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ABSTRACT

The Southern Regional Education Board (SREB), with the help of its Educational Technology Cooperative and its Wide Area Networking Task Group, designed a survey to identify the computer networking resources in the 15 SREB states. The survey was conducted to identify: (1) the various statewide educational networks in each of the SREB states; (2) the technologies that constitute the infrastructure for these networks; (3) the educational programming delivered through these networks; and (4) the important policy issues in educational networking. The report contains information about statewide networks in the SREB member states that serve the education community and are under state authority. The report covers: network description, network connection, rate structure, instructional programming, funding, staffing, and the more challenging policy issues related to educational networking. Summaries of SREB statewide networks are followed by a longer description of networks in each state: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia. An appendix listing survey participants by state and a glossary are provided. (Author/SWC)

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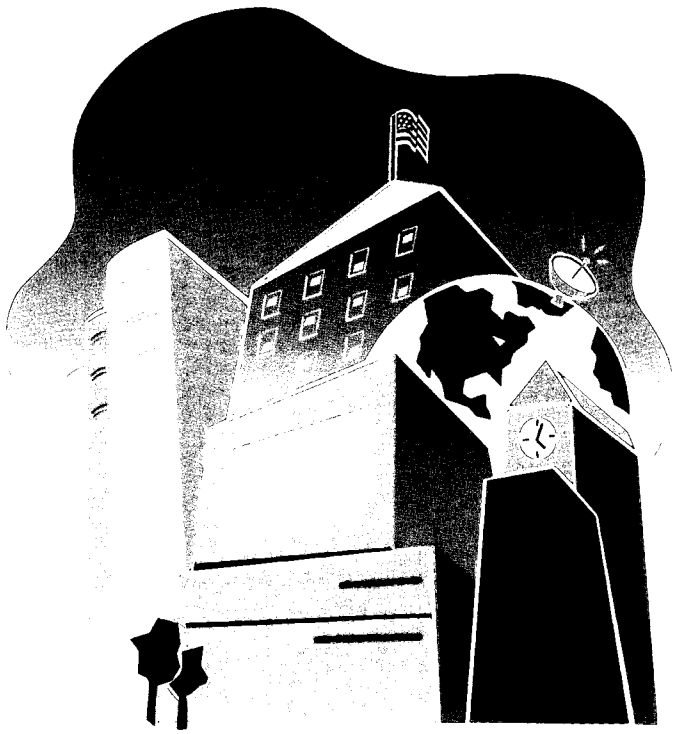
STATE EDUCATION NETWORK SURVEY



SOUTHERN REGIONAL EDUCATION BOARD
EDUCATIONAL TECHNOLOGY COOPERATIVE

INTRODUCTION

The concept of the information superhighway is changing the way we communicate. Technology configured the "right way" offers us great potential for exchanging information and ideas rapidly and somewhat effortlessly. Nowhere is this potential greater than in education. What efforts are under way in the 15 SREB states to build the infrastructure necessary to connect students to the Internet, to provide resources electronically to schools, to make sure that the information superhighway is a reality for the educational community in the South?

Every one of the 15 states in the SREB region has some type of educational network that is being used to benefit its educational system. Rapid advances in network technologies have all states striving for more efficient ways to deliver educational programming.

The Southern Regional Education Board, with the help of its Educational Technology Cooperative and its Wide Area Networking Task Group, designed a survey to identify the networking resources in the SREB states. The survey was conducted to 1) identify the various statewide educational networks in each of the SREB states, 2) the technologies that constitute the infrastructure for these networks, 3) the educational programming delivered through these networks and 4) the important policy issues in educational networking. The factual data collected through the survey is contained in this report.

This report includes information about statewide networks in the SREB member states that serve the education community and are under state authority. Many types of networks qualify for the survey. For example, a data network that provides e-mail messaging to faculty across a state, a satellite network used to deliver instructional programs to higher education institutions throughout the state, and a compressed video network used by public schools are part of this survey.

BENEFITS OF THIS REPORT

This is the first comprehensive look at statewide educational networking in the SREB states, including the detail necessary to make the report useful to both policymakers and educational network managers. SREB has attempted to collect the information states need in order to share how other states have constructed educational networks and in order to develop a networking strategy for the region.

Collaboration is the primary objective of SREB's Educational Technology Cooperative. Through interstate information and resource sharing, the group aims to expand the effective use of technology in education, including networking technologies.

Before states in the cooperative can plan initiatives to collaborate, we first must evaluate our current status. We need to know what resources are available, what networking infrastructure already exists within the state, what networking initiatives states have planned, and how the states' networks operate.

This survey gives us a picture of where we are with respect to statewide educational networking. Now, as a collective, the SREB states might use this information to:

- plan regional networks;
- communicate between states;
- share educational programming;
- learn from neighboring states;
- identify issues affecting educational networking within and among their states;
- address the common issues in educational networking.

This information can support the work of several of the SREB Educational Technology Cooperative task groups. For example, the Cooperative Purchasing and Telco Cable Task Groups will use the telecommunications rate information to plan for better pricing and services for the member states. The Electronic Academic Common Market Task Group will use the information on content and infrastructure to support their efforts to develop a common market for distance learning degree programs. Similarly, the Staff Development Task Group will use the content and infrastructure information to identify ways in which the SREB states can share staff development programming.

ABOUT THE SURVEY

During its first annual meeting in September 1995, the SREB Educational Technology Cooperative endorsed the idea of surveying the 15 states to identify the educational networking activity in the region. The WAN Task Group assisted SREB in the development of the survey questionnaire. The Leatherbury Group, Inc. administered the survey and summarized the results.

The survey was designed to collect information on the following: network description, network connection, rate structure, instructional programming, funding and staffing. In addition, respondents were prompted with an open-ended question to share what they believe to be the more challenging policy issues related to educational networking.

Surveys were sent to Cooperative representatives during the winter of 1996 with instructions to distribute a copy of the survey to those persons in their state who manage statewide educational networks. Completed surveys were returned by 33 state agencies who described nearly 50 statewide educational networks.

After narratives describing the educational networks in each state were drafted, they were sent to the responding representatives at the state educational agencies for review. If necessary, corrections were made and returned to SREB. These narratives reports form this report.

ACKNOWLEDGMENTS

This report was developed by The Leatherbury Group, Inc. of Atlanta, Georgia, for the Southern Regional Education Board and its Educational Technology Cooperative.

The Cooperative's Wide Area Network Task Group helped develop the survey used in collecting this information. Members of the group include Parker Chesson, John Harrison, John Kay, J.B. Mathews and David Sumler.

SREB's Educational Technology Cooperative appreciates the time and effort of the many educational technology planners and network managers in the SREB states who contributed information to this survey.

ALABAMA

Alabama's educational networks are administered by the agencies they serve. The Intercampus Interactive Telecommunications Systems is a compressed video network used for video conferencing between educational institutions. ITTS is managed by the University of Alabama System and delivers more than 75 graduate and undergraduate courses to educational institutions statewide. ITTS offers instructional programming for higher education, staff development for K-12 and higher education and administrative functions such as dissertation, thesis proposals and defense.

The Alabama Research and Educational Network is a data network administered by the Alabama Supercomputer Authority. AREN connects 28 institutions of higher learning and 15 public schools in Alabama. K-12 staff development is available on AREN.

The ALSDE.EDU is a data network that connects Alabama Local Education Agencies to the Department of Education. ALSDE.EDU connects 127 Local Education Agencies and is managed by the Alabama Department of Education.

ARKANSAS

Arkansas has two primary educational networks. The Arkansas Public School Computer Network is a data network serving the K-12 school community in Arkansas. Administered by the Arkansas Department of Education, APSCN connects 569 public schools and 218 school districts. APSCN offers K-12 instructional programming and staff development through its connection to the Internet. ARKNET is a data network serving the higher education community in Arkansas.

The ARKNET consortium, a group of institutional network members, plans the WAN strategy and architecture for the network. ARKNET connects 46 institutions of higher learning in Arkansas.

FLORIDA

The Florida Information Network is a large WAN that connects various educational communities including universities, community colleges, public schools, libraries and state agencies. FIRN is administered by the Florida Department of Education. FIRN offers instructional programs for K-12 and higher education, and staff development programming for K-12 and higher education. SUNSTAR, Florida's state-owned satellite network, provides both public and private clients with complete teleconferencing services at their 34 downlink sites strategically located throughout the state.

SUNSTAR is managed by the Florida Department of Education's Bureau of Educational Technology. Sunstar broadcasts instructional programming to Florida's universities, community colleges, vocational/technical centers and public schools.

GEORGIA

Georgia has three statewide networks serving educational communities. PeachNet, a data network managed by the Georgia Board of Regents, provides inter-campus data communications and

access to external computing resources to each of the University System's 34 institutions, as well as K-12 and public libraries.

The Georgia State Academic and Medical System is the largest two-way fully interactive video system in the world. Created through the Georgia Distance Learning Act, GSAMS offers a variety of instructional programming including K-12 and higher education programs, as well as staff development programs for K-12 and higher education.

PeachStar, a satellite network, is a joint venture between the Georgia Department of Education and Georgia Public Television. Currently, 180 public schools are receiving instructional programming and staff development on PeachStar.

KENTUCKY

Kentucky has created one statewide integrated backbone called the Kentucky Information Highway on which the Kentucky Education Technology System resides. The state of Kentucky's Information Resources Management Commission has established 12 regional nodes to which any state agency, local government, or educational institution may connect. KETS uses the Kentucky Information Highway for voice and data, but maintains a satellite network, Kentucky Educational Television, for video transfer and distance learning. Approximately 400 K-12 schools, eight universities, and 14 community colleges are currently connected through the Kentucky Information Highway. KETS instructional programming includes K-12 and higher education courses, as well as staff development for K-12 and higher education employees. KET is the agency charged with developing programming for K-12 and higher education distance learning. The Department of Education manages the quality of instructional programming while KET is responsible for the transport of programming.

LOUISIANA

Louisiana's educational WAN strategy is tied to the state's Office of Telecommunications Management high-capacity network LaNet. LaNet connects 19 colleges and universities, 80 public schools, 64 libraries, 20 state departments, and three medical centers. Instructional programs offered on LaNet are higher education courses for credit.

Louisiana Public Broadcasting offers a number of educational programs over its six television stations and 140 cable systems available in Louisiana. Louisiana Public Broadcasting also operates an underlying data network, LPB Express, that is used primarily by mathematics teachers in 75 Louisiana public schools. LPB Express is also used to communicate with other public broadcasting stations.

MARYLAND

Maryland's three statewide educational networks are under the authority of the specific educational agencies they serve. The Maryland Distance Learning Network is a fiber-optic network administered by the Maryland Higher Education Commission. MDLN connects 39 K-12 schools and 22 institutions of higher learning and offers instructional programming for K-12 and higher education.

The Interactive Video Network, a part of the University of Maryland Telecommunications System, connects 30 institutions of higher learning. IVN offers instructional programming for K-

12 and higher education, staff development for K-12 and higher education, continuing education, research and thesis programs.

The Maryland State Department of Education's Division of Library Services has created Sailor, a data network connecting Maryland's public libraries to public schools and the community at large. At present 21 of 24 Maryland county library systems are connected to Sailor. Users of Sailor have access to a wide range of research including U.S. Department of Education program information, texts of major education reports, and information on grants.

MISSISSIPPI

Education networks in Mississippi are administered directly by the state agencies they serve. The Mississippi Authority for Educational Television manages two video networks: Mississippi FiberNet 2000 and Mississippi EdNet. Mississippi FiberNet 2000 is a compressed video network connecting 14 public school districts, three institutions of higher education, state and federal agencies. Mississippi EdNet is an IFTS microwave network that broadcasts instructional programming to universities, community and junior colleges, K-12 schools and private businesses.

The Mississippi Department of Education manages the Mississippi On-line Network Exchange. MONEX is a data network linking all internal offices of the Mississippi Department of Education. Public schools are being encouraged to join MONEX to receive instructional programing for K-12 and staff development for K-12 teachers.

Mississippi's Institutions for Higher Learning manage two networks. MISNET is a data network that connects 10 institutions of higher learning in Mississippi. The IHL Compressed Video Network is a companion network to MISNET. IHL connects eight institutions of higher learning and provides instructional programming for higher education courses and staff development.

NORTH CAROLINA

North Carolina is consolidating existing education networks into its statewide North Carolina Integrated Information Network. The NCIIN is the main body of the North Carolina Information Highway and is administered by the Office of State Controller. NCIIN connects 46 local entities including universities, community colleges, public schools, libraries, and all executive branches of state government. K-12 instructional programs, higher education courses, staff development, and state agency instruction are provided on the NCIIN.

Formerly a stand-alone network, the North Carolina Research and Education Network is in the process of being converted from a microwave network to an underlying network on the NCIIN. NCREN serves the University System of North Carolina and is managed by MCNC, a nonprofit corporation created by the state. NCREN connects 30 institutions of higher learning and provides instructional programming for higher education courses, as well seminars, conferences and group collaborations.

Community colleges use a portion of the State Telecommunications System for data and video transfer between institutions, some public schools and state agencies. STS provides instructional programming for higher education courses and staff development.

The North Carolina Department of Public Instruction manages a satellite network, the North Carolina Distance Learning by Satellite, which connects 149 public schools and 31 higher educa-

tion institutions. NCDLS offers instructional programming for K-12 and higher education courses, as well as staff development for primary and secondary teachers.

OKLAHOMA

Oklahoma is expanding its statewide integrated backbone network, OneNet. OneNet utilizes fiber-optic cable, digital and analog microwave, and satellite and wireless technology to transmit video and data services. The State Regents of Oklahoma owns and operates OneNet which connects 40 local entities including all state agencies, the courts system, K-12 schools, vocation-technical schools and higher education. Thirty-three regional hubsites contain video equipment, high-speed data routers, modem banks, and computer systems for linking users to the state network. OneNet offers instructional programming for K-12 and higher education, as well as continuing adult education.

SOUTH CAROLINA

South Carolina is building an integrated network backbone called the South Carolina Information Network that will serve as the basis for all state wide area networks. SCIN will connect universities, community colleges, public schools and state agencies. At present, instructional programming for technical education is being provided by state agencies.

