

2001-2002 21st Century Fund
Western New York Partnership for Regional Internetworking
October 1, 2001

PART I, PROJECT IDENTIFICATION

1. Project Name:

Western New York Partnership for Regional Internetworking (WNYPRI) request to develop the 21st Century Regional Internetworking Center

2. Name of Applicant:

Buffalo Independent Secondary Schools Network (BISSNET)

3. Address of Applicant:

1250 Amherst Street
Buffalo, New York 14216

4. Telephone number of Applicant:

875-8212, ext. 214

5. Fax number of Applicant:

875-2169

6. E-mail of Applicant:

kostynct@buffnet.net

7. Name of Responsible Party/Media Contact, who has submitted application:

Carol Kostyniak, BISSNET Project Director & WNYPRI Chairwoman

8. Name and telephone number of person to whom questions should be directed:

Carol Kostyniak may be reached at 875-8212, ext. 214

9. Is Applicant a Section 501(c)(3) Not-for Profit Corporation?

Provide Determination letter from IRS. If Applicant is not a Section 501(c)(3) Corporation, provide a letter of agreement from a Section 501(c)(3) corporation that will act as a financial agent.

Yes, BISSNET is a 501(c)(3) organization. A copy of the IRS Determination Letter is attached in the Appendix of this document.

10. Amount requested:

\$150,000

11. Date funds required and why the funds are needed by the stated date:

The funds must be raised by April 2002. The funds will be needed by that date so that WNYPRI will be able to move forward in its plan to acquire the necessary equipment to commence the project and establish the 21st Century Center for Regional Internetworking at the University of Buffalo.

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PART II PROJECT DESCRIPTION

1. Project description (no more than three pages). Describe the project in detail.

Western New York Partnership for Regional Internetworking (WNYPRI) seeks funding to establish the *21st Century Regional Internetworking Center*, a *shared community resource* to be housed at the University of Buffalo. This Center is needed to support public benefit applications in education, environmental, healthcare and government services. The *21st Century Regional Internetworking Center* will be a collection of community-owned multi-point networked video devices to support high quality applications. Examples of these applications include videoconferencing and virtual tours that cross all public service sectors – from government and medical services to school and college courses. The Center will consist of a multi-point videoconferencing unit (MCU), which will bring live video interaction that each of the partners may access simultaneously. The MCU can also be easily enhanced to archive and retrieve conferences for future reference.

Mission/Vision

The mission of WNYPRI is to advocate for improvements to the regional network infrastructure that will allow high quality videoconferencing and other large bandwidth applications to reach all the partners, including schools, colleges, universities, hospitals, and government entities. This Center is also crucial to WNYPRI's future vision for the fiber-optic network infrastructure in the Buffalo-Niagara Region. This vision includes a community-owned Dark Fiber Network reaching to all schools, universities, healthcare facilities and government buildings in the region. Ultimately, this project will have the capacity to support all key Western New York public and non-profit services, helping to create jobs and positively impact the economic climate.

Needs Assessment

Each member of WNYPRI faced the realization that highly specialized technical equipment and support services could be shared rather than duplicated. Consequently, if they had to go about it alone, most partners would lean toward low-cost acquisitions. The frequent and predictable results from independent distance learning projects are expensive equipment purchases that gather dust due to a lack of appropriate staff support. Furthermore, each organization's network efforts were creating a "balkanized" system of local area networks, with small, low speed pipes connecting to one another. The WNYPRI was founded as a result of the following factors: 1) An overlapped target audience; 2) The extraordinary benefits to the public and region that high performance video applications can provide on a seamless and well-supported regional network; and 3) The limited funds that this region has for any such complex and emerging technology.

The pooling of funds and resources by WNYPRI will provide equipment more robust than each member could afford individually and promotes the spirit of regionalism. With a lowered reliance on air travel and gas consumption, the need to create a regional internetworking center is pronounced. This shared community network facility will meet the immediate needs in the community and is doable within the timeframe imposed by the 21st Century Fund guidelines. WNYPRI envisions a community network that will provide limitless opportunities for current and future needs of Western New Yorkers. The naming of the *21st Century Regional Internetworking Center* not only represents the contribution of the 21st Century Fund, but the concept of community support for a fiber-optic infrastructure that helps residents collaborate locally and globally.

Purpose

The purpose of this proposal is to fund a pilot project that will demonstrate to the region how shared high tech equipment can be used to facilitate public services, access video conferencing, and distance

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learning production and maintenance at a lower cost. Community resources will allow for **multi-point videoconferencing**, where many videoconferencing locations can simultaneously view and be viewed in real time. **Gatekeepers** will keep track of the electronic locations of all of the network videoconferencing sites in the region.

