

**LEGAL NOTICE**

**ADVERTISEMENT FOR REQUESTS FOR PROPOSALS**

Board of Education, School District No. 108, Tazewell County, 501 Washington Street, Pekin, Illinois 61554.

The Board of Education, School District No. 108, Tazewell County, Pekin, Illinois as fiscal and administrative agent for the Central Illinois Valley Intranet Consortium, or *civicNET*, will receive requests for proposals for the procurement of internal connection hardware and associated installation services necessary to deploy new and upgrade existing LAN's to ATM technology to support the voice, video, and data requirements of the *civicNET* Member schools, until 10:30 p.m., on the 23rd day of March, 1998, at the Office of the Director of Finance and Operations, Administration Center, Pekin Public School District #108, 501 Washington Street, Pekin, Illinois, at which place and time the Requests for Proposals shall be publicly opened and read.

Specifications and instructions to qualified vendors may be examined at the office of the Director of Finance/Operations, Administration Center, Pekin Public School District #108, 501 Washington Street, Pekin, Illinois, between the hours of 9:00 a.m. and 4:00 p.m., Monday through Friday.

The Board of Education of School District No. 108 reserves the right to enter into a contract with a vendor who best meets the needs of the *civicNET* members, all being consistent with the Telecommunications Act of 1996 and the Illinois School Code pertaining to the procurement of computer equipment and telecommunication services.

Board of Education  
School District No. 108  
Tazewell County, Pekin, Illinois

by: \_\_\_\_\_  
Debbie Phillips, Secretary

**BOARD OF EDUCATION  
ELEMENTARY SCHOOL DISTRICT NO. 108  
PEKIN, ILLINOIS 61554**

**AS FISCAL AND ADMINISTRATIVE AGENT  
FOR THE  
CENTRAL ILLINOIS VALLEY INTRANET CONSORTIUM (civicNET)**

**REQUEST FOR PROPOSALS  
LOCAL-AREA NETWORK HARDWARE DEPLOYMENT/UPGRADE TO  
ASYNCHRONOUS TRANSFER MODE TECHNOLOGIES**

**February 1998**

## **INSTRUCTIONS TO BIDDERS**

### **GENERAL INSTRUCTIONS**

1. Requests for Proposals shall be submitted in a SEALED ENVELOPE properly marked with the title of the bid, date, and time opening as follows:

### **REQUEST FOR PROPOSALS**

#### **LOCAL-AREA NETWORK HARDWARE DEPLOYMENT/UPGRADE TO ASYNCHRONOUS TRANSFER MODE TECHNOLOGIES**

March 23, 1998  
10:30 A.M.

2. Requests for Proposals shall be returned to the Office of the Director of Finance, Pekin Public School District #108, 501 Washington Street, Pekin, Illinois 61554, and will be accepted up until the time of the opening: March 23, 1998, 10:30 a.m.
3. Requests for Proposals shall be opened at a public proposal opening to be held in the Office of the Director of Finance, Pekin Public School District #108, 501 Washington Street, Pekin, Illinois 61554, on Monday, March 23, 1998 at 10:30 a.m.
4. ALL PROPOSALS SHALL BE MADE ON THE FORMS PROVIDED.
5. UNSIGNED OR LATE PROPOSALS SHALL NOT BE CONSIDERED.
6. Price shall include all charges specified, plus those other charges not specified but requested as "other", and then, only those necessary to bring the system into operation.
7. ALL CORRESPONDENCE SHALL BE ADDRESSED TO THE DIRECTOR OF FINANCE and OPERATIONS.
8. *A MANDATORY PRE-PROPOSAL CONFERENCE SHALL BE HELD ON THURSDAY, MARCH 5, 1998 AT 10:30 A.M. IN THE BOARD CONFERENCE ROOM, PEKIN PUBLIC SCHOOL DISTRICT #108, 501 WASHINGTON STREET, PEKIN, ILLINOIS.*
9. Proposals will be available for inspection in the District Office during regular business hours after award of a contract.