The South Carolina Educational Television Network is a statewide satellite network that broadcasts instructional programming to public schools, universities and libraries. SCETV uplinks programming to 520 public schools, 51 institutions of higher learning and 175 hospitals, and state and local government sites. SCETV offers instructional programming for K-12 and higher education courses, as well as staff development for K-12 and higher education.

The Health Communications Network (HCN), a companion network to SCETV, is a satellite and microwave network administered by the Medical University of South Carolina. HCN connects 600 public schools and 28 institutions of higher learning in South Carolina. Higher education courses and staff development for higher education are offered on HCN.

TECHnet is a data and compressed video network serving the technical and community college system of South Carolina. TECHnet is managed by the South Carolina State Board for Technical and Comprehensive Education. TECHnet connects 17 institutions of higher learning including community colleges and libraries and provides higher education courses for credit and non-credit.

TENNESSEE

Tennessee is building a statewide data and compressed video network called Tennessee Information Infrastructure. The network, scheduled to be fully operational in December 1996, will form the integrated backbone for all statewide educational networks. TNII is being planned by Tennessee's Office of Information Services with participation from the University of Tennessee, the Tennessee Board of Regents and the Tennessee Department of Education. TNII connects universities, community colleges, public schools, libraries, state and local governments, and community-based networks.

UT Ednet is a data and video network administered by the University of Tennessee. UT Ednet connects the University of Tennessee's campuses, as well as community colleges, libraries, and 10 public schools. Higher education courses and staff development for higher education employees is available on UT Ednet. Tennessee's Board of Regents' data network, TechNet, connects 45 dedicated sites including universities, community colleges, vocational schools and eight K-12 school districts. Instructional programming includes K-12 and higher education courses, as well as staff development for K-12 and higher education.

TEXAS

The primary statewide educational networks in Texas are administered by the Texas Education Agency. The Texas Education Network is a data network established to assist in the collaboration and exchange of information among public schools, universities and state education agencies. TENET connects over 100 K-12 schools, universities, community colleges, libraries and regional education service centers. K-12 instructional programming and staff development are offered on TENET.

The Texas Education Telecommunications Network is a data and compressed video network that connects TEA to the 20 regional Education Service Centers throughout Texas. Compressed video is used extensively on TETN for staff development distance learning.

T-STAR is a network of the Television Receive Only satellite system that consists of a steerable satellite dish, and other equipment to receive programming broadcasts. More than 1,000 schools have the TVRO system and receive instructional programming and staff development for K-12.

Higher education networks in Texas are extensive, but no one network is completely statewide or under state authority, two of the criteria necessary for inclusion in this survey. A broad range of networks exists using a variety of technologies for various purposes.

VIRGINIA

Education networks in Virginia are administered by the state agencies they serve. The Virginia Department of Education manages two networks: the Virginia Public Education Network and the Virginia Satellite Education Network. The Virginia Public Education Network is a data network providing information, data collection capability, educational resources and free Internet access to all K-12 educators and administrators in Virginia. K-12 instructional programming and staff development are the main instructional offerings on Virginia's PEN. The purpose of the Virginia Satellite Education Network is to foster equity in education through distance learning. More than 400 public schools in Virginia are capable of receiving VSEN's instructional programming which includes K-12 courses and staff development.

The University of Virginia's VERnet is a volunteer organization established to develop and manage a data network for the education community in Virginia. VERnet has over 70 members including higher education, K-12, libraries and some research-based private organizations. VERnet delivers instructional programing and staff development for K-12 and higher education.

The State of Virginia's Department of Information Technology's CTN is a hybrid network which provides telecommunications services to all state agencies including public education institutions. CTN connects 152 public schools, 56 institutions of higher education, public libraries and

state agencies in Virginia. Higher education courses for both credit and non-credit are available on CTN.

The Department of Information Technology also manages the Higher Education Electronic Classroom, a satellite-based network used primarily for distance learning. HEEC connects universities, community colleges, private educational institutions and corporate sites to foster collaborative learning. Higher education courses and staff development for K-12 and higher education are available on HEEC.

WEST VIRGINIA

West Virginia has a statewide integrated backbone network called the West Virginia Electronic Tandem Network that all educational networks use for connectivity throughout the state. WVETN connects 750 public schools and 26 institutions of higher learning, as well as public libraries and state agencies. Both K-12 and higher education courses and staff development are offered on WVETN.

The West Virginia Network for Educational Telecomputing is a data network supporting administrative, educational and research projects within higher education. WVNET uses WVETN to connect to 143 public schools and 20 institutions of higher learning. Instructional programming includes K-12 and higher education courses, and staff development for K-12.

The West Virginia Department of Education manages two data networks: the West Virginia Education Information System and the West Virginia Microcomputer Educational Network. WVEIS is a data network that connects 800 of the 890 public schools in West Virginia. Administrative and instructional programming for K-12 are available on WVEIS. WVMEN is a dial-in data bulletin board network for educational and community use. The network has more than 800 active member accounts, especially in rural areas where WVEIS is unavailable. K-12 instructional programming, e-mail and conferencing are available on WVMEN.

The Department of Education also manages a satellite network, the West Virginia Teleconference Network. WVTN is a real-time, on-line interactive audio and videoconference network that links eight fixed sites and two mobile sites. Teleconferencing is the key benefit of WVTN. In addition, K-12 instructional programming and staff development are offered.

NETWORK DESCRIPTION

The Intercampus Interactive Telecommunications System is a compressed video network used for video conferencing between educational institutions. Since 1991, more than 75 graduate and undergraduate courses have been taught through ITTS. The University of Alabama System in conjunction with other members or the ITTS is responsible for planning and development of a Wide Area Network strategy for the network.

ADMINISTRATOR
University of Alabama System

NETWORK TYPE
Compressed Video

HIGHEST CAPACITY
T1

SITES CONNECTED
22

CONTACT
Philip Turner
205-348-1516

CONNECTIONS

ITTS connects universities, community colleges, a few public schools and some local agencies together in an interactive network. The highest bandwidth available on the network is T1. Dial-up access is available for standards-based video conferencing using compressed video transmission.

RATE STRUCTURE

The vendor for local transport is BellSouth, while interLATA transport is handled by MCI and DeltaCom. Monthly line charges are distance-sensitive and vary based on IntraLATA and interLATA transport. For example, Birmingham to Tuscaloosa is $836 per month (IntraLATA-60 miles), while Birmingham to Huntsville is $1,412 per month (InterLATA-70 miles).

INSTRUCTIONAL PROGRAMMING

ITTS offers instructional programming for higher education courses for credit and without credit, as well as staff development for K-12 and higher education, and administrative functions such as dissertation and thesis proposals and defense. Programming is provided by state agencies, private businesses, four-year colleges/universities, two-year community colleges, district offices and education associations. Training on use of the network is provided by ITTS network management.

FUNDING

Funding for all aspects of the ITTS network is provided by the network membership through initial and annual connection fees. An initial fee of $10,000 is required to purchase the equipment necessary to access ITTS. The network charges local entities $4,000 annually for network connection, switch amortization and technical assistance. ITTS network management is responsible for connections and support; phone line vendors are responsible for lines, local entities are responsible for equipment, and equipment vendors are responsible for network equipment.

STAFFING

Two full-time employees devote 100 percent of their time are to network management. One part-time employee devotes 35 percent of his time to network support. ITTS does not outsource network management, nor does it lease equipment used in the network.

NETWORK DESCRIPTION

The Alabama Research and Educational Network is a data network administered by the Alabama Supercomputer Authority. The WAN strategy for the network is developed by ASA, network client agencies and institutions. The Local Area Network strategy is planned by the local agencies and institutions.

ADMINISTRATOR
Alabama Supercomputer Authority

NETWORK TYPE
Data

HIGHEST CAPACITY
T1

SITES CONNECTED
43

CONTACT
Wayne Whitmore
205-971-7408

CONNECTIONS

AREN connects a variety of users including universities, community colleges, public schools, libraries, state and federal agencies, private firms and the Alabama Supercomputer Center. Twenty-eight institutions of higher education are connected to the AREN. Fifteen public schools are connected through dedicated lines, while nearly 100 others have SLIP/PPP access to the network. The highest bandwidth available is T1. Video transmission is not available.

RATE STRUCTURE

The vendor for local transport is BellSouth. The vendor for interLATA transport is DeltaCom. Distance-sensitive rates are in effect for line charges but are considered proprietary.

INSTRUCTIONAL PROGRAMMING

Staff development is available on the AREN for K-12 staff. Programming is provided by four-year universities and two-year community colleges. Training on use of the network is offered by all members including private consultants and network vendors.

FUNDING

Funding for AREN is provided by Alabama's Special Education Trust Fund. Fiscal year 1996 funding was reduced from $6 million to $4.5 million as part of a state cost-cutting effort. The network therefore charges local entities for network connection or support. The ASA is responsible for all aspects of network management including lines, equipment and maintenance.

STAFFING

AREN is staffed by eight full-time employees who devote 100 percent of their time to network management. Currently, AREN is outsourcing all network management and facilities from a systems integrator, Nicholls Research Corp. AREN is not leasing any equipment used in the network

NETWORK DESCRIPTION

The ALSDE.EDU is a data network that connects Alabama's local education agencies to the State Department of Education. The network is administered by the Alabama Department of Education. Although there is not a statewide WAN strategy in place, there is a LAN strategy that is installed and managed by the Alabama Department of Education.

CONNECTIONS

ALSDE.EDU connects 127 Local Education Agencies in Alabama. The highest bandwidth available is T1. Dial-up access is also available on ALSDE.EDU.

RATE STRUCTURE

BellSouth is the vendor for transport on ALSDE.EDU. Line charges are negotiated by the Data Systems Management Division of the Alabama Department of Finance.

ADMINISTRATOR
Alabama Department of Education

NETWORK TYPE
Data

HIGHEST CAPACITY
T1

SITES CONNECTED
127

CONTACT
Jim Harris
334-848-9790

INSTRUCTIONAL PROGRAMMING

Instructional programming is not available on ALSDE.EDU.

FUNOING

Funding for ALSDE.EDU is provided through Alabama's state operating budget and includes allocation for hardware, software and line charges. The Alabama Department of Education is responsible for connections, support, lines, equipment and maintenance.

STAFFING

ALSDE.EDU is staffed by three full-time employees who spend approximately 5 percent of their time on network management. Alabama is not outsourcing work related to ALSDE.EDU, but is leasing some of the equipment used in the network.

NETWORK DESCRIPTION

The Arkansas Public School Computer Network is a TCPIP/frame-relay data network serving the public schools of Arkansas. The APSCN is responsible for the planning and development of the network. The APSCN WAN strategy involves both ARKNET (postsecondary) and the state Department of Computer Services. The LAN strategy involves TCPIP/Novell networks that APSCN provides to school districts.

ADMINISTRATOR
Arkansas Department of Education

NETWORK TYPE
Data

HIGHEST CAPACITY
T1

SITES CONNECTED
787

CONTACT
Bob Friedman
501-682-4887

CONNECTIONS

The APSCN connects 569 public school sites within 218 school districts. Currently the highest available bandwith is T1, but pilot programs using DS3 and OC3 are in progress. APSCN transports K-12 data, while telcos provide the circuits. Video connection through ATM is being tested through a pilot program.

RATE STRUCTURE

Line charges vary based on the telecommunications company and the distance the information travels.

INSTRUCTIONAL PROGRAMMING

Currently, APSCN offers Internet access and support of instructional programming through its network. Staff development is available by training K-12 personnel in the effective use of the Internet.

FUNDING

A $25 million loan from the Teacher Retirement System provides funding for hardware, infrastructure and administrative applications development software is funded by and line charges are covered by the State General Revenue. APSCN and DCS are jointly responsible for network connections, support, and lines, while APSCN is solely responsible for network equipment and maintenance. The state is not leasing the equipment used in the network.

STAFFING

APSCN has four full-time dedicated network staff members. Network management and development is not being outsourced at this time.

NETWORK DESCRIPTION

ARKNET is a data network serving public and private universities in Arkansas. ARKNET does not offer video, but many sites purchase video through the State Department of Computer Services and Southwestern Bell. The ARKNET Consortium, a group of institutional network members, plans the strategy and architecture for the WAN. LAN strategies vary by institutions. ARKNET is connected to universities, community colleges, libraries, and is compatible with APSCN (public school network).

ADMINISTRATOR
Arkansas Commission of Higher Education

NETWORK TYPE
Data

HIGHEST CAPACITY
T1

SITES CONNECTED
46

CONTACT
Ed Crowe
501-324-9300

CONNECTIONS

ARKNET connects 46 institutions of higher learning in Arkansas. At present, the highest bandwidth available is T1. Access is available through terminal emulation and SLIP/PPP dial-up. The state network does not offer dial-up access, but individual members offer their constituents dial-up from which they may access the state network.

RATE STRUCTURE

Southwestern Bell is the vendor for frame-relay network. AT&T is the vendor for inter-exchange and cross-LATA circuits, while local telephone companies offer local-loop access. Rates are as follows: T1 ($573 and $10.07 each mile), and 56 Kbps ($114 and $0.48 each mile). Currently, no new rate proposals are under review.

FUNDING

ARKNET is funded through budgets at the individual member institutions. The State of Arkansas charges a membership fee for network connection, line charges and LATA/InterLATA service. ARKNET Network Operations Center is responsible for connections, support and phone lines, while member institutions are responsible for equipment and maintenance.

STAFFING

At present, 1.3 staff members are dedicated to ARKNET (not including support from the state Department of Computer Services.) Network support is not outsourced, and equipment is not being

NETWORK DESCRIPTION

The Florida Information Resource Network is a frame-relay data network managed by the Florida Department of Education. FIRN's WAN strategy involves all public education institutions, from K-12 to higher education. Each individual school, district, college, etc., is responsible for their own LAN strategy.

ADMINISTRATOR
Florida Department of Education

NETWORK TYPE
Data

HIGHEST CAPACITY
T1

SITES CONNECTED
Unknown

CONTACT
Bill Schmid
904-487-0911

CONNECTIONS

FIRN connects many institutions and organizations including universities, community colleges, public schools, libraries and certain state agencies. Data is currently being collected regarding the number of sites connected. FIRN offers both T1 and multiplexed T1 access through SLIP/PPP dial-up and terminal emulation through 28.8 Kbps modems.