Project Description

The proposed Center is not to be confused with standard distance learning equipment available in most public schools and colleges. Rather than using what is now antiquated video relay technology, the **21st Century Regional Internetworking Center** will use a Dark Fiber Network. Unlike most technology applications, which are usually outdated within six months, Dark Fiber is considered by technology experts to be the best option for the future of high performance networked video conferencing because it provides virtually unlimited bandwidth. In laymen's terms, bandwidth is "size of the pipe," which determines how much information can be transmitted at one time. The videoconferencing is then transported to different end-points using the Internet. Unlike consumer grade video conferencing, high performance networked video surpasses commercial broadcast television standards.

The equipment will provide for up to 500 registered users with the capability of connecting up to 100 simultaneous videoconference endpoints into a single integrated multi-participant meeting. It combines video, audio and data streams into one multi-location interactive session. It includes a Gatekeeper software package running on a PC Server running Windows NT, providing admission control, bandwidth management and call routing functions. A scheduling function for this Gatekeeper is fundamental to the logistics of managing a diverse number of registered users who will be using the inter-networking features. Members would schedule in advance the date, time and coordinates for their conference. Furthermore, since the technology uses the Internet as its method of delivery, the users do not have to be physically located on the University of Buffalo's North Campus, where the Center will be housed. Rather, members will be able to access the teleconference from any Internet-ready location.

Project Goal

The overall **goal** of the project is to improve public service to the constituents of the partnering organizations. At a conservative estimate, WNYPRI will impact every person in Western New York, either through educational partners: BISSNET, Daemen College, University of Buffalo, D'Youville College, Hilbert College, Houghton College, Villa Maria College; environmental partner: Center for Great Lakes Environmental Education; healthcare partners: Erie County Medical Center and the WNY Catholic Health System; and government partners: Erie County, Erie County Industrial Development Center.

Description of the Steering Committee:

BISSNET: www.bissent.org BISSNET is an association of 19 geographically and socio-economically dispersed schools, collectively serving over 6,500 high school students in Western New York. The mission of BISSNET is to facilitate educational advancement, to provide access to technologies in the classroom, and to make a difference in the lives of children in Erie and Niagara counties. While some mistakenly associate private schools as promoting one particular religion, or independent schools as elitist, these schools accept students from all faiths and religious backgrounds, and include demographics representative of the Buffalo-Niagara Falls metropolitan area. What these schools do share is a commitment to the personal attention given to students in smaller-sized classrooms, fostering intellectual and personal growth. Unlike public school districts, which operate

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based on tax levies, bond issues, and government grants, private and independent schools rely on tuition as their primary source of revenue. After covering overhead costs, few dollars remain for curriculum enhancements and special equipment initiatives.

Daemen College: www.daemen.edu Daemen College is a key provider of distance education to students and health professionals in both urban and rural areas of Western New York and seeks to continue to provide and enhance its services to students, rural health care practitioners, and the public. Daemen is also becoming a key partner in the provision of telemedicine activities and seeks, with current and expanded partnerships, to support the development of clinical telemedicine services. Daemen College envisions using the network as a medium to deliver both undergraduate and graduate programs, as well as telemedicine services to the Western New York region. Future applications will most certainly involve collaboration with other regions in the United States, as well as with appropriate international educational entities.

Erie County Medical Center - Telemedicine Services & University at Buffalo School of Medicine and Bio-Medical Sciences: Department of Emergency Medicine & Center for Traffic Injury Research: Video networking connectivity will allow medical practitioners to virtually go to all the environments that emergency medical services reach. These locations include the home, nursing homes, schools, universities, industrial sites, correctional facilities, fire halls, ambulance companies, clinics, and government buildings.

University at Buffalo – Center for Interactive Technology/WNY High Performance Network Video Initiative: <http://wny-hpnvi.buffalo.edu/wny-hpnvi>

Under the direction of James Whitlock, a leading expert on network video technologies and recipient of the 2001 University of Buffalo's Chancellor's Award, WNYPRI has focused on the creation of shared community video resources available to the non-profit sectors, including education, environment, healthcare and government sectors. Collaborating institutions outside the WNY region include, Columbia, Stanford, Ohio State University, University of North Carolina, University of Rochester, ViDeNet, NYSERNET, and SURFNet in the Netherlands.

Why Fund This Project?

