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ABSTRACT

The New York State Technology Network Ties (TNT) systems is a statewide telecommunications network which consists of computers, telephone lines, and telecommunications hardware and software. This network links school districts, Boards of Cooperative Educational Services (BOCES), libraries, other educational institutions, and the State Education Department together for communications, resource sharing, and enhanced access to information and services. This brochure describes TNT's network services and technology programs developed by the State Education Department and available to schools through BOCLS. Designed to support the teaching/learning environment and improve school district management, these services and programs include electronic communications, access to information databases, use of computer-based management and instructional services, and gateways to national and international networks. Specific programs and services described include electronic mail, electronic conferencing, a student information system, a management system for special education, a financial management system, statewide data collection, distributed data processing, a placement and career planning service, a teacher recruitment clearinghouse, a clearinghouse for youth-at-risk, electronic dissemination of documents, and a long-range plan for elementary and secondary education that includes major recommendations and activities to help New York State school districts incorporate technology in the classroom and improve school management. Sources for more in-depth information on these services are listed. (Contains 10 figures.) (BBM)

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for  
New  
York  
State's  
Educational  
System



The University of the State of New York  
The State Education Department  
Office of Elementary and  
Secondary Education Planning  
Testing and Technological Services  
Albany New York

# TECHNOLOGY NETWORK TIES

Network  
Services  
and  
Technology  
Programs  
for  
New  
York  
State's  
Educational  
System

The University of the State of New York  
The State Education Department  
Office of Elementary and  
Secondary Education Programs  
Testing and Technological Services  
Albany, New York

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## INTRODUCTION



The New York State Technology Network Ties (TNT) system is a statewide telecommunications network which consists of computers, telephone lines, and telecommunications hardware and software. This network links school districts, Boards of Cooperative Educational Services (BOCES), libraries, other educational institutions, and the State Education Department together for communications, resource sharing, and enhanced access to information and services.

This brochure describes TNT's network services and technology programs developed by the State Education Department and available to schools through BOCES. These services and programs support the teaching/learning environment and improve school district management. For more in-depth information on these services, a listing of Regional Information Centers and an Information Services Card are provided.

## THE TNT NETWORK

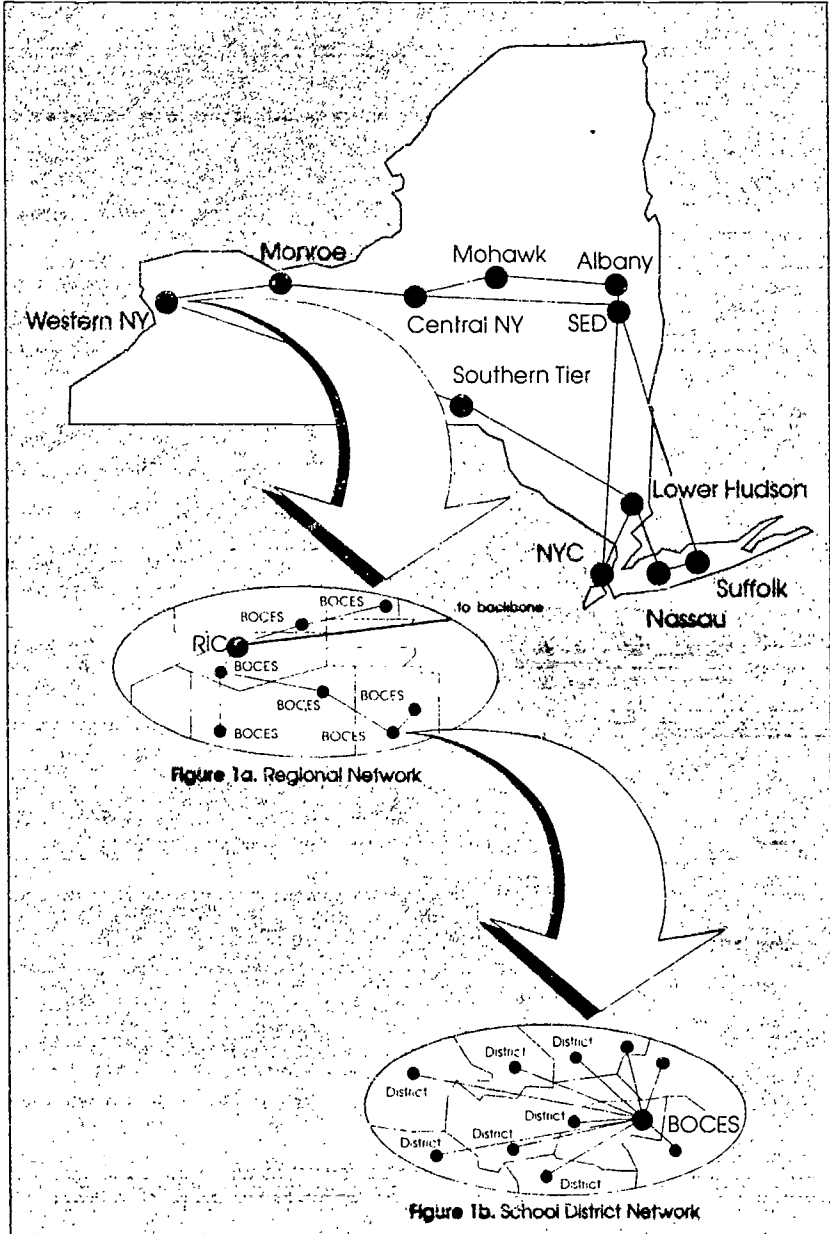
The TNT network was developed during the past five years by building upon the upgraded computer resources of New York State's BOCES Regional Information Centers. Nine BOCES Regional Information Centers, the New York City Central Board of Education, the City School Districts of Buffalo, Rochester, Syracuse, and Yonkers, and the State Education Department are connected to create the backbone of the TNT network. Over 400 of New York State's school districts, 650 buildings and all 41 BOCES have access to the network because of their existing computer connections to the Regional Information Centers.