RATE STRUCTURE

FIRN contracts with all of the 13 local providers in the state. InterLATA transport is supported by the Division of Communications (Suncom) and the long-distance carriers. FIRN uses frame-relay technology. The following are average costs of frame-relay service based on the bandwidth.

56 Kbps	$ 99.00 per month
128 Kbps	$240.00 per month
256 Kbps	$285.00 per month
385 Kbps	$330.00 per month
T1	$525.00 per month

INSTRUCTIONAL PROGRAMMING

Instructional programming for K-12, higher education courses for credit and non-credit, and staff development for K-12 and higher education institutions is available from FIRN. Programming is provided by four-year colleges and universities, two-year higher education institutions, and district offices. Staff development on the use of the network is provided by FIRN staff, school district employees, regional service centers, higher education institution employees and private consultants.

FUNDING

FIRN receives $5.9 million in total annual operating funds from the state of Florida, including funding for applications development and training. Approximately $1.8 million of the total is used for line charges. FIRN's operating budget supports line charges, LATA service and network hardware and software for all connections to school districts, community colleges, universities and postsecondary libraries. FIRN is not funded to provide the same level to K-12 schools. However, schools are able to connect to the network at no cost. Local entities such as public educators or administrators are not charged for use of any network services. FIRN is responsible for connections, support, lines, equipment and maintenance of the network.

STAFFING

FIRN is staffed by 24 full-time and five part-time employees who devote 100 percent of their time to network management. FIRN does not outsource network management, and the state is not leasing equipment used in the network.

NETWORK DESCRIPTION

SUNSTAR, Florida's state-owned satellite network, provides both public and private clients with complete teleconferencing services at their 34 downlink sites strategically located throughout the state. The network is managed by the Office of Telecom-munications of the Florida Department of Education.

ADMINISTRATOR
Florida DOE - Bureau of Educational Technology

NETWORK TYPE
Satellite

HIGHEST CAPACITY
N/A

SITES CONNECTED
34

CONTACT
Eric Smith
904-488-0940

CONNECTIONS

The 34 SUNSTAR sites are located at 24 community colleges, four universities, five school districts and one vocational school. In addition, SUNSTAR has built and maintained relationships with many other downlink sites within the state of Florida. Sites are equipped with both KU- and C-band satellite dishes capable of accessing all the satellites serving North America. The Department of Education owns a transponder on TELSTAR 401 used for the majority of teleconferences.

RATE STRUCTURE

The SUNSTAR administrator works closely with each client to provide the best and most cost effective teleconference available. SUNSTAR's all-inclusive service includes the purchase of satellite time, arrangement of a production facility and providing for client's catering needs. Rates for SUNSTAR downlink sites are determined by whether the client is public or private and are structured to keep costs affordable.

INSTRUCTIONAL PROGRAMMING

Staff development for K-12 is available on SUNSTAR. Instructional programming is provided by state agencies, federal agencies, private businesses and four-year universities. Training on use of SUNSTAR is provided by state agencies, higher education institutions and private businesses.

FUNDING

The network is supported by a 20 percent surcharge on all transmission purchases. The 20 percent surcharge is placed in a trust fund used for network expenses and maintenance.

STAFFING

SUNSTAR is staffed by one full-time employee devoting 100 percent of his time to the network and one part-time support staff. Two other full-time professional staff members are available on an as-needed basis.

NETWORK DESCRIPTION

PeachNet is the statewide data communications network of the University System of Georgia. Managed by the Board of Regents' Office of Information and Instructional Technology, PeachNet provides inter-campus communications and access to external computing resources to each of the University System's 34 institutions, as well as the K-12, public library and private colleges communities. PeachNet's WAN strategy is planned by the University System of Georgia and all educational entities wishing to join. The LAN strategy is institutionally based with collaboration from the OIIT.

ADMINISTRATOR
Georgia Board of Regents

NETWORK TYPE
Data

HIGHEST CAPACITY
T1

SITES CONNECTED
159

CONTACT
J. B. Mathews
404-656-6174

CONNECTIONS

Initially tested in 1988, PeachNet's backbone has grown to be an expansive network of more than 80 routers connected via T1 telephone lines. The network routes TCP/IP and AppleTalk communications protocols and is connected to the Internet. Dial-up access is available through PPP. Video transmission is available through the Internet.

RATE STRUCTURE

Georgia's Department of Administrative Services procures all services from telecommunications transport providers. Monthly distance-sensitive line charges are as follows:

All Educational Entities

T1 - Local (LATA)	$82 1st mile, plus $35 each additional mile
T1 - IntraLATA	$70 fixed, plus $14.25 per mile
T1 - InterLATA	$12.60 per mile

INSTRUCTIONAL PROGRAMMING

PeachNet offers K-12 instructional programs and higher education courses. Staff development for K-12 and higher education is also available on PeachNet. In addition, public library services are available for users of the network. Instructional programs are provided by four-year universities, two-year community colleges, the Department of Education, and public libraries. Training on use of the network is provided by the Georgia University System, Department of Education and public libraries.

FUNDING

Funding for PeachNet is provided through the University System of Georgia's annual operating budget and through connection charges to outside participants. The allocation for network line charges is $1.5 million. The state charges local educational entities for network connection including hardware and software. OIIT is responsible for network connections, support, equipment and maintenance. The Georgia Department of Administrative Services is responsible for phone lines.

STAFFING

PeachNet is staffed by 11 full-time employees who spend 100 percent of their time on network management. In addition, five part-time employees devoting 50 percent of their time to PeachNet supplement the full-time staff. The state does outsource project work related to Peachnet on an as-needed basis. The state is leasing equipment used in the network.

GEORGIA STATEWIDE ACADEMIC AND MEDICAL SYSTEM (GSAMS)

NETWORK DESCRIPTION

The Georgia Statewide Academic and Medical System is the largest two-way fully interactive video system in the world. GSAMS, created through the Georgia Distance Learning and Telemedia Act of 1992, is an innovative approach to meeting the educational and medical needs of Georgia citizens, with emphasis on rural areas. GSAMS uses two-way interactive television to create a virtual educational or medical commu-nity across Georgia. WAN strategy for GSAMS is formu-lated by the Georgia Distance Learning and Telemedicine Governing Board.

ADMINISTRATOR
Distance Learning and Telemedicine Governing Board

NETWORK TYPE
Compressed and Interactive Video

HIGHEST CAPACITY
T1

SITES CONNECTED
266

CONTACT
Jim Anderson
404-656-6393

CONNECTIONS

Georgia's universities, public schools, teaching hospitals, and many state departments are connected to GSAMS. More than 165 K-12 public schools and 100 institutions of higher learning are connected to the network. The highest bandwidth available on GSAMS for the transfer of interactive video and voice is T1. Dial-up access is available through SLIP/PPP. The key benefit of the network is its full-motion compressed video, which connects different geographic sites in a teaching environment. GSAMS has partnered with PeachNet to provide a truly interactive learning environment. PeachNet provides the Internet/E-mail connection for teachers and students.

RATE STRUCTURE

BellSouth is the telecommunications vendor for local transport, while GSAMS uses a collaboration of 33 independent telecommunications service companies for InterLATA transport. Fixed-rate line charges for 56 Kbps connections to GSAMS are $562 for the first two years, $1,124 each subsequent year.

INSTRUCTIONAL PROGRAMMING

GSAMS offers a variety of instructional programing including K-12 programs, and higher education courses, both credit and non-credit. Staff development programs for K-12 and higher education staff are also available. In addition, community meetings and continuing education are offered on GSAMS. Instructional programs are provided by state agencies, four-year universities, two-year community colleges, district offices and K-12 public schools. Training on use of GSAMS is provided by state agencies, district employees, regional education centers and higher education institution employees.

FUNDING

Annual GSAMS funding comes from the Georgia Distance Learning and Telemedia Act of 1992, which allocated $70,000 for ongoing network management. The state subsidizes one-half of the $1,124 monthly connection fee, or $562, for the first two years of GSAMS use. The Department of Administrative Services is responsible for all aspects of network management including connections, support, lines, equipment and maintenance.

STAFFING

GSAMS is staffed by eight full-time employees devoting 40 percent of their time to network management. Currently, the state is outsourcing work related to GSAMS but is not leasing any equipment used in the network.

NETWORK DESCRIPTION

Georgia Public Broadcasting manages three programming networks: Georgia Public Television, Peachstate Public Radio, and Peachstar Satellite Services. Georgia Public Broadcasting is developing a WAN strategy for all broadcast remote sites. This strategy will enable sites to access educational programming and information on programming.

ADMINISTRATOR
Georgia Public Telecommunications Commission

NETWORK TYPE
Satellite, Data, and Compressed Video

HIGHEST CAPACITY
N/A

SITES CONNECTED
2400

CONTACT
Frank Bugg
404-756-2413

CONNECTIONS

Georgia Public Broadcasting owns a transponder on the Telstar 401 Satellite. At present, Georgia Public Television maintains one data channel and four compressed video channels in addition to the standard satellite channels. Nine television and 12 radio stations in Georgia have access to the educational programming from GPTV. In addition, a recent initiative by the state to fund the installation of a satellite dish in every public school gives the same access to all 2400 public schools statewide. The GPTV satellite system allows for full-motion compressed video transfer.

INSTRUCTIONAL PROGRAMMING

Instructional programming for K-12 and higher education are available from Georgia Public Broadcasting. In addition, staff development for K-12 and higher education is offered. Instructional programming is being provided by state agencies, private businesses and four-year colleges and universities. Training on use of the network is provided by state agencies, regional service centers and higher education institution employees.

FUNDING

Funding for Georgia Public Broadcasting comes from federal and state operating budgets. In addition, fundraising efforts are aimed at the general public to help defer operating costs.

In 1996, the total operating budget for Georgia Public Broad-casting is $28 million, of which $9 million is directed for educational programming. Georgia Public Broadcasting does not charge local entities that receive programming on any of the networks it manages. The Georgia Public Broadcasting Commission is responsible for connections, support, lines, equipment and maintenance.

STAFFING

Georgia Public Broadcasting employees 192 full-time employees, four of which are dedicated to managing satellite operations. Georgia Public Broadcasting is presently outsourcing work related to network operation but is not leasing any equipment.

NETWORK DESCRIPTION

A joint venture between the Department of Education and Georgia Public Television, PeachStar is a satellite network serving public schools in Georgia. Following PeachStar's WAN strategy, the Department of Education supervises satellite installation, and GPTV provides educational programming. At present, there is no mandated LAN strategy for PeachStar.

ADMINISTRATOR
Georgia Department of Education/Georgia Public Television

NETWORK TYPE
Satellite

HIGHEST CAPACITY
N/A

SITES CONNECTED
180

CONTACT
David Watts
404-756-4841

CONNECTIONS

Currently, 180 public schools are connected to PeachStar. Dial-up access is available through SLIP/PPP. PeachStar offers satellite programming for use in distance learning.

RATE STRUCTURE

Convergent Media is the vendor for satellite uplink on PeachStar. Rates vary greatly based on transponder time and length of broadcast.

INSTRUCTIONAL PROGRAMMING

Instructional programming and staff development is available for K-12. Programs are provided by the Georgia Department of Education and GPTV. Training on use of the network is offered by the Georgia Department of Education in collaboration with regional service centers.

FUNDING

A special allocation from the state of Georgia provides initial funding for the installation of satellite downlink equipment in the schools. GPTV produces educational programs as a part of their annual operating budget. Programming is also available from Satellite Educational Resources Consortium, public broadcasting systems and education departments in 23 states.

STAFFING

PeachStar is staffed by one full-time employee who spends 50 percent of his time on network management. The state outsources work related to PeachStar, but does not lease equipment.

NETWORK DESCRIPTION

For education purposes, the Commonwealth of Kentucky has three separately identifiable statewide telecommunications networks. The lines between the three are blurring rapidly. These networks are Kentucky Educational Television, the Kentucky Education Technology System, and the Kentucky Telelinking Network. All of these education networks are, in one way or another, integrated on the Kentucky Information Highway. The Highway itself is an integrated, land-based (T1/DS3) backbone network with several regional nodes through which any state agency, local government or educational institution may connect.

ADMINISTRATOR
Kentucky Information Resources Management Commission

NETWORK TYPE
Hybrid-Data, Video, Voice

HIGHEST CAPACITY
DS3

SITES CONNECTED
422

CONTACT

Don Coffman
502-564-6900

Larry Fowler
Council on Higher Education
502-573-1555

Mike Clark
Kentucky Education Television
606-258-7254

KENTUCKY EDUCATION TELEVISION

KET is an educational television network which originates educational programming through "open broadcast" (PBS telecourses, for example), satellite (with downlinks at about 1800 school, university, colleges, and public libraries), and land-based compressed video (as a part of the KTLN).

KENTUCKY EDUCATION TECHNOLOGY SYSTEM

KETS is a statewide integrated network supporting both instruction and administration in Kentucky's public schools. Today, the dedicated 56 Kbps and T1 network extends to at least one location in each of the 176 school districts and then on to the individual schools. By Summer 1996, almost half of Kentucky's classrooms will have a direct connection to the Information Highway. Connection to the network provides students, teachers, administrators, and other educators with access to the Internet using a WWW browser and the statewide E-mail system. The speed at which Kentucky schools are coming on-line has allowed the Department of Education to begin using the Internet for information sharing and dissemination and the network for exchanging documents and forms in electronic format. Dial-in services are being provided as an interim solution for those schools not already connected and to support KETS access from the home and field.

KENTUCKY TELELINKING NETWORK

KTLN is a land-based, two-way video, voice and data network that rides on the Kentucky Information Highway and expands the Highway beyond the regional nodes. As of October 1, 1995 there were approximately 70 KTLN sites (i.e., compressed video classroom) located in colleges, universities, public schools and state government (including the Kentucky Department of Education). By October 1, 1996, it is expected that the number of sites will have increased by at least 40, the majority of which will be public school sites. The state's eight universities serve as regional hubs and are linked to their extended-campus centers, to several public schools in their service regions, local public agencies, and to the statewide network via the Kentucky Department of Information Services in Frankfort.Statewide planning and development of the Kentucky Information Highway continues to be a responsibility of the state's Department of Information Systems with guidance provided by the Kentucky Information Resources Management Commission . KIRM develops WAN policies, strate-gies, and standards to ensure maximum effective-ness and efficiency in deployment of the Highway.