## **BACKGROUND / CONTEXT**

civicNET is a consortium of 16 eligible K-12 school districts and one ineligible community college district located in central Illinois along the east bank of the Illinois River in Tazewell County. (One member district is divided into both Tazewell and Mason Counties.) The fiscal and administrative agent for the Central Illinois Valley Intranet Consortium is the Pekin Public School District #108, Tazewell County, Pekin, Illinois.

civicNET has as one of its purposes the pooling of fiscal, human, and property resources of its Member districts to bring access to and the sharing of state-of-the-art technologies in the classrooms of Tazewell County.

civicNET solicits RFP's from qualified providers for internal connections under the provisions of the federal Telecommunications Act of 1996, the Illinois School Code, and rules and regulations promulgated for accessing Universal Service Funding by schools and libraries as established by the Federal Communications Commission and its administrative agents including the National Exchange Carriers Association, the Universal Service Administrative Corporation, and the School and Libraries Corporation.

## **SCOPE of PROJECT**

civicNET seeks herein to scale-up Member district Local-area Networks to Asynchronous Transfer Mode (ATM) technologies to support the voice, video, and data requirements of its Members and to ensure interoperability of Member districts across a separately procured Wide-area Network.

In this RFP, civicNET seeks a provider of networking hardware to achieve the following goals:

1. To light-up newly deployed and/or scale-up existing Local-area Network (LAN) hardware to enable the integration of voice, video, and data transmissions across a single pair of copper/optical fiber pairs to support voice grade telephony, MPEG-2 quality video, and graphic-intense data to the students desktop;
2. To protect the investment in certain Ethernet and Token-ring LAN/Labs and expand their usefulness and reach by integrating the same into and across an ATM LAN backbone within each school; and,
3. To provide for an interconnection to an ATM Wide-area Network (WAN) for the primary purposes of sharing access to the Internet and LAN administration/management.

## **PROCUREMENT and FINANCING**

The civicNET consortium qualifies for a 50% Universal Service Fund discount on eligible items. Eligible items include those components or parts thereof specific to the interconnection of the LAN. Ineligible items are those components or parts thereof specific to the interconnection of the WAN. The civicNET administrator has obtained a “private letter ruling” from the SLC Service Bureau in support of this segregation and the funding thereof. In addition, several CODEC devices are also sought as ineligible expense items. It shall be the responsibility of the Provider to segregate LAN costs from WAN costs and CODEC costs in the preparation of their RFP response as it pertains to eligible and ineligible items for discount.

Consortium members have entered in to an Intergovernmental Agreement under the provisions of the School Code of Illinois and have contractually agreed to fund the Members portion of the cost of procuring the desired hardware. One member is the ineligible Illinois Central Community College. It shall be the responsibility of the Provider to segregate hardware and installation costs for the ineligible community college in the preparation of their RFP response as it pertains to eligible and ineligible items for discount.

Responding Providers acknowledge and agree that a portion of their funding shall be remitted from the Universal Service Fund administered by the Schools and Libraries Corporation (SCL) and the Universal Service Administration Corporation (USAC) upon proper application by the Provider and FCC Form 486 submission and certification by civicNET.

## **ERRORS AND OMISSIONS**

All proposals shall be submitted with each space properly completed. The special attention of providers is directed to the policy that no claim for relief because of errors or omissions in the proposal will be considered, and bidders will be held strictly to the proposals as submitted. Should a bidder find any discrepancies in, or omissions from, any of the documents or be in doubt as to their meaning, the provider shall advise the Director of Finance and Operations who will issue the necessary clarifications to all prospective providers by means of an addenda.

## **FIRM PROPOSAL**

All proposals will be considered to be firm for a period of seventy-five (75) days from the date established for the posting of the request on the Schools & Libraries Corporation’s WEB site.

## **WITHDRAWAL of PROPOSALS**

Proposals may be withdrawn by letter, telegram, facsimile, or in person prior to the date and time established for the opening of the same.