- ❑ There is little risk associated with funding this project. The technology has already been proven successful by others and has long-term use. Dark Fiber Networks provide unlimited bandwidth, therefore, the technology cannot be improved and rendered useless in a short period of time.
- ❑ Members of WNYRPI are working with legal experts to create a Memorandum of Understanding to determine usage costs and general operating procedures associated with the Center.
- ❑ The project will impact every person residing in Western New York including underserved, underemployed/unemployed and the working families normally omitted from high-tech projects.
- ❑ The partners involved represent all of Western New York's public and non-profit sectors – education, environment, healthcare and government.
- ❑ This project will highlight Western New York's technological capabilities with high performance networked video and effectively draw national attention to the human and technological resources available here, in addition to improving the climate for attracting and nurturing business within the region.
- ❑ WNYPRI is a unique collaboration – there is no known organization like it.
- ❑ The project's benefits will be immediate, long-term and sustainable. (*See timetable on page 14.*)

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2. **Also, provide a one-paragraph description of your project in one hundred words or less. Include the name of the project and the name of the organization that is submitting the application.**

WNYPRI, a consortium representing over 27 public and non-profit organizations from across Western New York, seeks \$150,000 to develop the **21st Century Regional Internetworking Center**. Housed at the University of Buffalo, the Center will provide the partners simultaneous access to state-of-the-art videoconferencing equipment and infrastructure needed to bring high-quality, live video interaction to education, healthcare and government centers. The pooling of funds and resources by partners will provide equipment more robust than each member could afford individually and promotes the spirit of regionalism. The Steering Committee consists of BISSNET, the University of Buffalo, Erie County Medical Center and Daemen College.

3. **Describe how the project complies with the Mission of the 21st Century Fund that a project is of high impact and of strategic importance to Western New York.**

The nature of this project is worthy of funding because it will significantly impact the region at a relatively low cost. In assessing the potential for improved service delivery, for \$150,000, over 27 organizations will improve their direct provision of services to Western New York.

This project is one of high impact and strategic importance because it:

- Highlights the Region's Strengths - This project reflects the availability of the technological and human resources available in Western New York, but which few outside of the region know about.
- Is Symbolic – This project will catalyze other organizations to think outside of the box and to conceptualize regional solutions to individual obstacles. Benefactors of the Center are also intergenerational, and as such, reflect members of the 21st Century Fund.
- Leverages Funding – Although the Center will be named in perpetuity after the 21st Century Fund, other funding sources may readily consider funding WNYPRI costs and programs in subsequent years. The project will likely attract others to become 21st Century Fund members and increase funding for future projects. Although the private sector will inexplicably be involved through the economic benefits that the region will yield, the private sector will not directly gain from the use of the Center, unless they pay for their use of the Center, depending on availability. Rather, WNYPRI seeks to pool resources for the non-profit and public sector organizations, which have meager operating budgets that limit their ability to collaborate in pilot projects, such as this.

Three basic premises upon which WNYPRI was founded include:

- Understanding among partners that this is a regional project and information gleaned will be shared with anyone interested in replicating the partnership. The spirit of shared information and resources, in spite of obvious competition among some of the partners, underlines the forward thinking and movement of the Partnership. This is reflective of the 21st Century Fund, which also provides a democratic and participatory decision making process.
- Convening a group of technically oriented planners from the partnering organizations to be charged with assuming command of the project, developing priorities, and acquiring the infrastructure needed to create the Center.

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- Planning to participate in a large regional project that will serve to illuminate, clarify and capitalize on the region's strengths in order to draw new resources – human, economic, medical, and technological- to Western New York.

While it is difficult to detail in this proposal how each organization will utilize the Center, some examples include:

- Accessing university courses and the expertise of professionals throughout the nation and the world;
- Sharing water quality data analysis for environmental issues;
- Community outreach activities for health and environmental awareness, especially for traditionally underserved groups;
- Promoting public access to and participation in government meetings;
- Educating the public regarding environmental assets, such as the Great Lakes;
- Interacting with organizations throughout the country and world;
- Transmitting all of the above information to the world; and,
- Supporting new business ventures by making general business, entrepreneurship, and technical educational programs from local educational institutions readily available to owners and employees at their convenience.

