

**2003 NASCIO Recognition Awards  
State of West Virginia**

PATRON

Communications Infrastructure

# Nomination Form

*May 23, 2003 extension to deadline granted.*

Title of Nomination: **Public Access To Regional Online Networked Services (PATRON) for Library Adult Learning Work Centers**

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Category for judging: **Communications Infrastructure**

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## **West Virginia Library Network Executive Summary**

A public library is driven by a single goal; providing needed services. A successful library is the gateway to technology, education, and information access. The role of the Statewide Library Network (SLN) is to enhance the ability of every library to provide services and opportunities for success to all West Virginians. The network staff delivers equitable community-based public services despite the state's great social, economic and geographic diversity. The rural nature of West Virginia had always presented limitations to libraries because of geographical barriers.

In the late 1980's, the Statewide Library Network was established to bridge the technology barriers that existed due to our geographical limitations. At that time libraries began to convert from paper cards to electronic databases in an attempt to create a central shared resource. Over the past decade the SLN has continued to grow despite the economic hardships that have affected our state. As funding became increasingly limited due to state budget constraints the SLN staff worked diligently to overcome these burdens through building partnerships with other public and private organizations, agencies, and institutions. Through these partnerships the SLN maximized resources to upgrade the network by setting various long-term objectives from easing network congestion to expanding the overall infrastructure. Obtaining these objectives is imperative to the sustainability of the quality of life for West Virginia's citizens. Due to this endeavor our citizens are offered the most current tools and information to enable them to compete and succeed in a rapidly expanding service and knowledge-based economy.

By expanding access to information technology and job-preparation training for disadvantaged citizens, the Statewide Library Network is a vital component of West Virginia's economic development equation. This equation is the foundation for the future development and sustainability of West Virginia, an equation that envisions an educated, intellectually curious, skilled labor force as the key to attracting business and industry into our beautiful state.

## **Project Description**

The Statewide Library Network provides access to information technology and job preparation training for disadvantaged citizens. Access that is a vital component of West Virginia's economic development equation. This equation is the foundation for the future development and of West Virginia, an equation that envisions an educated, intellectually curious, skilled labor force as the key to attracting business and industry into our beautiful but economically distressed state.

In 2002, the West Virginia Library Commission was awarded a \$50,000 Appalachian Regional Commission Grant to replace sixty-five (65) public Internet access computers in 27 distressed West Virginia counties as defined by the Appalachian Regional Commission. The award placed two (2) computers each in 20 separate public libraries as well as one (1) computer in 25 additional libraries. The placement of these computers offers patrons Internet access and a full range of online resources.

West Virginia is one of thirteen states defined in legislation as Appalachia, covering a 200,000-square-mile region that follows the spine of the Appalachian Mountains from southern New York to northern Mississippi. There are approximately 23 million people living in 410 counties of the Appalachian Region, with 42 percent of the population classified as rural. West Virginia is the only state that falls entirely within the Appalachian Region. Twenty-seven (27) of the state's fifty-five (55) are designated distressed. Selection criteria for distressed designation is as follows:

- Per capita market income no greater than two-thirds (67%) U. S. average
- Poverty rate at 150 percent of the U. S. average or greater
- Three-year unemployment at 150 percent of the U. S. average or greater

A recent study commissioned by the Appalachian Regional Commission (ARC) to gauge the availability of telecommunications in the region "demonstrates how crucial information and communications technology is to economic development" said Jesse L. White, Jr., co-chairman of the ARC. Among the findings was that the rate of home computers, Internet access and even basic telephone service is lower than the national average. These findings confirm the absolute necessity of public access to the success of basic education in Appalachia.

The 1998 U. S. Census Bureau poverty estimates released in August 2001 reported a total of 303,649 citizens or 16.8% of the total West Virginia population lives in poverty. The United States average was reported at 34,475,762 citizens or 12.7% nationally. Based on the above estimates for 1998, West Virginia is 132% above the national average for "People of All Ages in Poverty."

In addition to the Appalachian Regional Commission award the SLN is currently involved in the Digital Bridge Project that is providing network infrastructure upgrades. The project is a collaborative effort with Verizon Communications, state community colleges and workforce investment boards to increase the quality, availability and portability of adult centered, work related electronic learning opportunities. The upgrades include 176 Cisco 2600 100mb routers, upgrading ninety-seven (97) telecommunication data circuit lines from 56K to T-1 Frame Relay, as well as merging 5 outdated HP9000 catalog machines into 2 high speed HP RP7410 servers large enough to accommodate both the Northern and Southern Regions of the state.

## **Significance of Improvement**

The SLN is aware that the economic conditions, social structures, information technology, and attitudes of society constantly change and libraries must adapt to that change in order to retain relevancy. The SLN's commitment to enhancing opportunity is reinforced by providing access to the most current local, national and global resources through the statewide library network via the Internet. Through statewide subscriptions negotiated and funded by the West Virginia Library Commission all public library users currently have access to online information databases providing full text content to several thousand periodicals and an interactive test preparation service for both academic and career examinations.