CONNECTIONS

Universities, community colleges, public schools, libraries, local government and executive branch agencies are connected through the Kentucky Information Highway. Approximately 400 K-12 schools, eight universities, and 14 community colleges are currently connected to the Kentucky Information Highway. The highest bandwidth available on the network is DS3. Dial-up access is available through SLIP/PPP and terminal emulation. Compressed video can also be transported on the network.

RATE STRUCTURE

Twenty-one public telecommunications carriers were formed into a consortium to provide a single vendor for out-of-state long distance. The Kentucky Information Resources Management Commission blends various rates together to determine the network connection fees that are charged to local entities. Currently, all agencies connected to the Kentucky Information Highway are charged a monthly flat rate of $655 for T1 transport. The flat-rate charge for 56 Kbps is $239 per month. These rates were enacted in July of 1995.

INSTRUCTIONAL PROGRAMMING

Instructional programming includes K-12 instructional programs, higher education courses for both credit and non-credit, and staff development for K-12 and higher education. The instructional programming is provided by four-year universities, two-year community colleges and school district offices. Training on use of the Kentucky Information Highway is provided by state agencies, higher education employees and network/equipment vendors.

FUNDING

The Kentucky Department of Education's Master Plan for Educational Technology (KETS, K12) calls for an integrated voice, video and data network linking all 1,368 public schools, 174 district offices, secondary vocational schools, and the Department of Education. An estimated $91 million is needed to fully implement the Master Plan. As of October 1995, $32 million had been spent, with another $59 million remaining that needs to be made available. Approximately $15 million have been invested in hardware for the Kentucky Telelinking Network (compressed video) and an additional investment of approximately $6 million will take place by October 1, 1996. Funding for the KTLN came initially from the public universities through internal budget reallocation. Subsequently, the network has been expanded with a mixture of university, state, local (usually local school districts), and federal funds (Star Schools grant). These figures for the KETS program and the KTLN do not include personnel costs nor do they include the expenditures of the state's Department of Information Systems which is responsible for all aspects of statewide network management including connection, support, lines, equipment and maintenance. KET is funded like most public educational television networks through a combination of state and federal funds and, through public contributions. The Kentucky Department of Information Systems is responsible for all aspects of network management including connections, support, lines, equipment and maintenance.

STAFFING

The Kentucky Information Highway has a large staff of 54 full-time employees who devote 100 percent of their time to network management. To supplement the full-time staff, 85 part-time workers devote 50 percent of their time to the network. The state is not outsourcing any work related to the Kentucky Information Highway. Equipment used in the network is not being leased at this time. The staffing reported in this section does not include staff at the KDE, the colleges and universities, and the public schools.

NETWORK DESCRIPTION

LaNet is a multi-protocol WAN designed to facilitate communication between educational institutions and government organizations within Louisiana. LaNet provides subscribers with a robust, high-capacity network that can connect offices and locations throughout the state twenty-four hours a day. LaNet is managed by the Louisiana Office of Telecommunications' LaNet Network Operations Center located in Baton Rouge.

ADMINISTRATOR
Louisana Office of Telecommunications Management

NETWORK TYPE
Data

HIGHEST CAPACITY
T1

SITES CONNECTED
186

CONTACT
Mike Kling
504-342-4263

CONNECTIONS

LaNet connects 19 colleges/universities, 80 public schools, 64 libraries, 20 state departments, and three medical centers. Subscribers to LaNet supply their own LAN wiring and equipment. Dedicated service is offered at a site, such as a university campus or a state building used by a single agency. Dedicated service is offered at both 56 Kbps and T1. SLIP/PPP dial-up access to the network is also available.

RATE STRUCTURE

BellSouth (South Central Bell) is the main vendor for local transport, while LDDS and ATC are the vendors for InterLATA transport. Line charges vary greatly based on the vendor and the distance of transport. LaNet charges a monthly fee to local entities who connect to the network. Flat-rate line charges to subscribers per month are as follows:

	T1	56 Kbps
State Agencies	$ 1,600	$ 800
Higher Education Institutions	$ 1,240	$ 600
Public Schools	$ 1,240	$ 600

INSTRUCTIONAL PROGRAMMING

Higher education courses for credit are being offered on LaNet by four-year universities. Staff development on use of the network is also available from the Louisiana Department of Education.

FUNDING

LaNet is funded solely through flat-rate monthly subscription fees paid by the users of the network. Rates are adjusted periodically based on increases or decreases in the cost of maintaining the network. Local entities are charged a flat-rate fee to connect to the LaNet. The Office of Telecommunications is responsible for expenses related to connections, support, lines, equipment and maintenance.

STAFFING

LaNet is staffed by six full-time employees devoting 100 percent of their time to network management. LaNet is currently outsourcing the dial-in service portion of network support. No equipment used in the network is being leased.

NETWORK DESCRIPTION

Louisiana Public Broadcasting is a statewide satellite television network for education.

CONNECTIONS

LPB has a network of six television stations and is carried by more than 140 cable systems in the state. LPB also offers full motion, DCT compressed video.

RATE STRUCTURE

There are no access charges to view LPB broadcasts other than local cable service fees.

INSTRUCTIONAL PROGRAMMING

Instructional programming is provided for K-12 and credit-earning higher education courses. Staff development for K-12 is also provided by LPB. The instructional programming is being provided by state agencies, four-year colleges or universities, and other organizations including the Association of Instructional Technology and the Public Broadcasting System.

ADMINISTRATOR
Louisiana Educational Television Authority

NETWORK TYPE
Satellite/Compressed Video

HIGHEST CAPACITY
Digicypher I, Mode B, SCPC, 6.6 MB per second

SITES CONNECTED
Unknown

CONTACT
Kent Hatfield
504-767-5660

FUNDING

LPB receives $1.6 million in annual state operating budget funding for hardware used in the network. An additional $6.5 million is allocated for line transmission charges. Also, the state charges local entities for transponder access. The Louisiana Educational Television Authority is responsible for connections, support, lines, equipment and maintenance of the satellite network.

STAFFING

At present, LPB has 12 full-time employees devoting 60 percent of their time to network management. LPB is not outsourcing work related to the network, and the state is not leasing equipment used in the network.

NETWORK DESCRIPTION

LPB Express is a data network used primarily by mathematics teachers in 75 Louisiana public schools. The network is also used to communicate with other public broadcasting stations.

CONNECTIONS

The highest bandwidth available on LPB Express is 56 Kbps. Dial-up access to the network is possible through terminal emulation.

RATE STRUCTURE

Transport is leased from Louisiana State University's T1 connection to LaNet (statewide data network) for $5,000 per year. Local entities are not charged for access to the network.

ADMINISTRATOR
Louisiana Educational TV Authority

NETWORK TYPE
Data

HIGHEST CAPACITY
56 Kbps

SITES CONNECTED
75

CONTACT
Don Ballard
504-767-4273

INSTRUCTIONAL PROGRAMMING

K-12 instructional programming and K-12 staff development programming are available on LPB Express. Both the instructional programming and the staff development are provided by the Louisiana Educational Television Authority.

FUNDING

Louisiana Public Broadcasting has responsibility for network support and phone lines, while local schools are responsible for connections, equipment and maintenance.

STAFFING

LPB Express is managed by four full-time employees who devote 50 percent of their time to the network. LPB is not outsourcing network management, but LPB is leasing equipment used in the network.

NETWORK DESCRIPTION

The Maryland Distance Learning Network is a switched fiber-optic network capable of interactive video. The MDLN is administered by the Maryland Higher Education Commission. The statewide WAN strategy includes colleges, universities, public and private schools, medical centers and cultural institutions. There is not a LAN strategy in place as a part of the network.

ADMINISTRATOR
Maryland Higher Education Commission

NETWORK TYPE
Switched Fiber Optic

HIGHEST CAPACITY
OC3

SITES CONNECTED
72

CONTACT
David Sumler
410-974-2971

CONNECTIONS

MDLN connects 39 K-12 schools, 22 institutions of higher learning, and 11 sites in medical and cultural institutions. MDLN is capable of bandwidth up to OC3 with interactive full-motion video.

RATE STRUCTURE

The vendor for local transport is Bell Atlantic, while the vendor for interLATA is AT&T. The intraLATA rate for OC3 connection is $1,365 per month for the first three years, and $2,730 per month for subsequent years. A lower flat-rate fee for interLATA has recently been proposed, with the state providing interLATA transport and Bell Atlantic providing access to the state network.

INSTRUCTIONAL PROGRAMMING

Instructional programming is offered for K-12 and higher education courses for both credit and non-credit. Instructional programming is provided by both four-year and two-year higher education institutions and from K-12 schools. Staff Development for K-12 is also offered on the MDLN. Staff development on the use of the network is offered by the equipment vendor and by the higher education institution employees.

FUNDING

Funding for network infrastructure and equipment for 270 sites is provided for by a $50,000 per site donation from Bell Atlantic of Maryland. The fiber-optic infrastructure would be financed through monthly tariff charges from Bell Atlantic over the first ten years of operation.

STAFFING

MDLN is staffed at the state level by three full-time employees who devote 50 percent of their time to network management. MDLN is outsourcing network-related work but does not lease equipment used in the network.

NETWORK DESCRIPTION

The Interactive Video Network is a compressed video network administered by the University of Maryland System. IVN's statewide WAN strategy includes Maryland's colleges and universities. IVN is a part of the University of Maryland Academic Telecommunications System which is a digital network for the entire university system. Currently, 30 institutions of higher learning are connected to IVN.

ADMINISTRATOR
University of Maryland System

NETWORK TYPE
Compressed Video

HIGHEST CAPACITY
T1

SITES CONNECTED
30

CONTACT
Richard Rose
301-445-2789

CONNECTIONS

At present, the highest bandwidth available to users of IVN is T1. Dial-up is available through Inverse ISDN for compressed video, as well SDNN, AT&T, MCI and SPRINT.

RATE STRUCTURE

The vendor for local transport is Bell Atlantic, while the vendor for InterLATA transport is AT&T. Phone line charges are set by a negotiated contract of $500,000 per year that includes the entire University of Maryland Telecommunications System. At present, approximately $200,000 is spent annually on digital phone lines, equipment and maintenance. Member institutions are charged a prorated rate based on institution size. All carrier services are bid annually, although vendors have recently proposed two-year term pricing.

INSTRUCTIONAL PROGRAMMING

Instructional programming is being delivered through IVN for K-12, higher education courses for credit and non-credit, staff development for K-12 and higher education, for research, continuing education, and thesis programs. Instructional programming is focused on graduate-level education and is provided to state agencies, private businesses, four-year universities, two-year higher education institutions and district offices. Staff development training on the use of the network is offered district employees, regional service centers, higher education institution's employees and private consultants.

FUNDING

Funding for the network is provided by the Maryland State Operating Budget and is based on infrastructure costs between institutions. Fiscal Year 1995-1996 budgets are as follows: $106,000 for hardware, $20,000 for software and $225,000 for phone line charges. The state charges local entities for hardware, software, network connection and line charges. The University of Maryland Academic Telecommunication Services is responsible for connections, while The University of Maryland System Administration is responsible for support, phone lines, equipment and maintenance.

STAFFING

IVN is staffed through the University of Maryland Telecommunications System. Two full-time employees who devote 100 percent of their time and three part-time employees who devote 25 percent of their time staff the entire telecommunications system. Of the total staff resources, IVN requires 25 percent of one full-time employee's work hours. Staff resources are not outsourced, and no equipment is being leased at this time.

NETWORK DESCRIPTION

Sailor is a data network managed by the Maryland State Department of Education's Division of Library Services. The WAN strategy is to connect Maryland's public libraries to public schools and to the community at large.

ADMINISTRATOR
Maryland DOE - Division of Library Services

NETWORK TYPE
Data

HIGHEST CAPACITY
T1

SITES CONNECTED
21

CONTACT
Barbara Smith
410-767-0436

CONNECTIONS

At present, 21 of 24 Maryland county library systems are connected to Sailor. The highest bandwidth available on Sailor is T1. Dial-up access is available through SLIP/PPP. Every Maryland citizen has local phone number Internet access.

INSTRUCTIONAL PROGRAMMING

Users of Sailor have access to a wide range of education information, including ERIC, US Department of Education Program information, texts of major education reports, a directory of education conferences, and information on grants. Training on use of the network is provided by the Division of Library Services.

FUNDING

Initial funding for Sailor came from a $2 million grant from the federal Library Services and Construction Act. In FY 1996 $250,000 will be allocated for Sailor operations. In 1997 the budget will be expanded to include Sailor personnel and telecommunication network expansion. The 1997 budget for Sailor is $763,206 which includes $272,304 for telecommunications and $292,854 for personnel.

STAFFING

Currently, Sailor has two full-time staff members dedicating 100 percent of their time to the network. Network operation and development is being outsourced, but the state is not leasing equipment for Sailor.

NETWORK DESCRIPTION

FiberNet 2000 is an educational network created to enhance education in rural areas of Mississippi. The compressed video network was created in 1990 by five private corporations that provided equipment, hardware, communications lines and training.

ADMINISTRATOR
Mississippi Educational Television (ETV)

NETWORK TYPE
Compressed Video

HIGHEST CAPACITY
T1

SITES CONNECTED
22

CONTACT
Jack Sweeney
601-982-6565

CONNECTIONS

FiberNet 2000 connects 14 public school districts, three institutions of higher education, two state agencies and two federal agencies including NASA. The highest bandwidth available on FiberNet 2000 is T1. The network offers compressed video for distance-learning programs.

RATE STRUCTURE

BellSouth is the vendor for local transport. WorldCom is the vendor for interLATA transport. Line charges are distance sensitive. Detailed information regarding rates is considered proprietary. No new line charges have recently been proposed.

INSTRUCTIONAL PROGRAMMING

Instructional programs available on FiberNet 2000 are K-12 instructional programs, higher education courses for both credit and non-credit, and staff development programs for K-12. District offices and four-year universities provide the instructional programming on the network. Training on use of the network is provided by the Mississippi Authority for Educational Television.