The statewide backbone of the TNT network is illustrated in Figure 1. Figures 1a and 1b illustrate a regional network of BOCES connected to TNT through a Regional Information Center and a network of school districts linked to TNT through their BOCES.

The benefits of connecting to TNT are the available resources and services that can be easily accessed through computers by students and educators throughout the State. These services include

- electronic communications
- access to information databases
- use of computer-based management and instructional services
- gateways to national and international networks

Figure 1. Backbone of TNT Network



## TNT COMMUNICATIONS SERVICES

### Electronic Mail

All persons connected to TNT have access to electronic mail and document distribution through the Professional Office System (PROFS). PROFS is currently available to all BOCES, 400 school districts, and State Education Department offices. There are over 5,000 PROFS accounts throughout the State. Electronic mail via PROFS on TNT provides educators with a reliable means of communication not dependent on time or personal availability (see Figure 2).

Circle 1 on Information Services Card

VIEW THE NOTE E01

From: AARDELL --SED Date and time 10/18/90 13:39:24

To: KMCMAHON--ALBANYDQG

\*\*\* Reply to note of 10-18-90 11:25  
From: AARDELL  
Subject: Technology Training Meeting

Our meeting on Tuesday is to look over the teacher surveys handed out during the training. I checked with Kim, and she is expecting us at the elementary school at 2 p.m. She will contact Mary Jones to remind her. We had also scheduled a meeting on 10/26 for the next module of training, but that has been cancelled until the classroom networks are set up for student and teacher use. I look forward to seeing you on Tuesday, Oct. 23rd!

cc: JONES --SED

E N D O F N O T E

---

PF1 Alternate P1s PF2 File NOTE PF3 Keep PF4 Erase PF5 Forward Note  
PF6 Reply PF7 Resend PF8 Print PF9 Help PF10 Next PF11 Previous PF12 Return

---

SNA 0F ANVM ROW 23 COL 30

Figure 2. PROFS Message



Educators can create electronic conferences through the TNT network to exchange views on topics or develop documents electronically (see Figure 3). This reduces time and costs associated with travel. TNT currently offers over 40 active electronic conferences within New York State.