Specific medical activities applicable to a video network environment include:

1. Clinical services – There is potential to provide direct patient care services via network connectivity to local sites as noted above or remote locations around the world accessible via the Internet. Currently, ECMC provides services to 31 correctional facilities throughout the state of New York from Ogdensburg, to Elmira, to Staten Island and throughout Western New York.
2. Access to expertise – Working with roll-about units that can take the videoconferencing to the bedside in the ECMC Emergency Department, physicians will be able to access specialists in hand surgical care, neurosurgery, obstetrics, deaf interpretive services, infectious diseases, as well as management of nuclear, biologic and chemical terrorist threats.
3. Distance Learning – Video networks provide opportunities for education in 2 major areas - asynchronous and synchronous modes. Students will be able to access digital DVD video content for interactive, self-guided learning or receive streaming video at their convenience [asynchronous model]. Synchronous education opportunities [occurring in real time] include Grand Rounds of expert presentations, clinical training, and discussions of interesting and controversial issues. Extended Grand Rounds, (where physicians and medical students meet in an auditorium to discuss a specific topic), can also be conferenced to outlying hospitals and emergency medical technicians.

Other unique characteristics of WNYPRI include:

- A Steering Committee, which oversees the planning activities, will be responsible for overall management and operations of the Center;
- A low level of investment is required relative to impact and benefit;
- Elimination of bureaucratic impediments through the development of a Memorandum of Understanding, which will detail how fees (maintenance and operating costs) will be shared by members based on usage patterns and long-term costs;

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- High levels of collaboration, with representation from every major sector in Western New York; and,
- Shared responsibility and pooled resources (technical and financial).

4. State how the project complies with the Funding Policies and Priorities of the 21st Century Fund.

The objectives of WNYPRI, which clearly correlate with the policies and priorities of the 21st Century Fund, are to provide:

- *Seamless connectivity among educational, environmental, healthcare, non-profit and government organizations:* This technology will provide each member with the opportunity to share the use of high performance technology at a significantly lower cost than if each organization was to participate in the project independently.
- *Platform for information exchange:* This project will allow organizations in Western New York to be aware of technological advances and to bring to the region's public and non-profit sectors information technology that they may be otherwise unable to afford or access;
- *Pilot project/model for dissemination:* This project will give Western New York the opportunity to showcase its technological opportunities in attracting new businesses, investment (including federal and state grants, as well as private investors) and interest from other groups interested in replicating this project in their own community;
- *Platform for sharing knowledge, experience and asset pool of Western New York:* Often, the community is overlooked by outsiders in terms of high level technology; this unique collaboration represents sectors that normally would not work together to meet a shared goal;
- *Promotion of regionalism/opportunities for shared facilities:* Within the community, the WNYPRI anticipates that in the future, it will inspire other organizations to look for non-traditional partners in their strategic planning and implementation of key projects.

-What are the impacts and outcomes of the project?

The *impact* of the project will be measured by the extent to which WNYPRI will develop a regionally responsive, scalable, high-performance video network that will serve the current and future needs of public and non-profit institutions in Western New York. Other outcomes of the project include:

- Ensure that the public's **needs are met** with video conferencing and internetworking development services in Western New York.
- Increase the number of individuals achieving **self-sufficiency** by assisting them to obtain and retain medical, education and employment opportunities in Western New York.
- Ensure that educators, employers and all individuals will have relevant, timely, and information and services that **support education, business retention and growth, medical service delivery and a labor exchange program** that connects employers to the workforce.
- Ensure that the video conferencing center maximizes the use of available resources in a **cost-effective and efficient** manner.
- Provide employers and individuals with the support services they need to develop successful organizations that maximize the potential and skills of a **diverse workforce**.

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- Implement services based on the needs of residents to ensure equity of access to information, services and lifelong learning opportunities to improve the quality of life for people in the community.
- Maximize **employment and re-employment opportunities** for Western New York residents in first, new and better jobs through training programs and partnerships with organizations, such as InfoTech Niagara.
- Empower individuals through **education and lifelong learning** to acquire available services, skills and knowledge to succeed in the dynamic and changing Western New York workforce.

□ **How many people will benefit by the project?**

While it is nearly impossible to list all of the people who will benefit from the Center, the following highlights some of the partners and their constituent groups:

BISSNET: 6,500 students; 400 faculty

BISSNET is a logical choice as the lead agency among a group of impressive organizations, which comprise WNYPRI. As a consortium, BISSNET represents 19 secondary schools, and the Board of Directors and Project Director, Carol Kostyniak, have demonstrated expertise in working to meet the mutual goals of the schools, while maintaining the independent and unique characteristics of each school. Students surveyed in the BISSNET schools indicated a high level of interest in business, computer science, math and engineering-related careers. The partnership among secondary schools, universities, colleges and non-profit sectors will create new internship and career development learning opportunities for socio-economically disadvantaged students, which will lead to either permanent job opportunities after high school, or further career exploration at the university level. The shortage of qualified individuals to fill vacancies in the healthcare and technology industries is one primary example of how the Center will be used to provide career exploration and job shadowing opportunities through partnerships with ECMC, Daemen College and InfoTech Niagara. Accent and college-level courses will also be provided for students. This partnership not only provides a means of sharing ideas among the public and non-profit sectors, it also provides the mechanism for collaborations among schools, colleges and universities. Connecting students vicariously also promotes cultural awareness and appreciation, and builds on the themes of diversity and mutual respect.