## **INVESTIGATION of SERVICE PROVIDERS**

civicNET will make such investigation as is necessary to determine the ability of the provider to fulfill a contract and provide the services desired. The respondents shall furnish such information as may be requested by the Director of Finance and Operations, or his designated agent, and shall be prepared to show, among other things, successful configurations of the items requested in the environment described, financial strength to fulfill a contract, and other such information that may aid civicNET in the award of a contract.

## **PRE-QUALIFICATION**

All respondents to this Request for Proposals shall submit authoritative evidence of their ability to perform the services proposed and fulfill a contract.

## **SCHEDULE / PENALTY / SHIP TO ADDRESS**

The successful service provider(s) shall deliver to the fiscal and administrative agent for civicNET the described network components in good working order according to the following schedule:

1. Network Hardware: within 60-days of the date the SLC sets funds aside for the awarded contract.
2. Hardware Services: within 120-days of the date the SLC sets funds aside for the awarded contract.

Failure to meet the timelines specified shall result in a penalty equal to the lesser of (a) \$1,000 per day or (b) a 0.10% per day reduction in the total contract value for each day the provider fails to deliver the procured services from the date said same service became due as provided for above.

## **EVALUATION**

civicNET reserves the right to procure the internal connections it deems best suits its needs consistent with the Telecommunications Act of 1996 and the School Code of Illinois irrespective of the lowest bid.

civicNET reserves the right to reject any and all proposals and to waive any technicalities in the proposal process unless otherwise prohibited by the applicable sections of the Telecommunications Act of 1996 or the School Code of Illinois as they pertain to evaluating proposals and awarding contracts.

In computing costs, the outright purchase price shall be only one variable, *albeit the most significant*. The cost of maintaining/supporting the hardware, compatibility with the existing GC2000 network, and adherence to the specifications and interconnection requirements—shall receive equal or greater consideration when comparing costs. In evaluating the proposals, civicNET may consider the procurement costs, network compatibility, manufacturer trade group

reputation/ratings, maintenance/support costs, financial wherewithal of the provider, adherence to requirements, other considerations in the best interest of civicNET, and/or a combination of the above.

**PUBLIC ACT 85-1295 (720 ILCS 5/33E-3, 33E-4)**

The undersigned provider certifies that it has not been convicted of bribery or attempting to bribe an officer or employee of the State of Illinois, or any unit of government in the State of Illinois, nor has the provider made an admission of guilt of such conduct which is a matter of record, nor has an official, agent, or employee of the provider committed bribery or attempted bribery on behalf of the firm and pursuant to the direction or authorization of a responsible official of the provider. The undersigned provider further certifies that it is not barred from submitting a proposal or entering into a Contract as a result of a conviction of Illinois State Laws prohibiting bid-rigging or bid-rotating.

**CONTRACT**

This bid document shall become part of and be incorporated into any Contract required by the Successful Bidder. The terms and conditions of this Request for Proposal shall take precedence over any and all terms contained in the service provider’s response and/or any contract and shall prevail when one or more items in provider’s response and/or contract conflict with any item contained in civicNET’s RFP, unless otherwise excepted by the provider and clearly accepted by civicNET at the time of the contract award.

**DISPUTE RESOLUTION**

Any disputes arising out of the faithful performance of this proposal award/contract and not otherwise resolved by the parties to this contract may be redressed by the injured party through civil action brought in a Court of Competent Jurisdiction. For the purposes of this RFP, such Court of Competent Jurisdiction shall be the 10th Judicial Court of Tazewell County, Pekin, Illinois for matters involving the School Code of Illinois or the \_\_\_\_\_, Peoria, Illinois for matters involving the Telecommunications Act of 1996.

Any fees incurred by the Pekin Public Schools in defending civicNET or any of its member districts against an action brought by a provider or in the alternate its representative or “Surety” shall be the responsibility of the service provider regardless of ultimate adjudication or settlement.

## **AWARD**

civicNET reserves the right to accept and award a contract(s) for any one or a combination of Proposals, to multiple respondents on different items, and in quantities greater than the minimums (but within the specified ranges.)

civicNET shall award a contract(s) subject to the availability of funding from the Universal Service Fund and all contracts shall reflect the same. If for any reason funds should not be made available from the Universal Service Fund, civicNET may unilaterally withdraw from its contract without penalty.