The patrons of the public libraries in West Virginia have come to expect availability of resources from around the world. The state is no longer constrained to the limited resources of the small, rural public library. With just a few keystrokes the library patron can move beyond the narrow mountain valley to the world. The availability of these resources increases the skills of patrons of all levels. Distant learning is an important partner in the education of our citizens.

## **Benefits Realized by Recipients**

The SLN endeavor is the foundation for the statewide upgrade of library automation software, which will enable public libraries to meet international technology standards. By placing a Z39.50 compliant product on the web libraries will be able to view all catalogs in a user-friendly format. The screen will appear the same for the user without geographical limitations. This feature enables libraries to set up search strategies that will lead users to resources from the nearest location. This will expand resource sharing while distributing requests among all libraries. Patrons will have collections of all libraries available from their desktop. The success of this project greatly diminishes the digital divide by providing library patrons equal services regardless of geographic location or economic challenge.

The SLN upgrade will enable community colleges and workforce investment boards to proceed with the development of Adult Learning Workstations located in public libraries. These Workstations will identify skills training requirements as well as develop and provide programming. This service will benefit the recipients with credentials that are tied to national and industrial certification standards. The programming not only develops the individual but also enhances the community workforce by equipping them with the needed skills and knowledge required for attracting outside business and industry.

## **Return on Investments**

The project's return on investment is the enhanced capabilities offered to the library staff or patron. The network upgrades will provide faster Internet connectivity, as well as enhanced hardware to support increased applications. During a time of decreased state operating funds, the network staff was successful in securing monetary and equipment awards exceeding \$1 million. The SLN employs a state E-rate Coordinator who takes advantage of the Universal Service E-Rate discount program. These discounts offset data circuit charges that enables the West Virginia Library Commission to offer these services at no cost to the public library. West Virginia citizens are now offered enhanced services through their local public library that would otherwise not be available due to the economic trials the State of West Virginia is now facing. The predominant return on investment with this project is the equal opportunity to access a plethora of current information whether the end user is located in the state's capitol, or deep within its green mountains and valleys.

## Hardware Software and Network Statistics

The West Virginia Library Commission's Network staff consists of 16 State Government employed technicians, servicing all 55 counties in the state. The staff is assigned duties ranging from replacing a keyboard to programming routers to Unix administration to individual training. The staff encompasses all aspects of technical support to the 176 public libraries in the state. Prior to their assignment most libraries in the state were without or had very limited access to technical support. Due to the rural makeup of West Virginia, this staff has been assigned a vast area of responsibility, yet as a team we treat each library as the same. Each library in West Virginia is offered the same service regardless of their location or size.

The majority of hardware costs for this project was provided through grants and donations. Installation costs of the new data circuits and items such as the Cisco routers, Unix servers, and PC workstations were provided through private sources. These grants and donations total \$1.2 million dollars over a 3 -year period. In addition to these installations we also absorbed the cost for hardware such as cables, connectors and anti virus software. Utilizing programs such as Universal Service Fee and E-Rate, The West Virginia Library Commission is committed to providing high-speed Frame Relay circuits to all public libraries at no cost to the individual library.

To offer libraries these services, the staff must ensure the SLN is continuously evaluated and upgraded. The following upgrades reflect hardware, software and other services accomplished between FY 2001 and 2003 to bring the network up to standards to meet the requirements of this latest project.

- 2000-2001: 178 libraries were tested and re-cabled. Regional hub routers were upgraded with a faster CPU, memory and flash card media. High-speed 10/100 switches were installed. 2,560 IP numbers were rerouted in the States northern LATA, 3,840 were rerouted in the south. Renumbered over 1900 devices such as routers, computers and printers. Changed the IP sub-net mapping of over 21 Class C IP numbers to allow more computers Internet and catalog access.
- 2001-2002: Due to bandwidth issues and email / computer virus's, the staff again went statewide. This time, upgrading software and virus protection to all (over 1500) online devices. The Unix catalog servers (at 6 of the 8 regional hubs) were upgraded with both hardware and software. Outdated PC's and hubs were replaced, and each library received a UPS unit for their routing device. Additional T1's were added in the north/south LATA to relieve network congestion.
- 2002-2003: With the gateway to the new digital bridge project opened, the network staff is working on updating the network hardware. 64 libraries were upgraded from a 56k-frame relay link to T1. These libraries received a new Cisco 2600 100mb Router. Plans to merge 5 older HP9000 catalog machines into 2 high-speed HP RP7410 Unix servers was started with the delivery of 1 in the southern region and 1 in the northern region. The staff will complete the individual library upgrades by the end of 2003. The entire SLN was placed behind a secure private IP firewall. Last, the network staff is playing a vital role in the replacement of catalog software at three (3) of the regional hubs. This will affect 137 public libraries and will require extensive technical input on both the client and server side.