## Electronic Conferencing

Circle 2 on Information Services Card

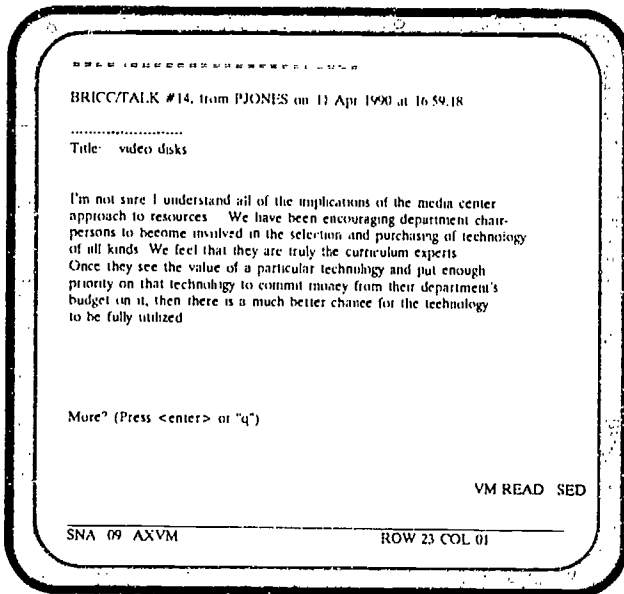


Figure 3. Model Schools Conference Message

3 9 5

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## TNT MANAGEMENT AND INSTRUCTIONAL SUPPORT SERVICES

### **Student Information System (SIS)**

The Student Information System is scheduled for release over TNT by the end of the 1990-91 school year. SIS is designed to help school districts efficiently manage their programs and report student data to the State Education Department. SIS includes student biographical information, attendance, academic progress, course scheduling, program participation, instructional management, and health/medical information. SIS will enable a school district to

- register a student
- enroll a student in a program of study
- collect demographic data on students, parents, and associated adults
- maintain daily student attendance
- record student grades and generate reports
- place and record the educational progress of children with handicapping conditions
- provide required State student data

Figure 4 is the main menu for SIS.

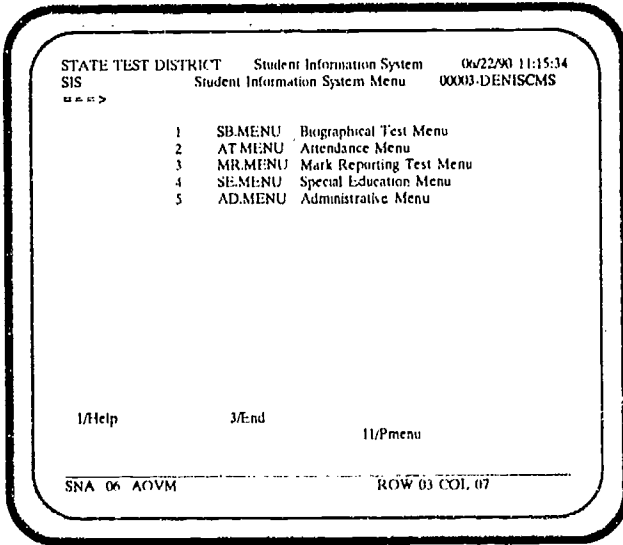


Figure 4. Student Information System Main Menu

All New York State school districts will be required by July, 1993 to report all their required data, including selected individual student data, electronically to the State Education Department through their appropriate Regional Information Center. SIS includes all of the required student data elements. School districts using SIS will meet their reporting obligations cost effectively as a result of their daily data processing transactions through Regional Centers.

Circle 3 on Information Services Card

**Part 200  
Management  
System  
for Special  
Education**

The Part 200 Management System for Special Education is an application developed to administer Committee on Special Education (CSE), Committee on Preschool Special Education (CPSE), and special education operations at the local level. The program is available in stand-alone micro/mini computer configurations or as an integrated component of the main-frame computer-based Student Information System. The Part 200 Management System maintains biographical, family, and school information. Additionally, the system tracks all CSE/CPSE events; schedules meetings; generates notices and correspondence; maintains summary and detailed student evaluation information; records CSE/CPSE decisions; generates Phase comprehensive IEPs including annual goals and instructional objectives; manages extensive provider and class section placement information; and generates numerous ad hoc, local, and state reports. The Part 200 Management System is supported statewide by an extensive network of RIC/RCC and Special Education Training and Resource Center (SETRC) personnel and includes complete user documentation.