FUNDING

The state charges local entities for both network connection and line charges at a flat rate of $1,330 for all network members. Annually, the state allocates funds to Mississippi ETV of which approximately $200,000 is used for new hardware and software, and $200,000 goes to cover line charges. Mississippi ETV is responsible for all aspects of network management, although it occasionally outsources equipment maintenance.

STAFFING

FiberNet 2000 has three full-time employees who devote 100 percent of their time to network management. The state is not outsourcing any work related to the network, but it is leasing equipment for use in FiberNet 2000.

MISSISSIPPI ON-LINE NETWORK EXCHANGE (MONEX)

NETWORK DESCRIPTION

MONEX is a data network linking all internal offices of the Mississippi Department of Education to public schools and eventually to other educational institutions. The Mississippi Office of Educational Technology in collaboration with the Department of Management Information Systems has designed and implemented the WAN strategy. The Internet model has been adopted for use in MONEX. The Department of Education is encouraging schools to connect to MONEX.

ADMINISTRATOR
Department of Education

NETWORK TYPE
Data

HIGHEST CAPACITY
T1

SITES CONNECTED
5

CONTACT
Nathan Slater/
Helen Soule
601-359-3954

CONNECTIONS

Administrative offices, libraries, and a few public schools are connected to MONEX. The maximum bandwidth available on MONEX is T1. Dial-up access is available through PPP and terminal emulation. Compressed video is also available on the network.

RATE STRUCTURE

BellSouth is the vendor for transport on the network. Flat rate charges for frame relay transport are $540 per month for T1, $140 per month for 56 Kbps. Distance-sensitive line charges for local-loop transports are as follows:

	T156	Kbps
State Agencies	$120 + $14 per mile	$100 + $5 per mile
Higher Education Institutions	$120 + $7 per mile	$100 + $1.25 per mile
Public Schools	$120 + $7 per mile	$100 + $1.25 per mile

INSTRUCTIONAL PROGRAMMING

K-12 instructional programs, higher education for credit and non-credit courses, staff development for K-12 and higher education, and administrative meetings are available on MONEX. Instructional programming is provided by four-year universities. Training on use of the network is not currently provided, but plans are in progress to include staff development on network use.

FUNDING

Funding for MONEX is provided through the Mississippi Education Technology Enhancement Initiative. Funding of $2 million for network equipment has been earmarked for MONEX. The Mississippi Department of Education is responsible for connections and support, while local entities are responsible for equipment and maintenance.

STAFFING

Four full-time staff members devote 20 percent of their time to MONEX network management. Currently, the state is outsourcing work on the network, but it is not leasing network equipment used in the network.

NETWORK DESCRIPTION

Mississippi EdNet is a statewide IFTS network that broadcasts educational and instructional programming to Mississippi's universities, community colleges, junior colleges, K-12 schools, and home and businesses subscribing to TruVision Wireless Cable service. Through EdNet, the educational institutions also have access to five audio/video channels for program delivery, and the network has potential for interactive capability.

ADMINISTRATOR
Mississippi Authority for Educational Television (ETV)

NETWORK TYPE
IFTS Microwave

HIGHEST CAPACITY
Unknown

SITES CONNECTED
30

CONTACT
Patrick McKinnis
601-928-6565

CONNECTIONS

Mississippi EdNet is currently available at 75 schools, community colleges and universities. Mississippi EdNet provides designated schools with receive-site equipment at no cost to the schools. Full-motion video is currently available on EdNet, and plans include two-way video interactivity.

RATE STRUCTURE

TruVision Wireless Cable is the vendor for transport on Mississippi EdNet. Network expenses are covered by an excess-capacity lease agreement with TruVision Wireless Cable.

INSTRUCTIONAL PROGRAMMING

Education and instructional programming for K-12 and higher education courses, both for credit and non-credit will be available on Mississippi EdNet. Staff development programming for K-12 and higher education is also available. Programming is provided by state agencies, four-year colleges and universities, community colleges and junior colleges, and Mississippi ETV. Training on use of the network is not currently being offered.

FUNDING

Mississippi EdNet is privately funded through an excess capacity lease agreement with TruVision Wireless Cable. TruVision is responsible for network connections, lines, equipment and maintenance. Mississippi ETV is responsible for supporting the EdNet portion of the network.

STAFFING

Mississippi EdNet is staffed by one full-time consultant who spends 100 percent of his time on network management and programming. In addition, network staffing is supported by Mississippi ETV. Mississippi EdNet is not outsourcing any work related to the network and is not leasing any equipment used in the network.

NETWORK DESCRIPTION

MISNET is a data network serving the university community in Mississippi. MISNET has a Board of Directors that plans and implements network strategy. Mississippi's Institutions for Higher Learning, Community Colleges Board, Department of Education, Library Commission, Educational Television and the Department of Information Services are all included in the WAN strategy.

ADMINISTRATOR
MISNET Board of Directors

NETWORK TYPE
Data

HIGHEST CAPACITY
DS3

SITES CONNECTED
10

CONTACT
Allen Lind
601-982-6430

CONNECTIONS

MISNET connects 10 institutions of higher learning in Mississippi. The highest bandwidth available on MISNET is DS3. Dial-up access is available through SLIP/PPP and terminal emulation.

RATE STRUCTURE

BellSouth is the vendor for local transport, and WorldCom is the vendor for InterLATA transport. Monthly flat-rate line charges for T1 connection to MISNET are $550 for all connecting entities. Flat-rate charges for 56 Kbps connections are $150 per month. Distance-sensitive charges are also available but vary greatly based on geographic location.

INSTRUCTIONAL PROGRAMMING

Higher education courses for both credit and non-credit are available on MISNET. Instructional programming is provided for four-year colleges and universities. Training on use of the network is provided by higher education institution employees.

FUNDING

MISNET is funded through the connection fees charged to local entities. Special funding has been directed to help facilitate MISNET connection to Internet Service Providers. The MISNET Board of Directors is responsible for all aspects of network management including connections, support, lines, equipment and maintenance.

STAFFING

MISNET is staffed by one full-time employee who spends 50 percent of his time on network management. The state is not outsourcing work related to the network, and the state is not leasing any equipment used in the network.

NETWORK DESCRIPTION

The IHL Compressed Video Network is a companion network to MISNET, the data network serving the higher education community in Mississippi. The video network is administered by the Mississippi Board of Trustees of State Institutions for Higher Learning.

ADMINISTRATOR
Mississippi Institutions for Higher Learning

NETWORK TYPE
Compressed Video

HIGHEST CAPACITY
T1

SITES CONNECTED
8

CONTACT
Allen Lind
601-982-6430

CONNECTIONS

The IHL Compressed Video Network connects universities and community colleges in Mississippi. The highest bandwidth available on the network is T1. The network uses compressed video transmission to deliver instructional programming.

RATE STRUCTURE

BellSouth is the vendor for local transport, and WorldCom is the vendor for InterLATA transport. The IHL Compressed Video Network has distance-sensitive line charges that vary greatly based on geographic location.

INSTRUCTIONAL PROGRAMMING

Higher education courses for both credit and non-credit, as well as staff development programming for K-12 and higher education staff are available. Instructional programming is provided by four-year universities. Training on use of the network is provided by higher education institution employees.

FUNDING

The IHL Compressed Video Network is funded through line charges to local entities for usage. The MISNET Board of Directors is responsible for all aspects of network management including connections, support, lines, equipment, and maintenance.

STAFFING

The IHL Compressed Video Network is staffed by one full-time employee who spends 25 percent of his time on network management. The state does not outsource work related to the network, and the state is not leasing any equipment used in the network.

NETWORK DESCRIPTION

The North Carolina Integrated Information Network is the main body of the North Carolina Information Highway. The NCIIN is administered by the Office of State Controller.

ADMINISTRATOR
Office of State Controller

NETWORK TYPE
Hybrid - Data, Video, Voice

HIGHEST CAPACITY
OC3

SITES CONNECTED
46

CONTACT
Jim Broadwell
919-981-5210

CONNECTIONS

The NCIIN connects universities, community colleges, public schools, libraries and all executive branches of state government. Currently, 30 K-12 schools and 16 higher education institutions are connected to the network. The highest bandwidth available on the network is OC3. Dial-up access is available through both SLIP/PPP and terminal emulation. Full-motion video is also possible on the NCIIN.

RATE STRUCTURE

The vendor for local transport is BellSouth, while the vendors for InterLATA transport are Sprint-Carolina, GTE, MCI, AT&T and Time Warner. Flat-rate line charges for 56 Kbps connections are $700 per month.

INSTRUCTIONAL PROGRAMMING

K-12 instructional programs, higher education for credit and non-credit courses, staff development for K-12 and higher education, and state agency instruction are provided on the NCIIN. Programming is provided by state agencies, two-year higher education institutions, four-year universities and K-12 schools. Professional development on use of the network is provided by state agencies, higher education employees and the network vendors.

FUNDING

As a part of the NCIH, funding for the North Carolina Integrated Information Network is provided through the governor's office as part of a special initiative. The state charges local entities for hardware, network connection, line charges, LATA/InterLATA service, amount of usage, and overhead of network management based on simple cost recovery.

STAFFING

NCIIN is staffed by 28 full-time employees who devote 100 percent of their time to network management. The state does not outsource network management or lease any equipment used in the network.

NETWORK DESCRIPTION

The North Carolina Distance Learning by Satellite is a satellite network serving both K-12 schools and universities in North Carolina. The network was originally designed to provide instruction in 54 of the most rural counties in North Carolina, and to provide staff development programming in each of the 100 counties. A LAN strategy is not a part of NCDLS.

ADMINISTRATOR
North Carolina Department of Public Instruction

NETWORK TYPE
Satellite

HIGHEST CAPACITY
Full Motion Digital Video

SITES CONNECTED
220

CONTACT
Linda De Grand
919-715-1545

CONNECTIONS

The NCDLS is connected to 220 educational institutions in North Carolina. Of these institutions, 189 are public schools or district offices and 31 are higher education institutions. There is an informal effort to interconnect the NCDLS with North Carolina's fiber-based North Carolina Information Highway.

RATE STRUCTURE

The vendors for transport for NCDLS are TI-IN, which offers high school instruction in science, math, foreign language and social sciences, and SERC, a consortium of state public broadcast system entities and state departments of education.

INSTRUCTIONAL PROGRAMMING

K-12 instructional programming and staff development is available over the NCDLS. Private businesses provide the instructional programming broadcast over the NCDLS. Staff development on use of the network is provided by state agencies, district employees, higher education institution employees and network/equipment vendors (TI-IN and SERC).

FUNDING

North Carolina's operating budget provides $800,000 in funding for the operation of NCDLS. The state does not charge local entities for use of the network.

STAFFING

NCDLS is staffed by three full-time employees who devote 50 percent of their time to network utilization and management. The state is outsourcing network support. Some network connections are part of an annual subscription and maintenance fee.

NORTH CAROLINA

STATE TELECOMMUNICATIONS SYSTEM (COMMUNITY COLLEGES)

NETWORK DESCRIPTION

The State Telecommunications System serves as a backbone for connection of the state community colleges. All state agencies are required to use the STS Wide Area Network. STS allows data and video transfer on the North Carolina Information Highway . STS publishes LAN technical requirements to connect to the WAN, but these are not absolutes.

ADMINISTRATOR
State Information Processing System

NETWORK TYPE
Hybrid - Data, Video, Voice

HIGHEST CAPACITY
OC3

SITES CONNECTED
59

CONTACT
Steve James
919-733-7051

CONNECTIONS

Twenty-one community colleges and the North Carolina Department of Community Colleges are connected to NCIH running over DS3, and providing two-way video and T1 data. The highest bandwidth available is OC3. Terminal emulation through dial-up is available on the network. For sites participating in the NCIH project, full-motion video is also available. In cooperation with the statewide UNC Television Network and the 58 community colleges, the System Office manages a telecourse program that serves more than 10,000 community college students each year.

RATE STRUCTURE

BellSouth is the primary vendor for local transport. AT&T is the primary vendor for InterLATA transport, although some sites do use MCI and Sprint. The monthly rates for community colleges to connect to the network are as follows:

	DS3	T1	56 Kbps
Community Colleges *	$ 4,000	$ 3,075	$ 700

* These are rates quoted for information highway sites for DS3 and T1 and 56 Kbps. All services can be purchased with distance-sensitive pricing if desired.

INSTRUCTIONAL PROGRAMMING

Currently, instructional programming is offered on the network, higher education courses for both credit and non-credit, and staff development for higher education. The instructional programming is provided by the community colleges, but is very limited at this time. Training on use of the network is provided by state agencies and tends to focus on topics such as Internet usage.

FUNDING

The STS operating budget provides funding for hardware, software, line charges, and local and InterLATA service. STS charges local entities for hardware, software, network connection, line charges, LATA services and STS overhead. STS is responsible for all aspects of network management including connections, support, lines, equipment and maintenance.

STAFFING

The community college system outsources all WAN management to STS. The equipment used in the network is not being leased by the state.

NETWORK DESCRIPTION

All 58 community colleges and the North Carolina Community College System have satellite downlink systems with steerable dishes capable of receiving both C- and KU-band transmissions.

CONNECTIONS

North Carolina owns a fixed KU-band uplink and has ready access to a mobile KU uplink. The community college has professional-level video production capabilities and produces some video teleconferences aimed primarily at in-service training of faculty or staff.

RATE STRUCTURE

The state provides for uplink and satellite transport over North Carolina EDNET. Receive sites are not charged for the programming they downlink.

ADMINISTRATOR
State Telecommunications System

NETWORK TYPE
Satellite

HIGHEST CAPACITY
N/A

SITES CONNECTED
58

CONTACT
Parks Todd
919-733-7051

INSTRUCTIONAL PROGRAMMING

The North Carolina Community College System office and the individual colleges purchase programming from other producers, primarily in the areas of faculty upgrading and services to business and industry. The community colleges serve as receive sites for training and local and state governmental agencies at no charge in most cases.

FUNDING

The majority of funding for the downlink systems came from a direct state appropriation, while the operational costs are borne by the individual colleges.

STAFFING

Each college has a staff member responsible for satellite downlinking on North Carolina EDNET.

NETWORK DESCRIPTION

The original microwave-based video/data network of MCNC, connecting eight UNC institutions (and others) was extended in 1995, with direct state funding, to include the remaining eight UNC campuses. The extension was implemented by utilizing the fiber-based facilities of the state-operated North Carolina Information Highway previously described. In the near future, the older microwave links will be replaced by NCIH facilities, and all UNC institutions will be networked for video and data with the fiber-based ATM/SONET technology.

