: Websites that enable the user to order and pay for goods and services online. Digitized goods and services also can be delivered online.

UseNet: A worldwide network of UNIX systems used as a bulletin board by special interest groups.

UNIX: A multi-user, multitasking operating system developed for use on minicomputers, now developed into a complex, powerful operating system written in the C programming language.

Virtual private networks (VPNs): A set of nodes on a public network, such as the Internet, that communicate among themselves using encryption technology so that their messages are safe from being intercepted and understood by private lines.

Virus protection software: Programs that protect a computer or access device from being infected with software viruses that can destroy or alter data, applications and systems.

WAN: Wide area network. A geographically widespread network; it can be one large network or a number of linked local area networks.

Wizard: An interactive “help” utility within an application that guides the user step-by-step through a particular task.

xDSL: A term for all Digital Subscriber Line technologies using various modulation schemes to pack data onto copper wires.



Appendix V

Guide to Selecting Data Collection Methodology

Data Collection Method	Format	Target Audience	Purpose	Additional Comments
Small group meeting	Focus group with 7-10 participants	People who share common concerns and interests	Determine reasons for wanting to use a community portal	Potential focus groups: senior citizens, teenagers, adults, low-income, unemployed persons, disabled individuals and business owners.
Survey	Telephone, mail, door-to-door	Residents	Determine how the portal should be developed	One of the most effective means for community data collection is the use of volunteers/civic groups. When members of the community collect data, there is generally a better response rate. This method also helps create buy-in.
One-to-one interviews	Telephone, in person	Key community leaders	Ascertain what information and resources are readily available and accessible Determine potential portal offerings	Start with 5-10 easily identifiable leaders and ask each for a recommendation of 5-10 more people to talk with.



Appendix VI

Evaluating Internet Service Providers

Internet Service Provider (ISP) viability can be determined by a number of factors or a combination of factors.

- Internet access options and associated costs for users to gain Internet access.
- Services other than Internet access offered by the ISP (e-mail, file transfer protocol, USENET) and associated costs.
- Nature of the ISP: Does the ISP provide services directly, or does it simply resell the services of another ISP?
- Nature of a contract: Long-term contracts may limit the ability of users or the network to take advantage of new technologies or new ISPs in the area.
- System monitoring by the ISP: How does the ISP monitor system performance, and how quickly can it respond to a service problem?
- Maintenance of ISP equipment as a measure of service reliability: If a piece of equipment does not work, how quickly can the ISP repair/replace the equipment or provide a viable alternative?
- How long has the ISP been in your community?



| Appendix VIII

Sample Guidelines for Information Providers (NorthStarNet)

Information providers must agree to follow all NorthStarNet policies and guidelines. The information provider is considered the owner of the information provided and bears all legal responsibility for whatever information is posted.

There are two categories of information: local and regional. Local information is specific to one community. Regional information covers a broader area. In order to contribute material to NorthStarNet, information providers must agree to:

1. Meet with their local library representative to learn more about their community's participation in NSN and to discuss possible training needs.

2. Fill out a Local Information Provider Form.

Local information providers can obtain an application through their local library (the library must be a member of the North Suburban Library System or Suburban Library System). Regional information providers can obtain an application directly from the North Suburban Library System or the Suburban Library System. Signed applications will be kept on file at the local library or by the regional coordinator. Forms can also be printed out from this website and returned to your local library coordinator.

3. Identify the name of the organization and the person responsible for maintaining the information on the application form.

All organizations that contribute information to NSN must be identified.

4. Keep information updated and current.

Each organization must designate one person to be officially responsible for managing and updating files. Each information file must include the date the information is loaded on NorthStarNet and provide some indication of the period of time that the information will be current. If an organization does not update information, the out-of-date information will be deleted from NorthStarNet, and the organization must reapply for acceptance as an information provider.

5. **Information providers are expected to maintain local backup copies of their sites.**



6. Conform to U.S. copyright law and other legal issues as outlined in the NSN policy section.

Copyrighted information may not be posted on NorthStarNet without obtaining proper permission first. Additionally, there are restrictions on the transaction of e-commerce and the publication of political information on the NorthStarNet servers.

7. Provide information in the format required by NorthStarNet.

There are two ways in which an organization can participate in NorthStarNet:

- The organization can develop its own home page on the Internet, and NSN will provide a link to this home page.
- The organization can upload information directly to NorthStarNet.

8. NorthStarNet focuses on local and regional information. Links to external information sources are permitted if relevant to the information provider's basic mission. NorthStarNet determines relevancy.

9. NSN will charge organizations that are not member libraries of NSLS or SLS a \$100 fee for setting up a virtual domain name for the organization's website on NorthStarNet. This will be a one-time fee that will cover the cost of configuring the virtual domain name on the NorthStarNet server and maintaining it. Organizations will submit an application with a check for \$100 to NSLS or SLS (whichever is appropriate) to request the establishment of a virtual domain name for their NorthStarNet site.

Check the NSN Information section for the Domain Name Registration and Application Form and more details. This is only for organizations that wish to obtain a unique domain name; all other sites that use their NorthStarNet address do not incur any fees.

10. Adhere to all other NorthStarNet policies.



NorthStarNet Information Provider Form

Contact Information

ORGANIZATION NAME _____

CONTACT PERSON _____

ADDRESS _____

CITY _____ ZIP _____

PHONE _____ FAX _____

Please indicate if you have another e-mail account where you would like to receive all NorthStarNet mail: _____

Account Name and Password Information

Please select an account name and password for your NorthStarNet account.
Neither can be longer than eight characters.