Circle 4 on Information Services Card



All the major components of the Financial Applications for Management in Education (FAME) system are scheduled for release over TNT by the end of the 1990-91 school year. The primary features of FAME are

- maintenance of General Ledger and Revenues accounts consistent with State guidelines
- flexible reporting for Personnel, Employee Attendance, and Payroll needs
- electronic creation of State reports
- capability for tracking Federal, State payrolls across reporting years
- integration of General Ledger with Accounts Payable and Purchasing

FAME's major applications consist of General Ledger, Revenue Accounting, Employee Attendance, Personnel, Purchasing, Encumbrance Accounting, Accounts Payable, Payroll, and Bidding. Figure 5 is the General Ledger menu.

## Financial Applications for Management in Education (FAME)

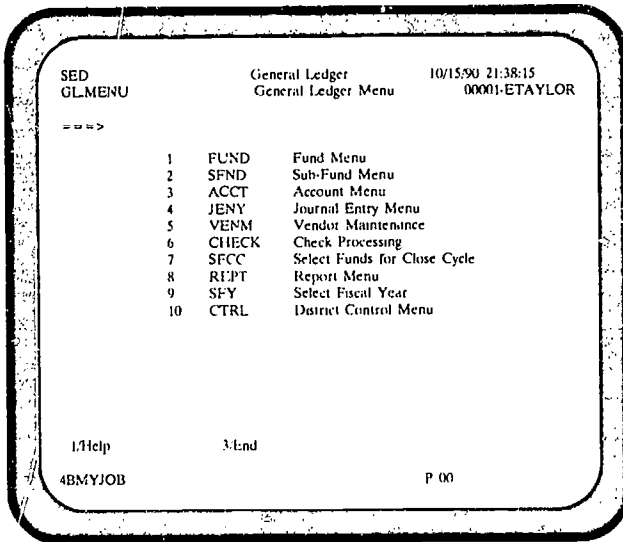


Figure 5. FAME General Ledger Menu.

FAME includes all the data elements needed by school districts to meet their reporting obligations to the State. School districts using FAME will meet these requirements efficiently as a result of their normal data processing transactions.

Circle 5 on Information Services Card

### **Statewide Data Collection**

TNT can significantly reduce the amount of paperwork for school districts through electronic reporting of information required by the State Education Department. The ST-3, SA-100, and SA-129 reports have been prepared electronically and transmitted over TNT to the State. This will prove invaluable as the State Education Department moves toward complete electronic reporting by July 1, 1993.

Circle 6 on Information Services Card

### **Distributed Data Processing (DDP)**

Computer systems located within districts, and linked to TNT through BOCES, are eligible for aid under shared services law when these applications adhere to regional standards approved by the Commissioner of Education. There are currently over 100 distributed data processing sites in New York State.

Circle 7 on Information Services Card

## **TNT INFORMATION SERVICES FOR STUDENTS AND EDUCATORS**

### **Job Link**

A job placement and career planning service, entitled Job Link, has been made available by electronically connecting the State Department of Labor's mainframe computer to the TNT network. Guidance counselors throughout New York now use the TNT network to call up current Department of Labor job listings by region and classification. This provides students with the job requirements in the present market. The job



locate potential employees. A vacancy file allows districts to post available positions, which can be searched by teachers who are seeking employment. The Teacher Career Recruitment Clearinghouse will be piloted across the State in the spring of 1991.

Circle 9 on Information Services Card.

STATE TEST DISTRICT		06/22/90 11 15:01	
CC02	Candidate Information	00003-DENISCMS	
====>			
Candidate ID	999-99-9999	DLM 01/01/01	Date Placed
			Date Entered 01/01/01
Name Last	First	MI Sex Ethnic	Handicap Graduated
DJE	JANE	M F 5	NH 01/01/01
PO Box / Apt / Route	Street / Road	National Tech Exam 01/01/01	
5	DOE COURT		
City: DOE CITY State NY Zip:Est 99999 Phone (999) 999-9999			
Confidential	Grade Preference	Geo Pref	10 ALBANY-SCHOHARIE-SCHENECTADY BOC
Y	07 12		60 ONONDAGA-CORTLAND MADISON BOCES
District Control #	Area of Certification	Type	Years Exp
curr	11111111 5091 Gen Sci 7-12	02 Provisional	-
	22222222 5091 Earth Sc&G 7-12	02 Provisional	-
99011 Emer Candidate ID			(C)
1:Help	2:Reset	3:Find	4:Add
		9:Candidates	12:XXMenu
SNA 16 40X51		ROW 04 COL 16	

Figure 7. Candidate Information

### Youth-at-Risk Clearinghouse (YAR)

The Youth-at-Risk Clearinghouse provides electronic mail, computer conferencing, and two computer databases for the 110 New York State Youth-at-Risk Program coordinators. The Resources Database holds approximately 6000 records, including information on academic remediation, parenting education, drug and alcohol abuse prevention, and early intervention education. The program database will include information on in-State and out-of-State Youth-at-Risk programs. Computer conferencing topics include information sharing, a forum for national, State and local funding alerts, and management of the coordinators' projects.