**SIGNATURE CONSTITUTES ACCEPTANCE & ASSURANCES**

The signing of these proposal forms shall be construed as acceptance and assurance, as the case may be, of all provisions contained therein.

I, \_\_\_\_\_, a duly authorized representative of \_\_\_\_\_, have read the terms and conditions under which this Request for Proposals is submitted. The attached quotation to the best of my knowledge represents \_\_\_\_\_ best offer.

Being duly authorized to make this binding proposal, I affix my signature:

\_\_\_\_\_. Attest: \_\_\_\_\_

Its: \_\_\_\_\_

Mailing Address to which all correspondences should be sent:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Phone Number: ( ) \_\_\_\_\_ Fax Number: ( ) \_\_\_\_\_

## SPECIFICATIONS

Provider attention is directed to Exhibit A of this Request for Proposal for a copy of a civicNET commissioned configuration of hardware necessary to support the integration of existing legacy LANs onto an ATM LAN backbone, to provide ATM LAN service to the desktop, and to interconnect the ATM LAN to an ATM WAN.

The proposed network hardware shall be IEEE ATM-standards based and shall be at least equal to that IBM equipment specified below or other equipment as noted.

### 0.0 GENERAL

- The network backbone shall allow for the integration of voice telephony, broadcast-quality video (MPEG-2), and data across a single pair of copper and/or optical fiber strands.
- The LAN network backbone shall allow for speeds of 25Mbps (to the students desktop) to 155Mbps (between building wiring closets) full duplex.
- The network must protect existing investments in LAN technologies by allowing for the same to efficiently bridge across the network; The LAN network backbone shall allow for the integration of existing Ethernet LAN/Labs.
- The LAN network hardware, by location, shall provide for the necessary ATM WAN interconnections detailed in Exhibit 2: civicNET WAN.
- The network backbone shall interoperate with the existing GC2000 ATM Wide-area Network of the Pekin Public Schools, allowing for the utilization of existing hardware and software management capabilities and the elimination of the need to replace the same. (See Exhibit 3: GC2000.)

### SOFTWARE

#### 1.0

#### 1.1 FEATURES/CAPABILITIES OF THE ATM LAN SWITCH AT ALL LOCATIONS (8285 ATM SWITCH):

Switch characteristics:

- High switching capacity with a single-stage switching fabric at 4.2 Gbps, full-duplex
- Support of all AAL types
- Support of constant bit rate (CBR), variable bit rate (VBR), Unspecified bit rate (UBR) and available bit rate (ABR)
- Use of field-programmable gate arrays (FPGAs) for field upgrades to the latest ATM Forum specifications
- 30-ms latency, stable at any load
- Input and output cell buffers in base model, and all ATM expansion modules for LAN bursty traffic support
- Early packet discard for minimum frame retransmittal during traffic congestion
- Flow-control and back-pressure mechanisms to avoid cell loss

- Enabled for clock distribution
- Up to 2000 bidirectional connections per port interface

#### Control point:

- Concurrent UNI 3.0/3.1 signaling and conversion between 3.0 and 3.1
- ATM Forum Interim Inter Switch Protocol (IISP) and IBM-specific extensions in line with the PNNI framework
- Support for switched virtual circuits, as well as point-to-multipoint connections
- Up to 4000 bidirectional, concurrent connections (expandable through field memory upgrade)
- Soft permanent virtual circuit (PVCs), where PVC values need to be defined at network entry and exit only
- Auto-topology, dynamic routes calculation and parallel paths
- Peer-groups hierarchy for complex and large network configurations
- Link aggregation on any interface for increased reliability and bandwidth between ATM switches
- Permanent virtual path tunneling for switched services over PVCs
- Virtual-path (VP) assignment per QoS, for separation of traffic types on a single physical interface over different VPs with different QoS