ADMINISTRATOR
MCNC and the NCREN Advisory Board

NETWORK TYPE
Hybrid - Fiber, Microwave, Video

HIGHEST CAPACITY
OC3

SITES CONNECTED
30

CONTACT
Alan Blatecky
919-248-1149

The North Carolina Research and Education Network is a combination fiber and microwave network serving the university system of North Carolina. MCNC, a non-profit corporation created by the state that provides network services, along with the NCREN advisory board, is the agency responsible for planning and developing NCREN. The WAN strategy involves the University of North Carolina System, medical schools, and several private universities and colleges. LAN strategy is the responsibility of local entities.

CONNECTIONS

NCREN connects 30 institutions of higher learning in North Carolina. More than 40,000 workstations are directly connected to the network at the member institutions. The highest bandwidth available on NCREN is OC3. Dial-up access is available through both PPP/SLIP and terminal emulation. In addition, video transmission is available through full-motion video, some of which is compressed video.

RATE STRUCTURE

BellSouth is the vendor for local transport, while AT&T, MCI, SPRINT and other private carriers are used for InterLATA transport. MCNC does not charge state agencies for network connection.

INSTRUCTIONAL PROGRAMMING

Instructional programming and higher education courses for credit and non-credit are available on NCREN. Also, seminars, conferences, and group collaborations are facilitated over the network. Instructional programming is provided by state agencies and four-year universities. Training on use of NCREN is provided by state agencies, higher education institution employees and network vendors.

FUNDING

The state of North Carolina funds approximately 90 percent of the operating costs for hardware, software, line charges and interLATA service. This funding mechanism is currently under review by the North Carolina legislature. MCNC is responsible for all aspects of network management including connections, support, lines, equipment and maintenance.

STAFFING

MCNC provides staffing for NCREN. North Carolina is not outsourcing work related to the network, and the state is not leasing any equipment used in the network.

NETWORK DESCRIPTION

A major expansion of OneNet, which began operating in July 1994, will be completed in the first half of 1996. OneNet utilizes fiber-optic cable, digital and analog microwave, satellite and wireless technology to transmit video and data services. Thirty-three regional hub-sites contain video equipment, high-speed data routers, modem banks and computer systems for linking user sites to the statewide network. The State Regents of Oklahoma owns and operates OneNet, the physical network throughout Oklahoma. WAN strategy is coordinated with the Office of State Finance and the Department of Public Safety and includes all state agencies, the court system,

K-12, vocational-technical and higher education. LAN strategies are left to individual agencies, school districts and colleges.

ADMINISTRATOR
Oklahoma State Regents

NETWORK TYPE
Hybrid - Data, Satellite, Video

HIGHEST CAPACITY
OC3

SITES CONNECTED
40

CONTACT
405-524-9210

CONNECTIONS

OneNet links public schools, vocational-technical schools, colleges and universities, public libraries, and local, county, state and federal government agencies across the state. The highest connection on OneNet is OC-3. Dial-up access is available through SLIP/PPP and terminal emulation. In addition, full-motion compressed video is available on OneNet.

RATE STRUCTURE

A consortium of unregulated entities consisting of AT&T Network Systems, MCI, Cox Cable, TCI, Dobson Fiber, Indian Nations Fiber, MBO Video, Panhandle Fiber, and Pioneer Broadband provides transport under a joint agreement. Installation charges for network connection are $1,274 for DS3, $920 for T1 and $600 for 56 Kbps.

Monthly flat-rate line charges for a DS3 connection are as follows:

Flat-Rate Line Charges

	DS3	T1	56 Kbps
All Connecting Entities	$1,425	$285	$320

Distance-Sensitive Line Charges

	DS3	T1	56 Kbps
All Connecting Entities - $250 flat plus-rate charge	$78.25/mile	$15.50/mile	$4.00/mile

New phone line charges are currently under review, but are considered proprietary information by the telecommunications vendor.

INSTRUCTIONAL PROGRAMMING

OneNet offers instructional programming for K-12, higher education courses for credit and non-credit, and continuing adult education. Instructional programming is provided by four-year universities, two-year community colleges, K-12 schools and vocational schools. Training on use of OneNet is provided by regional service centers and private consultants.

FUNDING

Initial funding for OneNet came from an $8 million special fund for equipment. Ongoing operating expenses are provided by user fees charged to local entities connected to the network. OneNet and the Office of State Finance are responsible for connections, support, lines, equipment and maintenance on the network.

NETWORK DESCRIPTION

The South Carolina Information Network is the integrated network backbone for the state of South Carolina. SCIN is administered by South Carolina's Budget and Control Board's Office of Information Technology. SCIN's WAN strategy includes the Department of Education, Social Services, the Highway Department and the governor's office. LAN strategy for SCIN is planned at the local entity level.

ADMINISTRATOR
Budget and Control Board's Office of Information Technology

NETWORK TYPE
Hybrid - Data, Voice

HIGHEST CAPACITY
T1

SITES CONNECTED
N/A

CONTACT
Dave Altus
803-734-3079

CONNECTIONS

When completed, SCIN will connect universities, community colleges, public schools, and state agencies in South Carolina. The highest bandwidth currently available is T1, but a fiber-optic backbone is being installed that would raise the bandwidth considerably. At this time, dial-up access is unavailable because connection to SCIN is made through dedicated leased lines.

RATE STRUCTURE

BellSouth is the vendor for local transport on SCIN. A consortium of 29 InterLATA carriers provides the long distance service for SCIN. Monthly flat-rate charges for state agencies are $1,000 per month. Rates for higher education institutions and K-12 public schools are under negotiation.

INSTRUCTIONAL PROGRAMMING

Instructional programming is offered on SCIN by state agencies for technical education only. Staff development on use of SCIN is provided by state agencies.

FUNDING

Initial infrastructure for SCIN is being funded by a $3.5 million special allocation from the South Carolina legislation. South Carolina's Office of Budget and Control Board charges local entities for network connection and LATA/interLATA through a flat-rate monthly fee. South Carolina's Budget and Control Board's Office of Infor-mation Technology is responsible for network connections and support. The consortium of phone companies is responsible for phone lines. Individual agencies are responsible for their own equipment and maintenance.

STAFFING

Network staffing is contracted through the consortium of telecommunications companies. In addition, equipment used in the network is being leased from the consortium.

NETWORK DESCRIPTION

The South Carolina Educational Television Network is a statewide satellite network that broadcasts instructional programming to public schools, universities and libraries. SCETV is responsible for the statewide WAN strategy in conjunction with the South Carolina Department of Education and the South Carolina Commission on Higher Education.

ADMINISTRATOR
South Carolina Educational Television Network

NETWORK TYPE
Satellite

HIGHEST CAPACITY
Full-Motion Video

SITES CONNECTED
746

CONTACT
Kent Nickerson
803-737-3447

CONNECTIONS

SCETV uplinks instructional programming to 520 public schools, 51 institutions of higher learning and 175 hospitals, state and local government sites. Full-motion video is broadcast over the network. Compressed video is in the experimental stage in technical colleges.

RATE STRUCTURE

SCETV has purchased Transponder 3 on TELSTAR 401. SCETV does not charge public educational institutions for its transmission services on TELSTAR 401. Analog KU- and C- band transponder services are also available. Actual hourly rates are charged to the institutions that request satellite time.

INSTRUCTIONAL PROGRAMMING

SCETV offers instructional programming for K-12, as well as higher education courses for both credit and non-credit. In addition, staff development for K-12 and higher education are offered on SCETV. Instructional programming is provided by state agencies, private businesses, four -year universities, two-year colleges and district offices. Training on use of the network is provided by SCETV.

FUNDING

Funding for SCETV is provided by federal and state operating funds, as well as grants from private organizations. In addition, the state charges local entities for hardware and software. SCETV is responsible for connections, support, equipment and maintenance.

STAFFING

SCETV is staffed by 35 full-time employees who spend 50 percent of their time on the network. These employees are distributed among network engineering, design, support and installation. The state does not outsource work related to the SCETV and is not leasing any equipment used in the network.

NETWORK DESCRIPTION

The Health Communications Network is a satellite and microwave network administered by the Medical University of South Carolina. SCETV is responsible for the statewide WAN strategy in conjunction with the Medical University of South Carolina.

ADMINISTRATOR
Medical University of South Carolina/SC Educational Television

NETWORK TYPE
Satellite and IFTS Microwave

HIGHEST CAPACITY
Full-Motion Video

SITES CONNECTED
628

CONTACT
Jerry Mallard
803-792-2396

CONNECTIONS

The Health Communications Network connects 600 public schools and 28 institutions of higher learning in South Carolina. Full-motion video is transferred over the Health Communications Network. Members may connect by modem and request time on available channels.

RATE STRUCTURE

Programming on the network is delivered by SCETV. SCETV does not charge the Health Communications Network for delivery of programming. SCETV rates to uplink programming vary based on the satellite transponder vendor. Line charges for transponder purchases other than TELSTAR 401 average $4,000 per user annually.

INSTRUCTIONAL PROGRAMMING

Higher education for credit and non-credit are offered on the Health Communications Network. Staff development for higher education, as well as certificate and continuing education courses are also offered on HCN. Instructional programming is provided by the Medical University of South Carolina. Training on use of the network is provided by state agencies, higher education employees and network/equipment vendors.

FUNDING

The State of South Carolina provides funding for the Health Communications Network as a part of its annual operating budget. Funding allocations breakdown as follows: $50,000 for hardware, $130,000 for software and $8,500 for line charges. In addition, $30,000 in grant funding for software used to fund HCN.

STAFFING

HCN is staffed by nine employees. One full-time employee spends 100 percent of his time on HCN and eight part-time employees spend approximately 50 percent of their time on the network. South Carolina does not outsource work related to HCN and is not leasing any equipment used in the network.

NETWORK DESCRIPTION

TECHnet is a data and compressed video network serving the technical and community college system of South Carolina. The South Carolina State Board for Technical and Comprehensive Education is the administrator who plans and develop the WAN strategy for TECHnet.

CONNECTIONS

TECHnet connects 17 institutions of higher learning in South Carolina, including community colleges and libraries. The highest bandwidth available on TECHnet is T1. Dial-up access is available through terminal emulation. TECHnet is also capable of compressed video transport.

ADMINISTRATOR
State Board for Technical and Comprehensive Education

NETWORK TYPE
Data and Compressed Video

HIGHEST CAPACITY
T1

SITES CONNECTED
17

CONTACT
Ed Judice
803-737-9403

RATE STRUCTURE

The vendor for local transport on TECHnet is BellSouth. The interLATA transport vendor is SCNET.

INSTRUCTIONAL PROGRAMMING

Higher education courses for credit and non-credit are offered on TECHnet. Instructional programming is provided by two-year higher education institutions. Training on use of the network is provided by state agencies and network/equipment vendors.

FUNDING

The South Carolina Board for Technical and Comprehensive Education is responsible for connections on TECHnet. BellSouth is responsible for support, lines and maintenance.

STAFFING

TECHnet is staffed by one full-time employee who devotes 70 percent of his time to network management. South Carolina is not outsourcing work related to TECHnet and is not leasing any equipment used in the network.

NETWORK DESCRIPTION

Tennessee Information Infrastructure is a data and compressed video network administered by the Tennessee Office of Information Resources. TNII is anticipated to be fully operational by December 1996. The WAN strategy is planned by the OIR with participation from the University of Tennessee, the Tennessee Board of Regents and the State Department of Education. The planning group mentioned above makes recommendations for LAN strategy, then the local entities make the final decisions for LAN structure.

ADMINISTRATOR
Office of Information Services

NETWORK TYPE
Hybrid - Data, Compressed Video

HIGHEST CAPACITY
T1

SITES CONNECTED
N/A

CONTACT
Phyllis Pardue
615-741-1837

CONNECTIONS

Universities, community colleges, public schools, libraries, state and local governments, and community-based networks are all connected to TNII. The highest bandwidth available on TNII is T1. Dial-up access is available through SLIP/PPP and terminal emulation. TNII offers compressed video transport used in distance learning.

RATE STRUCTURE

The telecommunications vendor for local transport is BellSouth, while interLATA transport is handled by MCI, Sprint United, Citizen Telecom and various other small carriers. New line charges are currently under negotiation with the providers.

INSTRUCTIONAL PROGRAMMING

Instructional programming is available for K-12, as are higher education courses for credit and non-credit courses, and staff development for both K-12 and higher education. Programming is provided by four-year universities, two-year community colleges, and private organizations. Training on use of the network is provided by state agencies, higher education institution employees and private consultants.

FUNDING

The Office of Information Resources is responsible for all aspects of network management including connections, support, lines, equipment and maintenance.

STAFFING

TNII is staffed by 10 full-time employees who devote 90 percent of their time to network management. In addition, seven part-time employees utilizing 50 percent of their time assist in network management. The state is outsourcing work related to TNII but is not leasing equipment used in the network.

NETWORK DESCRIPTION

UT Ednet is a data and compressed video network that is administered by the University of Tennessee. The network is designed to foster communication among the UT campuses across the state. The WAN strategy is currently being recreated to incorporate a proposed new network, due for completion in 1997. The new network's name is the Tennessee Network Information Infrastructure. The University of Tennessee has a LAN strategy for its campuses and institutes that is coordinated by the university.

ADMINISTRATOR
University of Tennessee

NETWORK TYPE
Hybrid - Data, Video

HIGHEST CAPACITY
T1

SITES CONNECTED
20

CONTACT
Ed Mahon
423-974-3211

CONNECTIONS

UT Ednet connects the university's campuses, as well as community colleges, libraries, and 10 public schools. Currently, the highest bandwidth available is T1. Dial-up access is available through either SLIP/PPP or terminal emulation. Compressed video transport is available through T1 or ISDN.

RATE STRUCTURE

The vendor for local transport is BellSouth, while MCI is the carrier for interLATA transport. Separate rates are set for transport to each local entity. New rates are under negotiation as a part of the TNII.

INSTRUCTIONAL PROGRAMMING

Higher education courses for both credit and non-credit are available on UT Ednet. In addition, staff development for higher education employees is available. The instructional programs are provided by four-year universities and two-year community colleges. Training on use of the network is provided by higher education institution employees.