Figure 8 is a message from the YAR computer conference.

Circle 10 on Information Services Card

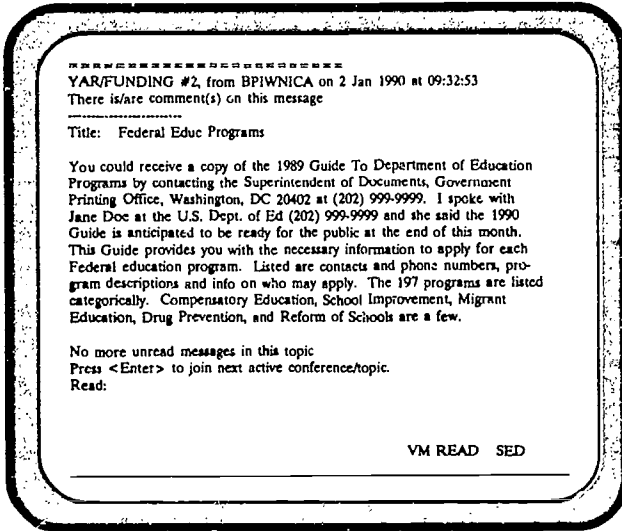


Figure 8. YAR Conference Message

The State Education Department and school districts are experimenting with electronic dissemination of documents over the TNT network. This service will include

### Electronic Dissemination of Documents

- Dissemination of state syllabi and other documents (such as Commissioner's guidelines and regulations) to all school districts immediately after State approval
- A search capability to enable districts to locate and retrieve specific portions of a document
- Capability to customize documents for district needs
- Document updates immediately disseminated

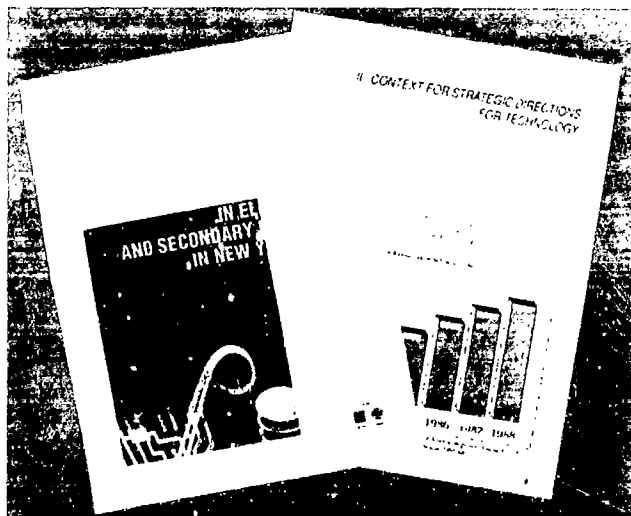
Circle 11 on Information Services Card

## LONG-RANGE PLAN FOR TECHNOLOGY IN ELEMENTARY AND SECONDARY EDUCATION IN NEW YORK STATE

TNT represents a comprehensive platform for integrating technology within New York State schools during the next five years. The Board of Regents *Long-Range Plan for Technology in Elementary and Secondary Education in New York State* (June 1990) is the strategic context for guiding this activity. The "Vision of the Future" in the *Long-Range Plan* describes the teaching, learning environment in 1995, if technology is effectively implemented across several dimensions of the educational system. Figures 9 and 10 depict the technology to be implemented for the student and teacher dimensions by this vision.

The *Long-Range Plan* includes major recommendations and activities to help New York State school districts incorporate technology within the classroom and improve the management of the school.