#### LAN Emulation:

- ATM Forum LAN Emulation Server/Broadcast and Unknown Server (LES/BUS) included in base model offering
- Intelligent BUS implementation for reduction of multicast frames
- Token-Ring and Ethernet LANE
- Supports LANE Clients over UNI 3.0 and UNI 3.1 concurrently
- Supports the 3 modes of LANE registration: fixed virtual path (VP) value, well-known address and LAN Emulation Client Server (LECS)
- ATM address through interim link management interface (ILMI)
- Up to 128 concurrent LECs
- Includes an LEC protocol stack for in-band management
- Integrated ATM and LAN bridge module, as a feature in the expansion unit

#### ATM network management:

- Includes an SNMP agent with support of ATM Forum MIB, plus IBM-specific enterprise extensions
- SNMP communications over Classical IP or LANE protocols (or from local console port)
- ATM network-monitoring of registered ATM stations
- ATM statistics (link utilization, cell loss rate, unknown cells, number of ongoing or active sessions, session durations and clear causes)
- Reports topology and connection updates for auto-topology display and connection-tracking
- Works with the following graphical applications:
- IBM Nways Campus Manager ATM for AIX

- IBM Nways Campus Manager ATM for HP OpenView
- IBM Nways Campus Manager for Windows
- IBM Nways Campus Manager for Windows/NT

Operations:

- Out-of-band and in-band management
- Easy-to-use, local console interface via an EIA 232 port (or remotely via a modem)
- Telnet, TFTP and PING
- SLIP protocol over the EIA 232 port
- Configuration saved in nonvolatile RAM
- Upload and download of the configuration file
- In-band management via Classical IP or LANE or both
- Supports traces on signaling, or topology services or both and upload of trace files
- Multiple code levels for concurrent maintenance
- Error log with upload of log file IBM 8285 hardware units

## 1.2 FEATURES/CAPABILITIES OF THE ATM LAN SWITCH AT SELECT LOCATIONS (8285 ATM SWITCH):

### 1.2.1 WASHINGTON H.S., BEVERLY MANOR, LINCOLN SCHOOLS (WASHINGTON), ROBEIN, BOLEN, ARMSTRONG, LINCOLN, GLENDALE, WOODROW WILSON, DON SCHUTE SCHOOLS (EAST PEORIA), RANKIN (PEKIN), DELAVAN (DELAVAN), HOMEWOOD HEIGHTS (CREVE COUER), PARKVIEW, ROGERS, MARQUETTE SCHOOLS (N. PEKIN), LETTIE BROWN, JEFFERSON, GRUNDY, MORTON J.H.S., LINCOLN (MORTON), TREMONT (TREMONT), MACKINAW J.H.S. (MACKINAW), TREMONT ELEMENTARY (TREMONT), MIDWEST CENTRAL (MANITO)

Interfaces:

- Twelve 25.6-Mbps interfaces on base model, or as a module in the expansion unit
- 4-port transparent asynchronous transmitter receiver interface (TAXI) module, multimode fiber (MMF)
- 3-port 155-Mbps Concentration ATM Flex Module (SMF, MMF, UTP/STP)
- ATM generic carrier module for open development on the 8285
- 2-port ATM module for additions of lower ATM rates for WAN connections

### 1.2.2 MACKINAW H.S.

Interfaces:

- Twelve 25.6-Mbps interfaces on base model, or as a module in the expansion unit
- 4-port transparent asynchronous transmitter receiver interface (TAXI) module, multimode fiber (MMF)
- 3-port 155-Mbps Concentration ATM Flex Module (SMF, MMF, UTP/STP)
- ATM generic carrier module for open development on the 8285
- 2-port ATM module for additions of lower ATM rates for WAN connections

1.2.3 WASHINGTON MIDDLE SCHOOL (WASHINGTON), SO. PEKIN SCHOOL (SO. PEKIN), TREMONT H.S. (TREMONT), MIDWEST CENTRAL GRADE SCHOOL (GREEN VALLEY)

Interfaces:

- Twelve 25.6-Mbps interfaces on base model, or as a module in the expansion unit
- 4-port transparent asynchronous transmitter receiver interface (TAXI) module, multimode fiber (MMF)
- 3-port 155-Mbps Concentration ATM Flex Module (SMF, MMF, UTP/STP)
- ATM generic carrier module for open development on the 8285
- 2-port ATM module for additions of lower ATM rates for WAN connections