Without intervention, these students will be technologically challenged, handicapped in their ability to compete for jobs in the Western New York workforce. Not providing these skills to students adversely impacts their future and that of their community. Not only have companies such as Ingram Micro and Adelphia Communications made a commitment to expand their operations in Western New York, but they have also generated a shortage of technologically skilled employees. Recognizing this need, BISSNET schools will modify their workforce development/career exploration curricula to partner with WNYPRI. Together, these organizations will integrate the needs of area employers into school workforce development curricula, so that the future workforce is aware of the needs of employers, and will be able to provide the skills demanded by these firms. Activities such as teacher training, student courses and virtual learning experiences will all yield a massive impact on these 6,500 students.

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Daemen College: 2,600 people

Initially the main constituents at Daemen College will be Allied Health students (Nursing, Physical Therapy, Physicians Assistant) in both the local area and regionally throughout Western New York. The Western New York State Area Health Education Center (AHEC) is a newly formed branch in a national network of AHEC's. The organization is dedicated to the improvement of supply and distribution of health care professionals through partnerships with community and academic partnerships, with a goal to increase access to quality health care. WNY AHEC already partners with Daemen College in facilitating the development of distance learning strategies. The AHEC students are predominantly rural students and practitioners engaged in continuing education and partnership activities with the Daemen Allied Health faculty and students. The long-range goals for the project are to employ highly interactive distance learning modalities and to make advanced Nursing, Physical Therapy and Physician Assistant degree programs courses offered at Daemen College 100% accessible to regional and rural practitioners. The project will provide professional students with educational experiences that expose them to all aspects and disciplines of health care. The project aims to establish a robust annual calendar of community health education offerings regarding major health issues in collaboration with state, county and local agencies. Additionally through initiatives and membership in the Civic Societies and Sustainable Communities project, students will have access and educational opportunities at seven colleges in three countries.

Erie County Medical Center: 1,839,500 people

The primary constituencies served include western New York Emergency Medical Service organizations and individuals, physicians, physician assistants/nurse practitioners, nurses in rural communities and clinics in the region, statewide and throughout the nation; patients presenting to emergency departments in the region, students in schools and workers in large industrial and government sites, patients in nursing homes, correctional facilities and homes. The number of patients is limited only by the network connectivity available as this environment for providing clinical services and medical education is explored.

Center for Great Lakes Environmental Education: over 3,000 people

The Great Lakes Student Summit brings together over 300 students, in grades 5-9, volunteers and educators representing 20-30 schools, 8-12 counties, several states and 2 countries. There are an incalculable number of individuals in the community that benefit from the results of the interactive portion of the Student Summit as environmentally minded participants apply their knowledge and research capabilities for the community. The Professional Development Series of teacher training workshops involves educators participating in 3-5 scheduled workshops a year, averaging 25 teachers for each workshop. A great number of students throughout the region will benefit through the instruction their teachers receive at the workshops. The Great Lakes Annual Beach Sweep usually includes approximately 2,000 volunteers, ages 3 to 91 to pick up 70,000 pounds of trash along Lake Erie. The Center for Great Lakes Environmental Education partners with the Center for Marine Conservation's International Coastal Clean up. The entire region benefits from the clean, safe environment the Beach Sweep creates along the Lake Erie Shoreline. The Center for Great Lakes Environmental Education hosts approximately 500 students a year provides research assistance as requested by phone or e-mail to roughly 75 individuals and receives approximately 65,000 hits to the entire web site over the course of a year. The statistics are kept quarterly and the increasing trend for educational assistance is monitored routinely. Finally, Center for Great Lakes Environmental Education anticipates expanding video conferencing to Buffalo Schools throughout

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the Western New York region and across the Great Lakes Basin through its water quality testing and curricula initiatives.

Villa Maria: 3,752 people

As an independent, two-year coeducational institution Villa Maria College is involved in WNYPRI because as a small institution, it does not have the financial resources on its own to combine Internet working features of video, audio and data to create interactive learning sessions. In addition to the 3,752 people to be served by this project, the outside populous participating in Life Long Learning Workshops will also benefit from video conferencing.

□ How will Western New York be improved by the project?