FUNDING

UT Ednet is funded through the University of Tennessee's annual budget. A one-time capital outlay of $100,000 was used to purchase hardware. Annually, $335,000 is allocated to support line charges for network usage. The University of Tennessee's Networking Group is responsible for all aspects of network management including connections, support, lines, equipment and maintenance.

STAFFING

UT Ednet is staffed by five full-time employees who spend 100 percent of their time on network management, and two full-time employees who spend 50 percent of their time working on UT Ednet. The University of Tennessee is not outsourcing work related to the Ednet, and it does not lease any equipment used in Ednet.

NETWORK DESCRIPTION

TechNet is a data network managed by the Tennessee Board of Regents. The WAN strategy involves universities, community colleges, vocational schools, public schools and state agencies.

ADMINISTRATOR
Tennessee Board of Regents

NETWORK TYPE
Data

HIGHEST CAPACITY
T1

SITES CONNECTED
45

CONTACT
Jim Winters
615-366-3365

CONNECTIONS

TechNet has 45 dedicated sites in Tennessee, including eight K-12 school-district nodes. The highest bandwidth available on TechNet is T1. Dial-up access is available through SLIP/PPP and terminal emulation.

RATE STRUCTURE

The vendor for local transport is BellSouth. The vendor for interLATA transport is MCI. The TBR serves as a clearinghouse for operating expenses incurred on TechNet. Fixed costs for network operation are charged back to the local entities on a pro-rata basis based on institution size. For example, large higher education institutions are charged $20,000 per year, while smaller public schools are charged $4,000 per year. Local and interLATA charges vary based on distance and are passed through to the local entity involved. Rates are currently under negotiation with vendors.

INSTRUCTIONAL PROGRAMMING

K-12 instructional programs, as well as higher education for both credit and non-credit are offered on TechNet. Staff development for K-12 schools and higher education institutions is also available on the network. Instructional programming is provided by four-year universities and two-year community colleges. Training on use of the network is provided by higher education institution employees.

FUNDING

TechNet is not allocated any annual funding from the state. Funding is provided through network-usage fees charged to the local entities connected to the network. Line charges are charged back to the individual institutions based on their usage. The TBR is responsible for aspects of network management including connections, support, lines, equipment and maintenance.

STAFFING

TechNet is staffed by three full-time employees who devote 100 percent of their time to network management. In addition, six part-time volunteers at various higher education institutions spend approximately 5 percent of their time on network management.

NETWORK DESCRIPTION

The purpose of the Texas Education Network is to advance and promote education in Texas. TENET is intended to assist in the collaboration and exchange of information between and among schools, district offices, education service centers, the Texas Education Agency, and universities. The WAN strategy for TENET has been established by TEA, the Department of Information Resources, and the University of Texas at Austin.

ADMINISTRATOR
Texas Education Agency, University of Texas

NETWORK TYPE
Data

HIGHEST CAPACITY
DS3

SITES CONNECTED
150

CONTACT
Robert Young
512-463-9400
Anita Givens
512-463-9401

CONNECTIONS

Universities, community colleges, public schools, libraries and regional education centers are connected to TENET. More than 100 K-12 schools have direct access to TENET. The highest bandwidth available on TENET is DS3. Dial-up access to the network is available through terminal emulation.

RATE STRUCTURE

Phone line charges for TENET are handled by the Texas General Services Commission, which negotiates with local and interLATA vendors. Public schools are eligible for a 25% discount on distance-sensitive rates for lines used for distance learning. Due to recent legislation, Southwestern Bell Telephone provides T1 lines to K-12 schools, higher education, non-profit hospitals and libraries for $260 per month per connection. Other providers offer discount rates on a case-by-case basis.

INSTRUCTIONAL PROGRAMMING

Instructional programming and staff development for K-12 is offered on TENET. State agencies, four-year colleges/universities and regional education centers provide the instructional programming. Training on use of the network is provided by state agencies, district employees, regional service centers and higher education institution employees.

FUNDING

Funding for TENET is provided through annual direct state funds as follows: $565,000 for hardware, $90,000 for software, $ 800,000 for line charges and $75,000 for LATA/interLATA. The Texas Education Agency, through a contract with UT-Austin, is responsible for connections, support, lines, equipment and maintenance.

STAFFING

TENET has ten full-time employees who devote 100 percent of their time to network management. In addition, TENET has seven part-time employees who spend 50 percent of their time managing the network. The state is currently outsourcing network management but does not lease equipment used in the network.

NETWORK DESCRIPTION

The Texas Education Telecommunication Network is a data and compressed video network that is administered by the Texas Education Agency. Planning and development of the network is a collaborative effort between the Texas Education Agency and regional Education Service Centers. The WAN strategy for TETN is implemented by the Texas Education Agency, ESC's, and the Texas Department of Information Resources. LAN strategy is not a part of TETN.

ADMINISTRATOR
Texas Education Agency

NETWORK TYPE
Hybrid - Data and Video

HIGHEST CAPACITY
T1

SITES CONNECTED
20

CONTACT
Robert Young
512-463-9400
Anita Givens
512-463-9401

CONNECTIONS

TETN connects the Texas Education Agency to 20 regional Education Service Centers throughout the state of Texas. Currently, the highest bandwidth available on the network is T1. Compressed video is used extensively on TETN for videoconferencing.

RATE STRUCTURE

Southwestern Bell is the vendor for local and intraLATA transport on the network. TETN uses a distance-sensitive fee structure for connection to the network. Fees are in the process of being revised. At present, the combined monthly line charges for the whole network total $27,780, but will be reduced to $19,290 per month in the near future. These figures include a 3.7 percent overhead fee for administration of the network.

INSTRUCTIONAL PROGRAMMING

Staff development for K-12 teachers is offered through the videoconference aspect of TETN. The TEA develops the programming and works with teachers at the Education Service Centers. Training on use of the network is offered by the TEA and also at each of the 20 ESC's.

FUNDING

TETN was initially funded with a $2 million dollar special allocation from the state. TETN is supported by $30,000 per site of annual operating budget funding to cover line charges.

STAFFING

TETN has three full-time employee who devotes 85 percent of his time to network management. Each ESC site has a TETN manager who devotes a varying percentage of time to network operation. The state is outsourcing some of the network management but does not lease any equipment used in the network.

NETWORK DESCRIPTION

T-STAR is a Texas Education Agency program designed to expand the telecommunications capabilities of all units of the K-12 school system statewide. T-STAR is a network of Television Receive Only satellite systems. It consists of steerable satellite dishes, receivers, descramblers, VCR's, television monitors, and other equipment that allows the user to receive programming broadcasted via satellite.

ADMINISTRATOR
Texas Education Agency

NETWORK TYPE
Satellite

HIGHEST CAPACITY
N/A

SITES CONNECTED
1,000 +

CONTACT
Robert Young
512-463-9400

CONNECTIONS

Each of the state's 20 regional education centers and hundreds of school districts are utilizing a T-STAR TVRO satellite system to access programming broadcasted by TEA and numerous other distance-learning providers across the country.

RATE STRUCTURE

TEA must pay for programming uplink and satellite-transponder time. Currently, Southwest MicroNet, the transport vendor, charges $850 per hour for satellite broadcast. Local receiving dishes (TVRO) are not charged for downlink programming.

INSTRUCTIONAL PROGRAMMING

K-12 instructional programs from distance-learning providers, K-12 staff development and TEA updates are provided on T-STAR. Instructional programming is provided by state agencies, private businesses, four-year universities and the regional Education Service Centers. Training on use of the network is provided by TEA, regional Education Service Centers and private consultants.

FUNDING

A goal of the T-STAR program is to place one TVRO system in each school district and regional education service center through a grant process funded by the TEA. Each eligible school district that applies through this process receives funding for the system installation of a T-STAR TVRO system. The state of Texas provides $2,225,000 annually from the state-directed Telecommunication Infrastructure Fund for the operation of T-STAR including equipment and software. A breakdown of allocations for T-STAR for fiscal year 1996 is as follows:

TVRO equipment grants to schools	$616,000
Engineering, consulting, and support	$125,000
TEA studios	$289,000
Uplink service	$175,000
Programming affiliates project	$400,000
T-STAR Information and Training Center	$350,000
Projects for Educational Technology Demo sites	$250,000
Membership fees	$ 45,000

STAFFING

T-STAR is staffed by four full-time employees devoting 100 percent of their time and four part-time employees who devote 75 percent of their time to the network. The state does outsource work related to T-STAR but does not lease any equipment used in the satellite network.

HIGHER EDUCATION

Although there are more than 40 telecommunications networks addressing the needs of Texas public higher education. No one network is completely statewide or under state authority, two criteria necessary for inclusion in this survey. A broad range of networks exists using a variety of media for various purposes. Texas activities in this arena are rapidly evolving, although at this point it seems unlikely that any state-controlled higher education network will result from this process.

NETWORK DESCRIPTION

Virginia's Public Education Network is a data network providing information, data-collection capability, educational resources and free Internet access to all K-12 educators and administrators in Virginia. The network is administered by Virginia Department of Education. The WAN strategy for Virginia's PEN includes the Virginia Department of Education, VERnet and the Department of Information Technology.

ADMINISTRATOR
Virginia Department of Education

NETWORK TYPE
Data

HIGHEST CAPACITY
T1

SITES CONNECTED
2,000

CONTACT
Joe Aulino
804-225-2099

CONNECTIONS

Virginia's PEN provides connectivity to its clients through local and "800" telephone numbers. Connectivity to the Internet is through T1 access to VERnet. SLIP and terminal-emulation access are available through dial-up sessions. In addition, Virginia's PEN may be accessed through the World Wide Web at http://www.pen.k12.va.us/go/-VDOE.

RATE STRUCTURE

Virginia's PEN is provided free of charge to all eligible users.

INSTRUCTIONAL PROGRAMMING

K-12 instructional programing and staff development for K-12 staff are the main instructional offerings of the Virginia Public Education Network. Volunteers from schools, museums and higher education are the main providers of programming on the network. Training on use of the network is offered through the Department of Education, professional organizations, and local volunteers.

FUNDING

Funding for Virginia's PEN is allocated as a part of the Department of Education's annual operating budget. For FY 1995-1996, total funding (operational costs and capital improvements) for the system is approximately $900,000.

STAFFING

Virginia's PEN is currently staffed by one full-time Department of Education employee. Additional technical and educational support are provided by the University of Virginia. The state of Virginia owns all of the equipment used in the network.

NETWORK DESCRIPTION

The Virginia Satellite Educational Network is administered by the Virginia Department of Education to foster equity in education through distance learning. Advance placement, foreign language, and teacher training courses are delivered daily via satellite from electronic television-production classrooms located in schools throughout the state.

ADMINISTRATOR
Virginia Department of Education

NETWORK TYPE
Satellite

HIGHEST CAPACITY
N/A

SITES CONNECTED
400

CONTACT
Greg Weisiger
804-692-0335

CONNECTIONS

More than 400 public schools are connected, and thousands nationwide are capable of receiving instructional programming. In 1995-1996, 111 schools in Virginia utilized credit courses.

RATE STRUCTURE

VSEN paid $200 per hour for transponder time and an average of $175 per hour for transmission time in 1995.

INSTRUCTIONAL PROGRAMMING

VSEN offers K-12 instructional programming, as well as staff development for K-12 employees. Instructional programming is provided live from staff-development electronic classrooms located in five public schools. In-service and staff development originate in the electronic classrooms or universities capable of originating televised courses. Training on the use of the network is offered by the Virginia Department of Education and by regional Education Service Centers.

FUNDING

Operational and capital-improvement expenses for VSEN student courses, staff development, transmissions, and support for fiscal year 1995 was approximately $2.4 million.

STAFFING

VSEN is staffed by two Department of Education employees and 23 electronic classroom full-time employees who spend 100 percent of their time on program and network management. In addition, four part-time employees spend 25 percent of their time working on VSEN. Work related to VSEN is being outsourced, but the state does not lease any equipment used in the network.

NETWORK DESCRIPTION

VERnet is a volunteer organization established to develop and manage a data network for the educational community in Virginia. VERnet has over 70 members including higher education, K-12, libraries and some research-based private organizations. The University of Virginia manages VERnet operations on a voluntary basis. The WAN strategy is planned by the University of Virginia and the Virginia Department of Information Technology. LAN strategy is directed through policies and standards established by the Virginia Council on Information Management.

ADMINISTRATOR
University of Virginia

NETWORK TYPE
Data

HIGHEST CAPACITY
T1

SITES CONNECTED
43

CONTACT
Franklin Robeson
804-221-1770

CONNECTIONS

Thirty-six institutions of higher learning are connected to VERnet. In addition, seven public schools have direct connections, while all public schools have a SLIP/PPP dial-up connection through the Internet.

RATE STRUCTURE

MCI is the vendor for interLATA transport on VERnet. Local transport is provided by the local operating telephone companies in Virginia. VERnet offers flat- and distance-sensitive rates (where user pays local-loop charges). Annual line charges are as follows:

	T1	56 Kbps
Higher Education Institutions - (flat rate)	$ 20,000	$ 5,500
Higher Education Institutions - (variable)	$ 10,000	$ 5,000
Public Schools - (flat rate)	$ 20,000	$ 5,000
Public Schools - (variable)	$ 10,000	$ 5,000

INSTRUCTIONAL PROGRAMMING

Instructional programming available on VERnet includes instruction programs for K-12 and higher education courses for both credit and non-credit. Staff development for K-12 employees and higher education employees is also available. Programs are provided by four-year universities, two-year higher education institutions and district offices. Training on use of VERnet is provided by state agencies and higher education institutions.

FUNDING

VERnet is totally supported through connection fees charged to local entities.

STAFFING

VERnet is staffed by 15 employees who spend 5 to 15 percent of their time on network support. While work related to VERnet is being outsourced, the state is not leasing any equipment used in the network.

NETWORK DESCRIPTION

CTN is a statewide data and video network administered by the Virginia Department of Information Technology, which provides telecommunications services to all state agencies including public education institutions. WAN strategy was developed jointly by the DIT and the Virginia Council of Information Management, which is also responsible for LAN strategy.