Circle 12 on Information Services Card



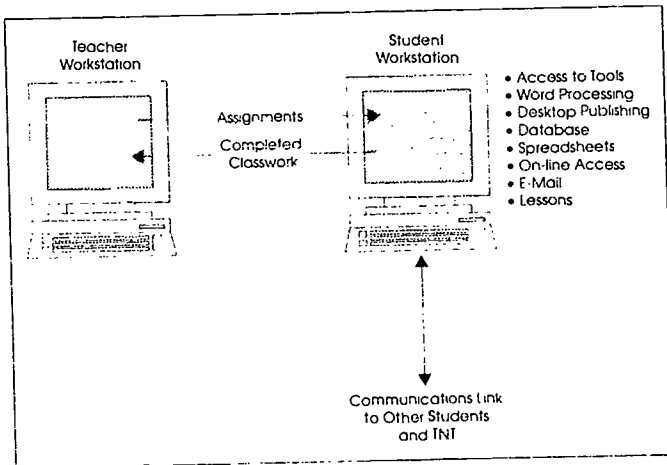


Figure 9. Student Dimension

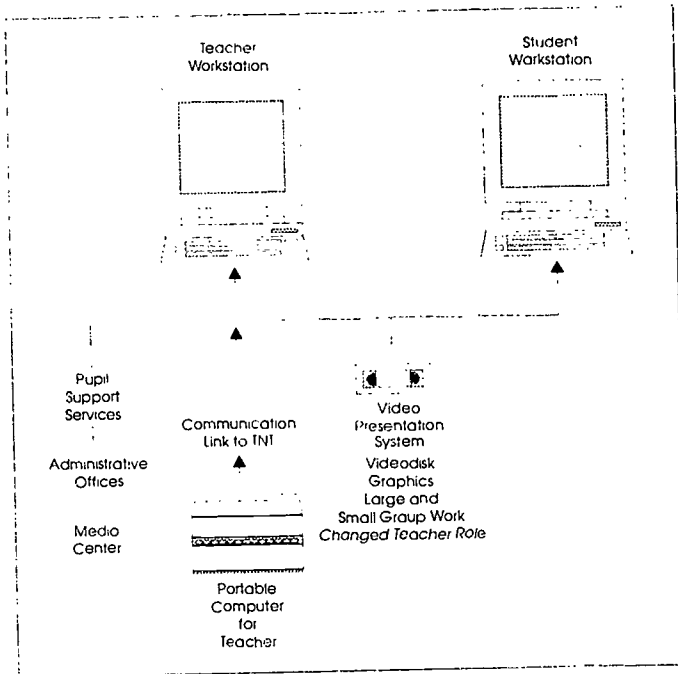


Figure 10. Teacher Dimension

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## TNT INSTRUCTIONAL PROGRAMS

### **Model Schools Program**

The Model Schools Program has been developed under TNT to help teachers learn about and apply technology in the classroom for all curricular areas. This service provides planning, curriculum and staff development, and evaluation. A new shared service is available through many BOCES to support Model Schools activities which include

- Training teachers in "tool software" (e.g., word processing, spreadsheet, database, graphics) for classroom applications
- Developing curriculum specific lessons (K-12) and activities that have been enhanced by the application of technology
- Exploring demonstrating advanced applications for curriculum-specific use
- Using TNT's computer conferencing, electronic mail and on-line database services for teacher student curriculum forums

The Model Schools Program is currently being replicated in the Madison-Oneida, Suffolk III, Onondaga, Dutchess, Nassau, and Albany BOCES regions.

Circle 13 on Information Services Card



IBM, Inc., Apple Computer, Inc., and NYNEX have committed hardware, software, network technology, training, and technical assistance to implement the *Long-Range Plan's* "Vision of the Future" in selected New York State schools.

**Piloting the  
"Vision of the  
Future"  
Through  
Industry  
Partnerships**

**IBM**

- Twelve elementary schools were selected to participate in a SED IBM Joint Study for the next five years. Each school received student workstations, network technology, teacher workstations, a presentation system, software, and training for integration in their classrooms. In addition, twelve postsecondary schools were chosen for the project and received computer lab equipment for training prospective elementary teachers.

Circle 14 on Information Services Card



Photo by Nancy Miller

### APPLE

- Five school districts were initially selected to receive student workstations, network technology, teacher workstations, a presentation system, software, and training to pilot the shared SED/Apple vision of a learning society. In addition, school districts will be able to submit proposals to the State Education Department to participate in the project.