Any activity that benefits from direct person-to-person contact, where geographic and temporal barriers are now problematic, will benefit from high quality video technologies. The applications are countless and range from global K-12 classroom partnering, to emergency medical triage and intervention for rural communities, to research collaboration, to interaction with remote business clients, to providing social services to underserved communities. The net results will include contributions to the regional quality of life, the attractiveness of the region to new and existing businesses and extraordinary opportunities for educational institutions. The emerging capability to achieve commercial quality video and virtual human connectivity over the Internet, will later be seen as another paradigm shift in information technology and its applications – and Western New York will be able to remain on the leading edge and will reap commensurate benefits.

Bringing high bandwidth connectivity at affordable cost to local businesses means the retention of jobs for the region and the ability to compete with other locales in bringing new workers to the area. Local educational entities will yield a richer teaching environment by providing additional expertise and learning experiences. This results in persons being more willing to continue their education in Western New York. The provision of high bandwidth network services between local and county government entities will expand services, provide a wide variety of media resources to enhance communication, and lower the total cost of government services. The economic gains this project will yield include a competitive edge over other communities around the country vying for those companies and talent pool.

□ Explain if and in what way the impacts and outcomes will be long term, substantial and sustainable?

The *primary outcome measure* would be the number of new technological applications that result from the creation of the *21st Century Regional Internetworking Center*. One could also count port hours and video stream hours of application usage. However, the usage graph will have only one trend – moving upwards. That upwards trend will correlate directly with benefits to the Western New York communities that can be achieved as a direct result of the Center. Each of the partnering organizations will measure the success of the Center through their own evaluative instruments and through a standard survey created by the Steering Committee.

Examples of outcomes may also be measured based on:

- Increased enrollment in schools, as well as in undergraduate and graduate programs. Faculty and staff participating in distance learning activities will develop an evaluation and outcome

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assessment plan measuring the increase of knowledge, skills and behaviors that constituents obtained through participation in high performance video conferencing.

- The percentage of students successfully completing courses, as viewed by faculty.
- The effectiveness of the use of technology as viewed by students and faculty.
- The level of improved information literacy as viewed by program faculty.
- The level of improved instruction by incorporating the use of electronic media as viewed by students.
- The number of individuals participating in educational programs and receiving clinical services.
- The utilization of the Center.
- The improvement in quality of life caused by the availability of medical services to the patient's location be it the home, nursing home, or school.
- The degree or level of education achieved by the participants in the network. In the case of continuing medical education, it will be the number of credits in support of annually required educational sessions.

The outcomes of this project will be long-term, substantial and sustainable. Essentially, WNYPRI will be able to bring the world to its doorstep and bring Western New York to the world using the **21st Century Regional Internetworking Center**. What is the single-most important aspect of the Center is its ability to enable WNY residents to be aware and informed so that each person will be able to make educated decisions about any topic - whether those decisions are about health issues, public policy opinions/decisions, environmental resources or educational institutions. The concept of creating an information-rich society in Western New York is limited only by the financial means of putting the necessary equipment in place. The majority of the planning decisions have already been made and WNYPRI stands ready to implement this project with its array of technical experts.

□ **How, when and by whom will the impacts and outcomes be measured?**

The Steering Committee will be the primary group responsible for measuring the impacts and the outcomes on the primary stakeholders – partners of WNYPRI and the community at-large. General assessment surveys will be created and distributed to the partners. The surveys will be distributed to audience members following each use of the Center. Modifications in service delivery or other operational procedures will be made by the Steering Committee following monthly reviews of the surveys. A community survey to select residents of the eight counties in Western New York will also be conducted. A committee, using WNYPRI members, as well as 21st Century Fund representatives will develop this survey instrument. This survey will be distributed to the community within one year of the project's completion (August 2003), with results made public to guide future planning decisions. It is likely that each of the counties' planning departments will also participate in the community surveys. WNYPRI will allocate funds to pay for costs associated with the project assessments.

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-Is support from the 21st Century Fund an important factor in the overall success of the project?

- **Explain.**
- **If the project can be undertaken without the support of the 21st Century Fund, explain why funds are being sought.**

Yes, support from the 21st Century Fund is important to the overall success of the project, as the equipment will provide the catalyst for the activities to occur. WNYPRI is a local collaborative effort, which primarily seeks to impact Western New York, although the ripple effects are expected to exceed beyond State and national borders. However, because WNYPRI is a 'homegrown' concept, it is seeking a capital investment from the 21st Century Fund, a Western New York funding stream consisting of representatives from the area. Although WNYPRI will move forward without 21st Century Funding, this initiative will lack the local community investment that will propel its innovative features. Lack of funding from the 21st Century Fund will ultimately hamper the group's ability to stay on its target with respect to its implementation schedule. If the project is not awarded a 21st Century Fund, members will either be required to cost-share in the project, which will immediately eliminate some partners from further participation in WNYPRI, or grant funds will have to be sought from alternate sources.