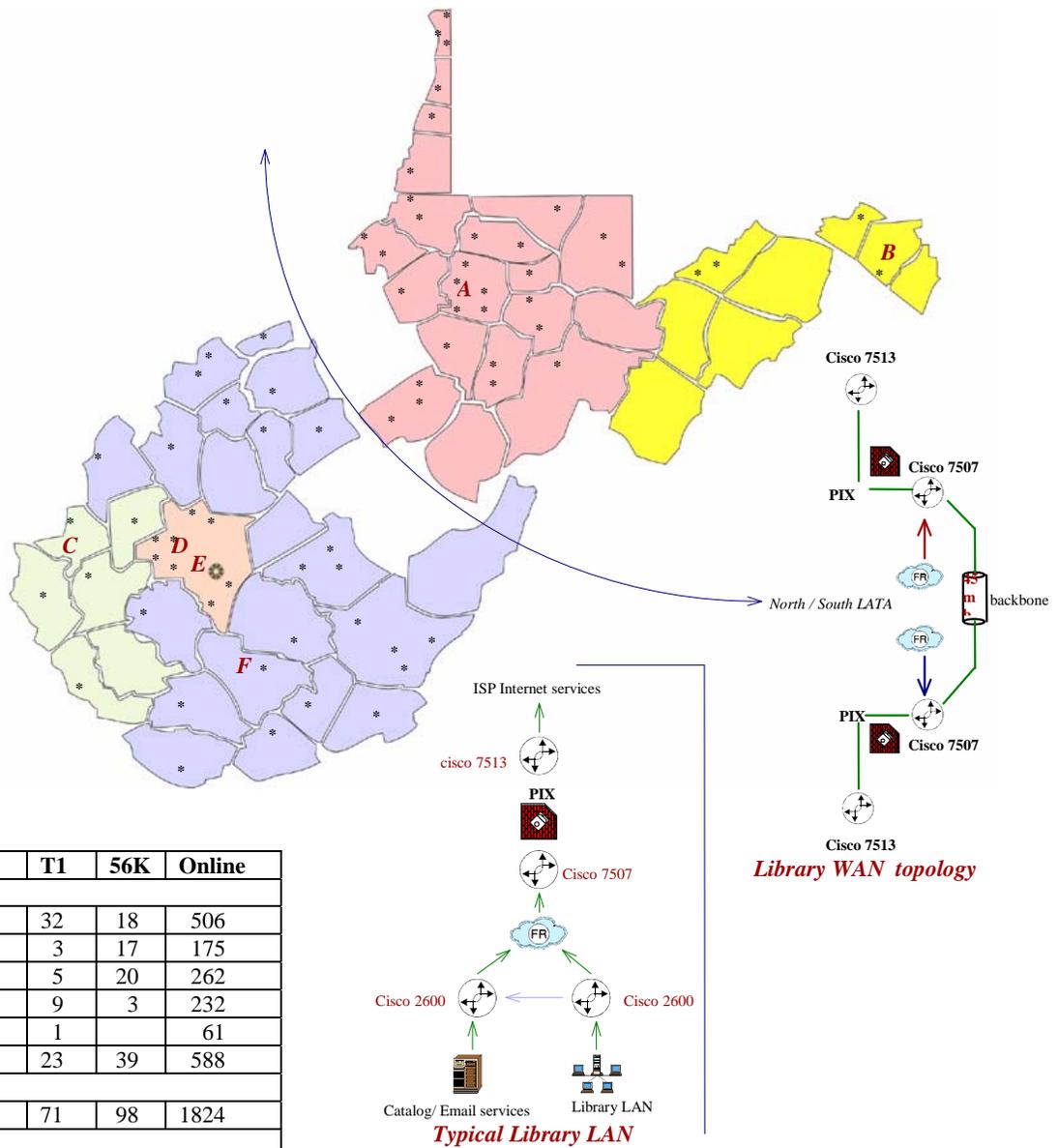
	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004 (scheduled)
Library sites upgraded	176	178	106	30; Includes 65 new work-stations.	88
Miles traveled	46,289	36,416	59,127	60,953	N/A
Data link upgrades	3 new T-1			64 upgrade from 56k to T-1	15 upgrade to T-1
IP network upgrades	Re-subnet 25 class C IP networks	Anti-Virus installed on 1500 PCs	1917 devices moved behind private IP firewall	44 new routers installed 44 more will be installed by the end of FY 2003	88 new routers (a total of 176)
Total cost to library	\$0	\$0	\$0	\$0	\$0



## West Virginia Library Commission Network Services

Harlan White, WVLC Network Services 05062003

The “\*” symbols on the map represent Adult Learning work Centers. These centers offer patron’s public access to work force training resources, college and continuing education courses and access to the statewide databases, which include; libraries’ catalogs, on-line text of thousands of periodicals, and full access to the Internet.



Region	Libraries	T1	56K	Online	
A	Northern	56	32	18	506
B	Martinsburg	19	3	17	175
C	Cabell	28	5	20	262
D	Kanawha	12	9	3	232
E	WVLC HQ	1			61
F	Mountain	62	23	39	588
Totals (05/06/03)		174	71	98	1824
<i>Online=online devices such as computers printers et. 5 libraries use DSL or other digital service providers</i>					