ADMINISTRATOR
Department of Information Technology

NETWORK TYPE
Hybrid - Data, Video, Satellite

HIGHEST CAPACITY
DS3

SITES CONNECTED
208

CONTACT
Thomas Kusiak
804-371-5918

CONNECTIONS

CTN connects 152 public schools, 56 institutions of higher education, public libraries and state agencies in Virginia. The highest bandwidth available on CTN is DS3. Dial-up access is available through SLIP/PPP and terminal emulation. Compressed video transport is also possible over CTN.

RATE STRUCTURE

MCI is the vendor for InterLATA transport on CTN. Local transfer is handled by the local telephone company at each site. The flat-rate line charge for T1 frame-relay local access is $431 per month. The line charge for 56 Kbps is $535 including router service. Monthly Internet port charges are $1,961 for T1, and $726 for 56 Kbps. The distance-sensitive rate for T1 transfer is $10 per mile for InterLATA transfer, and $45.12 per mile for local access. DS3 rates are $100 per mile for InterLATA transport.

INSTRUCTIONAL PROGRAMMING

Higher education courses for both credit and non-credit courses are available on CTN. In addition, staff development for higher education is offered on the network. Programs are provided by four-year universities and two-year community colleges. Training on use of CTN is provided by state agencies, higher education institution employees and private consultants.

FUNDING

Funding for CTN is a part of the overall operating budget for the state of Virginia. Since CTN is a backbone for all telecommunications needs of the state, it is not possible to breakdown which funding is used specifically for the education connections of the network. Monthly network-access fees charged by DIT cover the operating expenses of the network.

STAFFING

The Department of Information Technology has 105 full-time employees who spend 60 percent of their time managing CTN. Data regarding the percentage of network management time spent on educational institutions was unavailable. Virginia is currently outsourcing work related to CTN and is leasing equipment used in the network.

NETWORK DESCRIPTION

The Higher Education Electronic Classroom is a satellite-based network used for distance learning in higher education institutions in Virginia. The network is used primarily for graduate engineering courses and baccalaureate courses at community colleges.

CONNECTIONS

HEEC connects universities, community colleges, private educational institutions and corporate sites to foster collaborative learning. Recently, the network was converted from analog to digital with the highest capacity at 3.3 megahertz. A private contractor, Comsat RSI, is now managing the network.

ADMINISTRATOR
Department of Information Technology

NETWORK TYPE
Hybrid - Satellite, Microwave, Data

HIGHEST CAPACITY
KU-band digital 3.3 MHz

SITES CONNECTED
51

CONTACT
Dorothy Boland
804-371-5555

INSTRUCTIONAL PROGRAMMING

Higher education courses for credit and non-credit are offered on HEEC. Staff development for K-12 and higher education are also available on the network. Instructional programs are provided by four-year universities in Virginia. Training on use of the HEEC is provided by the Department of Information Technology and Virginia universities.

FUNDING

Funding for HEEC is provided by pro-rata fees charged to the higher-education entities that use the network. Local entities are charged for both capital and operating expenses.

RATE STRUCTURE

Bell Atlantic is the primary vendor for local transport. Comsat RSI provides transponder time as needed for satellite uplink, which costs approximately $200 per hour. Rates for transmission on HEEC vary greatly based on which local or IntraLATA areas must be crossed to complete a transfer.

STAFFING

Comsat RSI has been contracted by the state to manage HEEC. In order to convert to digital transmission between budget years, DIT decided to lease the network equipment and transponder.

NETWORK DESCRIPTION

The West Virginia Electronic Tandem Network is a multimedia network administered by the West Virginia Department of Administration. WVETN is the integrated backbone that all education networks utilize for interconnection throughout the state. All state agencies, higher education institutions and K-12 public school systems are included in WVETN's WAN strategy.

ADMINISTRATOR
Department of Administration - IS&C

NETWORK TYPE
Multimedia

HIGHEST CAPACITY
DS3

SITES CONNECTED
5,500

CONTACT
Matthew Brown
304-558-5983

CONNECTIONS

WVETN connects 750 public schools and 26 institutions of higher learning, as well as libraries, state agencies, public safety installation and lottery retailers. The highest bandwidth available on WVETN is DS3. Dial-up access is available through SLIP/PPP, terminal emulation, and BRI-ISDN connection for compressed video.

RATE STRUCTURE

The primary vendor for transport on WVETN is BellAtlantic and AT&T. The Department of Administration charges local entities for connection to WVETN. Monthly flat-rate line charges are $22,000 for a DS3 connection, $980 for a T1 connection, $402 for 56 Kbps, $139 for 19.2 Kbps. Frame-relay pricing is also available at $430 for a T1 connection and $159 for 56 Kbps.

INSTRUCTIONAL PROGRAMMING

Both K-12 instructional programs and higher education courses for credit are available on WVETN. In addition, staff development for K-12 and higher education staffs is offered. Instructional programming is provided by state agencies, four-year universities, and two-year community colleges. Training on use of WVETN is provided by state agencies, private consultants and equipment vendors.

FUNDING

The operating expenses of WVETN are funded by the network connection fee charged to local entities. WVETN charges users for network connection, line charges and LATA/InterLATA service. The Department of Administration is responsible for connections, support and lines. Schools or agencies are responsible for equipment and maintenance.

STAFFING

WVETN is staffed by two full-time employees who spend 50 percent of their time on network management. Work related to WVETN is being outsourced, and the state is also leasing equipment used in the network.

NETWORK DESCRIPTION

The West Virginia Network for Educational Telecomputing is a data network supporting administrative, educational and research projects within higher education and also serves as a connection to the Internet. WVNET uses WVETN, West Virginia's statewide T-1 digital backbone operated by the Department of Administration. Higher education, K-12, public libraries and state agencies are included in WVNET's WAN strategy.

ADMINISTRATOR
WVNET through WV Department of Education and the Arts

NETWORK TYPE
Data

HIGHEST CAPACITY
T1

SITES CONNECTED
163

CONTACT
Henry Blosser
304-293-5192

CONNECTIONS

WVNET connects 143 K-12 schools and 20 higher education institutions through T1 lines. Dial-up access is available through SLIP/PPP and terminal emulation. In addition, WVNET is experimenting with ISDN connection. Compressed video and full-motion video transport are possible over WVNET.

RATE STRUCTURE

Bell Atlantic is the vendor for local transport, while AT&T and MCI handle the InterLATA transport. Monthly flat-rate line charges for T1 access are $476 for state agencies or higher education institutions, and $460 for public schools. Monthly flat rates for 56 Kbps are $160 for all educational entities.

INSTRUCTIONAL PROGRAMMING

Instructional programming includes K-12 instructional programs and credit and non-credit higher education courses . Staff development for K-12 is also available on WVNET. Programming is provided by four-year universities. Training on use of the network is provided by state agencies and higher education institution employees.

FUNDING

WVNET is funded through a $750,000 annual allocation from the West Virginia annual operating budget and through user fees for network connection and LATA/interLATA service totalling $250,000 annually.

STAFFING

Five full-time staff are spend 100 percent of their time on WVNET management. In addition, two full-time employees spend approximately 30 percent of their time assisting on WVNET. West Virginia is not outsourcing work related to WVNET. Currently, no equipment being used in the network is being leased.

NETWORK DESCRIPTION

The West Virginia Education Information System is a data network created in 1990 that connects public schools, district offices and universities. The WVEIS WAN strategy includes the West Virginia Department of Education, the West Virginia Network for Education Telecomputing and the West Virginia Department of Information Systems and Communications. LAN strategy is coordinated at the district and school level.

ADMINISTRATOR
West Virginia Department of Education

NETWORK TYPE
Data

HIGHEST CAPACITY
T1

SITES CONNECTED
800

CONTACT
Brenda Williams
304-558-7880

CONNECTIONS

WVEIS connects universities, public schools, district offices and the Regional Education Service Agency, as well as other institutions and agencies through its WVNET/World School Internet connection. WVEIS has connected 800 of 890 public schools in West Virginia. Of the 800 schools connected, 187 are also connected to World School Internet, a Bell Atlantic West Virginia grant program designed to encourage the creativity integration of telecommunication technology and collaboration into the classroom. The highest capacity available on WVEIS is T1. Dial-up access is available through SLIP/PPP and terminal emulation.

RATE STRUCTURE

The vendor for local transport on WVEIS is Bell Atlantic, while the vendor for InterLATA transport is AT&T. Monthly flat-rate charges are $390 for T1 access and $120 for 56 Kbps access.

INSTRUCTIONAL PROGRAMMING

Administrative and K-12 instructional programs are available on WVEIS. Programming is provided by state agencies and district offices. Training on use of the network is offered by state agencies, regional service centers, private consultants and network-equipment vendors.

FUNDING

Funding for WVEIS comes from the West Virginia annual operating budget. Hardware and software allocations total $1.5 million, and $13,000 is budgeted for line charges. An additional $1.2 million is earmarked for Internet-access charges. Local entities pay for their own LATA/InterLATA service.

STAFFING

WVEIS is staffed by six full-time employees who spend 100 percent of their time on network management. In addition, 1.5 employees are dedicated to managing the Internet portion of the network. West Virginia outsources work related to the network but does not lease any equipment used in WVEIS.

NETWORK DESCRIPTION

The West Virginia Microcomputer Educational Network was established in 1982 as a bulletin board service for educational and community use. The network is used by more than 800 members especially in rural areas where the West Virginia Educational Information System is not available.

ADMINISTRATOR
West Virginia Department of Education

NETWORK TYPE
Data - Bulliten Board

HIGHEST CAPACITY
N/A

SITES CONNECTED
Dail-up

CONTACT
Brenda Williams
304-558-7880

CONNECTIONS

WVMEN connection is available through SLIP/PPP or terminal emulation dial-up to a toll-free access number. More than 800 network members have an active dial-up account on WVMEN including education institutions, state agencies and the community-at-large.

RATE STRUCTURE

BellSouth is the vendor for local transport on WVMEN. InterLATA transport is contracted with AT&T at a rate charge of 11 cents per minute for access to the bulletin board system.

INSTRUCTIONAL PROGRAMMING

K-12 instructional programming, E-mail, conferencing and bulletins are possible on WVEIS. State agencies and district offices provide the instructional programming. Training on use of WVEIS is available from state agencies, district employees and regional service centers.

FUNDING

West Virginia allocates $150,000 annually from the state operating budget to cover expenses related to WVMEN including hardware, software, line charges, and LATA/InterLATA service. The West Virginia Department of Education is responsible for all aspects of network management including connections, support, lines, equipment and maintenance.

STAFFING

Two full-time employees devote 20 percent of their time to WVMEN management. In addition, one part-time employee devotes 25 percent of his time to network management. West Virginia outsources work related to the network but does not lease any equipment used in the network.

NETWORK DESCRIPTION

West Virginia's teleconferencing network is a online two-way live audio and video interactive conference network. It links eight West Virginia sites and two mobile sites. The primary purpose of the network is to furnish the technical means to conduct information sharing sessions for people who have a need to communicate with others throughout the state.

ADMINISTRATOR
West Virginia Department of Education

NETWORK TYPE
Satellite - Compressed Video

HIGHEST CAPACITY
N/A

SITES CONNECTED
10

CONTACT
Brenda Williams
304-558-7880

CONNECTIONS

There are eight permanent sites and two mobile sites for connection to WVTN. WVTN connects public schools and any other parties who wish to conduct a satellite conference.

RATE STRUCTURE

Network air time is $200 per hour. An additional $30 per hour is charged for each location connected. Satellite-time brokers vary based on availability.

INSTRUCTIONAL PROGRAMMING

K-12 instructional programs and staff development are offered on the network. In addition, teleconferencing is a key element of WVTN. Programming is provided by state agencies and district offices. Training on use of the network is provided by state agencies, district employees, regional service centers and private consultants.

FUNDING

Funding for operating expenses is provided through the network hourly-usage fees. The West Virginia Department of Education is responsible for all aspects of network management.

STAFFING

The network is staffed by one full-time employee who devotes 40 percent of his time to network management. West Virginia is not outsourcing work related to WVTN and is not leasing any equipment used in the network.

APPENDIX

The following agencies contributed to this report by participating in the survey:

ALABAMA

Alabama Department of Education
Alabama Commission on Higher Education
Alabama Supercomputer Authority
University of Alabama System

ARKANSAS

Arkansas Department of Education
Arkansas Commission of Higher Education

FLORIDA

Florida Department of Education
State University System of Florida

GEORGIA

Georgia Department of Education
Georgia Board of Regents
Georgia Department of Administrative Services Telecommunications Division
Georgia Public Television

KENTUCKY

Kentucky Department of Education
Kentucky Council on Higher Education

LOUISIANA

Louisiana Educational Television Authority
Louisiana Office of Telecommunications

MARYLAND

Maryland Department of Education
Maryland Higher Education Commission
University of Maryland System

MISSISSIPPI

Mississippi Department of Education
Mississippi Educational Television
Mississippi Board of Trustees of State Institutions of Higher Learning

NORTH CAROLINA

Department of Public Instruction
Department of Community Colleges
North Carolina University System

OKLAHOMA

Oklahoma Department of Education
Oklahoma State Regents for Higher Education Agencies

SOUTH CAROLINA

South Carolina Department of Education
South Carolina Educational Television Network
South Carolina Office of Information Technology

TENNESSEE

Tennessee Department of Education
Tennessee Board of Regents
University of Tennessee

VIRGINIA

Virginia Department of Education
Virginia Department of Information Technology
University of Virginia System

WEST VIRGINIA

West Virginia Department of Administration - IS&C
West Virginia Department of Education

ATM—Asynchronous Transfer Mode

BBS—Bulletin Board Service

BRI—Basic Rate Interface

DCT—Digital Carrier Termination

DS3—Digital Service Level-3

IFTS—IT Fixed Service

ISDN—Integrated Sevices Digital Network

Kbps—Killobits per second

LAN—Local Area Network

LATA—Local Access and Transport Area

OC3—Optical Carrier Level-3

PPP —Point-to-Point Protocol

SLIP—Serial Line Interface Protocol

T1—1,544 Kbps digital transmission line

TCP/IP—Transmission Control Protocol/ Internet Protocol

TVRO—Television Receive Only

WAN—Wide Area Network

WWW—World Wide Web

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement (OERI)
Educational Resources Information Center (ERIC)

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