-Will the project draw new resources into the community?

Yes, this project will bring to the region new technologies and resources that will have an unprecedented impact on the community. WNYPRI will utilize a Dark Fiber Network, a state-of-the-art technology being used throughout Canada, to deliver high quality and low-cost video conferencing capabilities for the partners. Traditional dial-up videoconferencing facilities are expensive and anything but universal – contrasted with the Internet, which is universal. Streaming video on dial-up is rarely used due to cost, reach, and quality limitations. None of these constraints apply to the emerging high performance video technologies that the proposed shared facility will support.

A primary element of any revitalization effort is to recognize and capitalize on new and existing resources and to implement a method to refine and promote those resources. WNYPRI seeks to aggressively build a solid foundation as the leading resource for high performance video applications. By expanding the reach of the various programs, WNYPRI will attract more talented people into the area. As the network enhances the good reputation that the region already enjoys, high-performance video conferencing will certainly grow to attract additional technology-based companies and expand the economic base of the region.

5. Is this type of project or activity being undertaken by anyone else in or on behalf of our area? If so, describe the other projects or activities and explain if and how you will collaborate with the other project(s). Provide the names and contact information for any such other project.

No, this initiative is only known project seeking to centralize video conferencing equipment and pool resources for the benefit of the entire Western New York community. Partners in WNYPRI have been planning this project for eight months and have had several meetings and presentations to learn about the technologies that will be utilized in the **21st Century Regional Internetworking Center**. Each member organization brings to the consortium a talent bank which serves to add to

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the depth and scope of the whole group. Organizations interested in joining the Partnership are encouraged to contact Chairwoman Carol Kostyniak.

6. List all organizations that you expect to collaborate with, support, participate in or cooperate with the project. Describe the proposed role and provide written evidence that each such organization understands its proposed role and is willing to carry out the role as described.

All of the partners in WNYPRI attend regular meetings and conferences regarding the use of Dark Fiber Networks and other related topics. Members of the Steering Committee* meet in greater frequency to plan and coordinate efforts to realize the development of the Center, which is currently WNYPRI's main focus. *Organizations, which are current members of WNYPRI, include:*

Applecore Technologies	*Erie County Medical Center
*BISSNET	Full Circle Studios
Buffalo Computer Graphic	Hilbert College
Canisius College	Houghton College
Catholic Health System	InfoTech Niagara
Center for Great Lakes Environmental Education	Medaille College
Cisco Systems	NORTEL Networks
City of Buffalo	PremCom Corporation
*Daemen College	SUNY ITEC
D'Youville College	Trocaire College
Erie Community College	*University at Buffalo
Erie County	VeraView
Erie County Industrial Development Agency	Villa Maria College
Erie County Libraries	

Letters of commitment from many of the partners are provided in the Appendix.

Each of the partners' individual contributions toward the project will be delineated in a Memorandum of Understanding, which will clarify operations of the Center, as well as how costs will be shared beyond those provided by the 21st Century Fund to open the Center. Although most of the organizations are public and/or non-profit, there are a few private, for-profit organizations listed as partners. These organizations primarily provide technical expertise and guidance as a complimentary service. **For-profit organizations will not have access rights to the Center without paying for its use at a competitive market rate.** This will ensure that 21st Century Funds do not directly benefit for-profit organizations.

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7. If the 21st Century Fund provides a grant, when will the project commence and when will it be completed? Provide a schedule that includes major milestones.

Date of Completion	Milestone	Responsible Party
January 2002	WNYPRI Memorandum of Understanding	WNYPRI Steering Committee, WNYPRI Counsel, WNYPRI Partnering Organizations
March 2002	Announcement of Award	21 st Century Fund Evaluation Committee
April 2002	Hiring of Engineering Firm	WNYPRI Steering Committee
May 2002	Engineering Design/Layout	WNYPRI Steering Committee, University of Buffalo, Engineering Firm
June 2002	Equipment Ordered	WNYPRI Steering Committee
July 2002	Equipment Delivery, Set-up	WNYPRI Steering Committee, University of Buffalo
September 2002	21 st Century Regional Internetworking Center Opens: Dedication Ceremony and Press Conference	21 st Century Fund, WNYPRI Partnering Organizations
November 2002	Evaluation Survey for WNYPRI	WNYPRI Steering Committee
August 2003	Community Survey for eight WNY counties created, distributed and results assessed	WNYPRI Steering Committee, 21 st Century Fund Members, Departments of Planning from eight counties

8. List all other sources of funding that have been sought for this project and identify any sources that are from outside the area. Provide the amount requested, the purpose for which the funds would be used, the status of the funding request and the name and telephone number of the contact person at the organization from which funds are sought.