1.2.4 JOHN HENSEY (WASHINGTON), LA SALLE SCHOOL (CREVE COUER)

Interfaces:

- Twelve 25.6-Mbps interfaces on base model, or as a module in the expansion unit
- 4-port transparent asynchronous transmitter receiver interface (TAXI) module, multimode fiber (MMF)
- 3-port 155-Mbps Concentration ATM Flex Module (SMF, MMF, UTP/STP)
- ATM generic carrier module for open development on the 8285
- 2-port ATM module for additions of lower ATM rates for WAN connections

1.2.5 GEORGETOWN SCHOOL (NO. PEKIN)

Interfaces:

- Twelve 25.6-Mbps interfaces on base model, or as a module in the expansion unit
- 4-port transparent asynchronous transmitter receiver interface (TAXI) module, multimode fiber (MMF)
- 3-port 155-Mbps Concentration ATM Flex Module (SMF, MMF, UTP/STP)
- ATM generic carrier module for open development on the 8285
- 2-port ATM module for additions of lower ATM rates for WAN connections

1.2.6 MORTON H.S. (MORTON), CENTRAL GRADE SCHOOL (EAST PEORIA)

Interfaces:

- Twelve 25.6-Mbps interfaces on base model, or as a module in the expansion unit
- 4-port transparent asynchronous transmitter receiver interface (TAXI) module, multimode fiber (MMF)
- 3-port 155-Mbps Concentration ATM Flex Module (SMF, MMF, UTP/STP)
- ATM generic carrier module for open development on the 8285
- 2-port ATM module for additions of lower ATM rates for WAN connections

### 1.3 FEATURES/CAPABILITIES OF THE ROUTER AT ALL LOCATIONS TO CONNECT EXISTING LAN/LABS TO THE ATM SWITCH (2210 ROUTER):

- All common routing protocols, including IP, IPX, AppleTalk, Banyan VINES, DECnet IV and DECnet V/OSI.
- All common bridging techniques, including transparent, source-route, source-route transparent,
- source-route-to-transparent translational bridging and IP bridging tunnel
- IP routing that includes ICMP, TCP, UDP, RIP, OSPF V2, BGP-4, static routes, Multicast Extensions to OSPF (MOSPF), ARP, InARP and IP Access Controls.
- ATM enhancements for integrating high-speed ATM applications include configurable Quality of Service (QoS) for ATM LAN emulation, native bridging to support all protocols, Next Hop Resolution Protocol (NHRP) to establish short-cut routes and new redundancy and reliability mechanisms for IP over ATM. Native routing of SNA traffic with HPR exploits ATM's guaranteed bandwidth services, real-time transport and multicast.
- Support for 25-Mbps ATM with encapsulation over ATM for IP (Classical IP) and IPX, along with LAN Emulation Client to assist in migrating to ATM technology and lowering network management costs. LAN Emulation support for both bridged and ATM-attached workstations allows incremental installation of ATM adapters to support high-bandwidth requirements.
- Dial-In Access to LANs (DIALs) allows remote users to dial into a LAN and access the resources of the LAN as if they were locally attached and allows LAN-attached users to dial out to a WAN.
- The Interactive Network Dispatcher enables you to build and manage scalable Web servers by
- providing load balancing and high availability for TCP applications in environments with a high volume of traffic and large number of clients. Without relying on Domain Name Servers, large numbers of individual servers can be linked into large virtual server clusters for efficient management of the network.