Account Name

Please note that your account name will be included in your URL and will be your "login" name for accessing NorthStarNet account management tools. You should select an account name that will be easy to remember and reflects the name/mission of your organization. All account names must be in lower-case letters.

Password

All NorthStarNet passwords should:

- have between 6 and 8 characters, at least one of which is non-alpha (i.e., a number or symbol)
- not be a recognizable word (can be a word modified by adding non-alpha characters)
- not be a variant of the account name (login)

Account name/Login _____ Password _____



Content Information

Briefly describe the information you will provide on NorthStarNet:

Check up to five categories that apply:

<input type="checkbox"/> Arts, Culture & Entertainment	<input type="checkbox"/> Government & Politics	<input type="checkbox"/> Religion
<input type="checkbox"/> Business	<input type="checkbox"/> Health & Medicine	<input type="checkbox"/> Restaurants & Shopping
<input type="checkbox"/> Community Organizations	<input type="checkbox"/> Library	<input type="checkbox"/> Social Services
<input type="checkbox"/> Demographic Information	<input type="checkbox"/> Local History	<input type="checkbox"/> Sports & Recreation
<input type="checkbox"/> Education	<input type="checkbox"/> Local Media	<input type="checkbox"/> Transportation

To participate in NorthStarNet, an organization must keep its information current. A website will be dropped if it is not kept current. The person signing this form agrees to take responsibility for making sure the information supplied is updated on a regular basis and for following the other provisions outlined in the NorthStarNet's "Guidelines for Information Providers."

Signature _____
Last updated 10/99

Date _____



| Appendix VIII

Sample Community Network Policy Statement (Seattle Community Network) (<http://www.scn.org/scnpolicy.html>) Revision: July 18, 1999

I. GUIDELINES

SCN is committed to the following guidelines for network users:

+ FREE SPEECH

SCN is committed to placing a high value on freedom of speech and expression and in the free exchange of ideas.

+ FREE ACCESS

SCN is committed to providing free access to public information for the community at large.

+ RIGHT TO PRIVACY

SCN is committed to maintaining the privacy of individuals. SCN will not provide its list of registered users to other organizations.

SCN will not disclose any personal information about individual users without a court mandate and the approval of the board of directors. Before disclosing information, we will attempt to notify affected users.

+ DUE PROCESS

SCN is committed to maintaining the right to due process of individual users of the network.

SCN does not and will not have any agreements with individuals or organizations that require restrictions to its policies, the Code of Etiquette or the User Agreement.

II. USER REGISTRATION

SCN has both non-registered and registered users.

+ NON-REGISTERED USER

As a non-registered user, you can browse freely on SCN.

If you want to have additional network privileges, you need to become a registered user.

+ REGISTERED USER

As a registered user, you can browse anywhere on the network and have access to all its materials and services. You can post your own materials and information, contribute to online discussions, and send and receive electronic mail (e-mail).

To become a registered user:

(1) Fill out a SCN registration form with the required details.

(2) Read and agree to follow SCN's Code of Etiquette and User Agreement.

(3) Sign the completed registration form to acknowledge your understanding and acceptance of these rules and then send the form to SCNA.

Registered user accounts are for individuals only. Organizations will be allocated accounts for Web and mail-list administrative purposes only. Staff and volunteers of organizations should register for their own personal SCN accounts.

III. SERVICES

+ INFORMATION ACCESS

All information on SCN is private, except for what is published in forums and other public information areas.



+ ELECTRONIC MAIL (e-mail)

Definition: Electronic mail (e-mail) is a service to facilitate direct communication between two or more people.

Unsolicited advertising via e-mail is not condoned on SCN. SCN will not provide commercial and non-profit organizations with e-mail lists of its users. SCN reserves the right to contact its own users for administrative and fundraising purposes.

+ INFORMATION PUBLICATION (World Wide Web)

Definition: Information providers are users or associations of users including businesses and organizations. Information publication is a service allowing information providers to publish material on the World Wide Web for anyone to read.

Information providers communicate information through a designated individual user or users.

+ MAIL LISTS

Definition: Lists of e-mail addresses which have been grouped together for the exchange of e-mail on a specific topic.

Mail lists will have an administrator who will be responsible for the usage of the list and compliance with SCN's agreed usage.

All mail lists will have a description of their usage online.

Any registered user may request the creation of a new mail list.

Active mail lists will be kept on the network. Inactive mail lists will be deleted after a period of time set by the board of directors.

+ FORUMS (local SCN news groups)

Definition: A forum is a "place" on the network devoted to the interactive discussion of a specific topic. All users can read – and registered users can post – messages that fit the stated purpose of the forum. Forums may be moderated or free-form.



SCN does not support forums that are restrictive or discourage public participation.

Any registered user may request the creation of a new forum.

Active forums will be kept on the network. Inactive forums will be deleted after a period of time set by the board of directors.

A description of the purpose and nature of each forum and its criteria for message posting can be found on the network.

+ INFORMATION "FILTER"

If you are a registered user, you can use a "filter" facility provided by SCN to screen out unwanted postings or e-mail.

IV. GOVERNANCE

The board of directors of SCNA is responsible for maintaining policy documents (e.g., Code of Etiquette, User Agreement) and settling disputes.

The board of directors will set up a committee responsible for governance matters, who will act on behalf of the board. Initially the Governance Committee will undertake the board's actions.

Known violations of the Code of Etiquette, misuse of the system or volunteer misconduct will result in warnings from the board of directors and may lead to revocation of registered status or special privileges for an indefinite amount of time. Any warnings or revocations can be appealed to the board of directors. The board of directors' decision is final. Individuals with revoked privileges can still use the system as non-registered users.

If an individual would like to challenge any items in the Code of Etiquette, the board of directors will listen to the challenge and make a decision.



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