There have been no other sources of funding sought for this project as of the date of this proposal. WNYPRI will seek funding from alternate sources, but because the amount needed to open the Center is significant, the WNYPRI Steering Committee is committed to identify *local sources* of funding because it is a *local project*. WNYPRI will continue to seek local funding because it will only enhance the grassroots effort to be demonstrated throughout New York State and the nation. If funded, this project will highlight the merits of Western New York and the ability of the partners to overcome bureaucratic and other barriers to meet their mutual needs at a low cost, yielding immeasurable returns.

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- 9. Attach a budget for the project showing all expenses and revenues. Funding from the 21st Century Fund will be on a one time only basis. If the project is to carry on for a number of years, provide a multi-year budget projection. Show how the project will proceed in the future without funding from the 21st Century Fund.**

The \$150,000 grant from the 21st Century Fund is requested for Year I only. Although the project will continue in perpetuity following the development of the 21st Century Regional Internetworking Center, initial funding is requested to outfit the Center with the equipment needed to begin video conferencing and internetworking. The value of the equipment, training and support on the open market is **\$212,455**. However, WNYPRI has negotiated a reduced cost from both vendors, VeraView and Cisco, bringing the total equipment cost to **\$185,775**. In addition, **BISSNET will provide \$25,000, Daemen College will provide \$30,000 and the Center for Great Lakes will provide \$12,000, all cash matching funds** to pay for engineering and legal costs associated with the project not covered by the 21st Century Fund. Any additional funds that are acquired from partners will be used to offset installation costs. Along with the necessary installation, is a one-year manufacturer's warranty for phone and parts support. Training of the Members' Coordinators and VeraView's one year On-site Service Support is included. The equipment listed is based current available models, but may change due to modifications in vendor specifications.

Technical Specifications

The units selected for the Multipoint Control Unit (MCU) is the Cisco IP/VC 3540 MCU, along with the Radvision ECS-100 Gatekeeper Software, which will be located at the University of Buffalo with an active connection to Internet 2. Software is included for scheduling activities, which are required for the seamless management of multi-point conferences. Controlling resource allocation priorities, call routing, authorization and authentication, best-route determination, and logging of usage by conferees, are some of the functions automated in the MCU and its complimenting software modules. The ECS can handle up to 100 concurrent calls and 500 registered users. Its functions include registration, admission and address translation, and bandwidth management, including Cisco proxy support. The Cisco 3540 is capable of 100 sessions at 128 kbps, 50 sessions at 384 kbps, 25 sessions at 764 kbps and 10 participants at 1.5 Mbps. The MCU supports conferences at different bandwidths, and multiple concurrent conferences, up to the maximum number of sessions, e.g. five- 5 session 384 kbps conferences. The Cisco #3525 Gatekeeper and PRI interface permits older, legacy systems and ISDN phone connections to participate in the region's videoconferencing sessions.

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Project Expenditures:

Equipment:

Cisco 3540 Series MCU	
Cisco IP/VC 3540 4 Slot Chas	\$5,058
Cisco IP/VC 3540 MCU SYS MOD 100 Sessions	\$80,708
Cisco IP/VC 3540 APP SVR	\$8,458
Cisco IP/VC 3540 T.120 Data Conf SVR 100 Sessions	\$16,958
Equipment Rack/Accessories	\$2,125
Cisco Gateway – PRI IP/VC 3525 H.320-H.323	\$25,033
Video Conference Gateway-1 PRI ECS-100 Gatekeeper SW	<u>\$4,208</u>
Subtotal	\$142,548

Training & Support:

Installation and checkout of Systems	\$5,700
SmartNet Phone and Parts One Year	\$11,875
Support and Training Of Members' Coordinators	\$11,400
Veraview Plus Service One Year On-Site	<u>\$14,255</u>
	\$43,230

Engineering: **\$21,222**

Legal: **\$10,000**

Total **\$217,000**

Project Investments:

21st Century Fund:	\$150,000
BISSNET Match:	\$25,000
Daemen College Match:	\$30,000
Center for Great Lakes Environmental Education:	<u>\$12,000</u>
Total	\$217,000

10. Sign and date application form.

 Richard Bryan, BISSNET Board President

 Date