#### Model Capabilities -

##### 24E -

- LAN ports - 2 Ethernet
- WAN ports - 4 ports supporting up to 2.0Mbps each
- Interfaces - any of these physical interfaces:
- EIA 232-D/V .24/V .28
- V.35

- V.36/EIA 449
- X.21.
- Protocols -
- Routing - IP, IPX, Appletalk, DECNET, APPN, HPR
- Bridging - All others
- Data Link Switching - SNA, APPN, HPR, NetBios

## 24T -

- LAN ports - 2 Token-Ring 4/16 Mbps
- WAN ports - 4 ports supporting up to 2.0Mbps each
- Interfaces - any of these physical interfaces:
- EIA 232-D/V .24/V .28
- V.35
- V.36/EIA 449
- X.21.
- Protocols -
- Routing - IP, IPX, Appletalk, DECNET, APPN, HPR
- Bridging - All others
- Data Link Switching - SNA, APPN, HPR, NetBios

## 24M -

- LAN ports - 1 Ethernet and 1 Token-ring 4/16 Mbps
- WAN ports - 4 ports supporting up to 2.0Mbps each
- Interfaces - any of these physical interfaces:
- EIA 232-D/V .24/V .28
- V.35
- V.36/EIA 449
- X.21.
- Protocols -
- Routing - IP, IPX, Appletalk, DECNET, APPN, HPR
- Bridging - All others
- Data Link Switching - SNA, APPN, HPR, NetBios

## 2.0 VIDEO COMPRESSION and NETWORK OPTIMIZATION SERVER HARDWARE and ASSOCIATED SOFTWARE (INELIGIBLE)

- **The VaN provides real-time, interactive delivery of broadcast-quality video over local or wide area ATM networks.** It employs standards-based, MPEG-2 (ISO/IEC 13818) encoding to:
  - Convert analog video signals into a digital form suitable for transmission over ATM
  - Decode the digital signal at a remote VaN or VDM
- **Broadcast-quality, networked video.** Implements the H.310 Broadband Audiovisual Communication Systems and Terminals standard provides interoperability with other products taking advantage of MPEG-2 over ATM.

- **The VDM adds the capability of decoding multiple video streams.** Each VDM port receives MPEG-2 data across the ATM network from the VaN or other J.82-compliant, MPEG-2-over-ATM source, decodes the data and provides National Television Standards Committee (NTSC) or phase alternation by line (PAL) analog output.
- **The AMX server adds the capability of ...**
- 

### *VaN*

- The VaN allows the merger of MPEG-2 video with other ATM traffic.
- A variety of configurations of encoders and decoders are possible.
- Each VaN supports the 25-Mbps ATM Adapter or a 155-Mbps ATM Adapter. A Token-Ring adapter may be added for traditional LAN communications, and support for a 10-Mbps Ethernet LAN is integrated into the platform.
- Both NTSC and PAL are supported.
- The VaN is a remotely SNMP-manageable product.
- An audiovisual services-application programming interface (AVS-API) allows the 8300 VaN to be programmed to suit a variety of applications.
- The VaN base platform permits a variety of configurations. You can combine encoders and decoders in combinations such as two encoders, four decoders, or one encoder and two decoders.
- The VaN supports the 25-Mbps ATM Adapter or a 155-Mbps ATM Adapter capable of transmitting native ATM data and Classical IP (RFC 1577). A Token-Ring adapter may be added for traditional LAN communications, and support for a 10-Mbps Ethernet LAN is integrated into the platform.

### *VDM*

- The VDM is a feature for the ATM Switch.
- Both NTSC and PAL are supported.
- The VDM supplies eight independent ATM-addressable ports.
- Each VDM port supports an MPEG-2 video stream encoded at data rates of 1.5 Mbps to 15 Mbps. The eight, ATM-addressable ports can operate simultaneously at different data rates.
- *Applications*
- The AVS-API that comes with the VaN implements ITU H.310 and provides functions allowing applications to:
  - Set up unidirectional, bidirectional and multicast audiovisual channels over ATM
  - Change all encoding and transmission parameters
  - Record MPEG-2 encoded material to disk

### *Network Management*

#### **VaN**

- The VaN has been designed to be manageable remotely. It supports SNMP management, remote system monitoring and operation and remote software installation and upgrade.

- For network management, the VaN provides an SNMP MIB with settable alerts, traps and thresholds. The same alerts are available through the AVS-API for those who do not want to use SNMP but do want to monitor operations.
- For remote activation, deactivation and testing of the VaN, a command-line-based, remote operations interface is available.
- The fact that the VaN is enabled for configuration, installation and distribution (CID-enabled) permits the software to be remotely upgraded.

#### **VDM**

- While the VDM does not have a resident network management agent, such as an SNMP agent, it is visible to network management in the ATM switch.

### **3.0 INSTALLATION, CONFIGURATION, and TESTING SERVICES**

#### **Installation**

- The provider shall be responsible for setting up each switch and router in their designated location within each building, such location finding each piece of equipment within the same room and being not more than 30 feet from one another.
- All components shall come either pre-assemble or be installed on-site by a certified hardware engineer and be warrantied against failure for 1-year.
- Installation shall not include the supply of power or other physical changes to the designated room.
- If racks are supplied, the equipment shall be mounted in the same as space allows.
- The provider shall supply any and all cables necessary to interconnect the switch and router to one another; the civicNET Member school shall provide for the cooper/fiber connection to/from the building LAN's and the WAN.

#### **Configuration**

- (This section currently under development)

#### **Testing**

- (This section currently under development)

## **END OF SPECIFICATIONS**

# SCHEDULE 1 PROPOSAL QUOTATION FORM

## INSTRUCTIONS

In the spaces provided, enter the requested dollar figure. Append to Schedule 2 your response to the Request for Proposal. List on Schedule 3 any and all “Exceptions” the service provider proposes in their response (Schedule 2) to those sections of the RFP, generally, and the specifications, map (Exhibit 1), and hardware configurations (Exhibit 2) specifically. Use the “Section Title” of the RFP or “Reference #” of the Specification Section to refer back to the document when noting deviations. In NO instance will a proposal be considered if any one of the items proposed is less than the minimums specified. Initial the quotation sheet in the space indicated.

<b>QUOTATION: ATM LAN Hardware RFP</b>				
<i>Reference #</i>	<i>General Category Description</i>	<i>Eligible Costs</i>	<i>Ineligible Costs</i>	<i>Total Costs</i>
General Instructions through Award, Specifications ( )	ATM LAN Switches (plus WAN Interconnect Component)	\$	\$	\$
General Instructions through Award, Specifications ( )	LAN Routers for ATM LAN Interconnection			
General Instructions through Award, Specifications ( )	Video Compression and Bandwidth Optimization Servers and Associated Software			
General Instructions through Award, Specifications ( )	Installation, Configuration, and Testing Services			
<b>TOTALS</b>		\$	\$	\$

Initials

**END OF SCHEDULE 1**

## **SCHEDULE 2**

### **SERVICE PROVIDERS RESPONSE TO REQUEST FOR PROPOSALS**

**(Append response hereto)**

### **SCHEDULE 3**

## **SERVICE PROVIDERS DEVIATIONS FROM REQUEST FOR PROPOSAL, GENERALLY, and SPECIFICATIONS and HARDWARE CONFIGURATIONS SPECIFICALLY**

**(Service providers may append hereto a list of deviations or use this sheet.)**

## **EXHIBIT 1**

# **ILLUSTRATIVE CONFIGURATION of HARDWARE COMPONENTS<sup>1</sup>**

**(LINK TO HARDWARE CONFIGURATIONS)**

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<sup>1</sup> Note: “Star” and “Triangle” shapes correspond to the Map locations featured in Exhibit 3.

**EXHIBIT 2**

**GLOBAL CONNECTION 2000 NETWORK  
INTEROPERABILITY**

**(LINK TO GC2000)**

### **EXHIBIT 3**

## **ILLUSTRATIVE MAP of civicNET MEMBER, SCHOOL BUILDING SITE LOCATIONS, 155Mbps ATM PORT REQUIREMENTS and SEGMENT FIBER COUNTS, INCLUDING UNDERGROUND and AERIAL MILEAGE<sup>2</sup> FOR INELIGIBLE WIDE-AREA INTERCONNECTION**

**(LINK TO MAP)**

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<sup>2</sup> Note: “Star” and “Triangle” symbols correspond to Hardware configurations featured in Exhibit 2.