Circle 15 on Information Services Card



### NYNEX

- Under a NYNEX partnership, 20 teachers at each of 60 statewide sites will be selected by Regional Information Centers and Big Five City School Districts to be trained on tool software applications within the context of the *Long-Range Plan for Technology*.

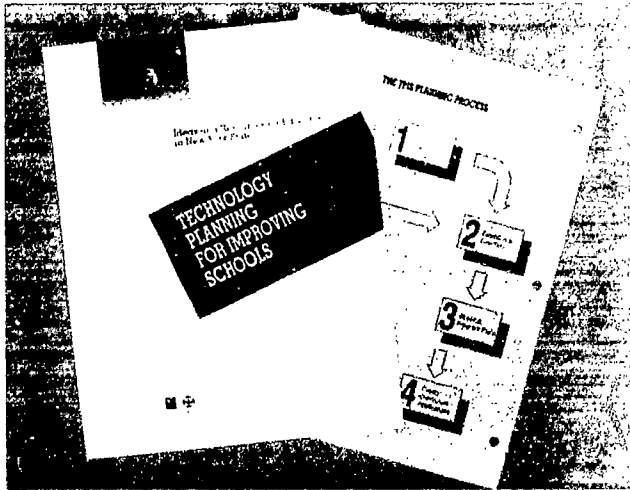
Circle 16 on Information Services Card

## PLANNING FOR TECHNOLOGY

A *TPIS* guidebook has been published to help school districts plan an instructional technology support system for school improvement. BOCES staff involved in school improvement or technology planning were trained on the *TPIS* model and procedures. School districts should contact their appropriate Regional Information Center for this planning service.

Circle 17 on Information Services Card

### Technology Planning for Improving Schools (TPIS)

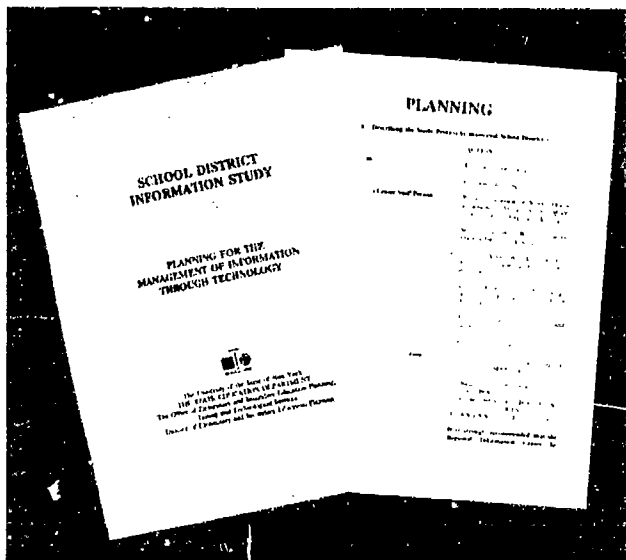


*SDIS* is a process to help school district personnel develop a three-year plan for information management and related technology applications. A completed study provides information from key sectors of the school district, a systematic needs analysis, and an implementation plan citing specific equipment, software, and train-

### School District Information Study (SDIS)

ing requirements. An *SDIS* guidebook containing procedures has been published. School districts should contact their appropriate Regional Information Center.

Circle 18 on Information Services Card.



## PLANNING FOR THE FUTURE

**INFONET** An electronic connection is being tested between the TNT network and IBM's worldwide *Information Network*. This connection will dramatically increase the number of services available to users of the TNT network. School districts and BOCES will access these new services through the same TNT computer workstations used for other services.



Services could include

- Electronic mail to over 80 countries and many U.S. public/private agencies
- Curriculum projects cooperatively developed by New York State students and teachers and their counterparts in other states and countries.
- Access to over 30 information services (i.e., Dow-Jones, LEXIS, NEXUS, BRS, and others)

Circle 19 on Information Services Card

CONNECT-PAC is a software product for managing the number of software licenses in active use by school districts over TNT. By installing CONNECT-PAC on each of the Regional Information Center mainframe computers, school districts would participate in cooperative licensing at greater cost benefits. Separate licenses would not have to be purchased for each computer in the district.

Circle 20 on Information Services Card

### **CONNECT-PAC**

Electronic connection between TNT and other networks, including Apple-Link, GTE Telenet, and BITNET are being explored. These links would permit TNT users to access services from their workstations.

Circle 21 on Information Services Card

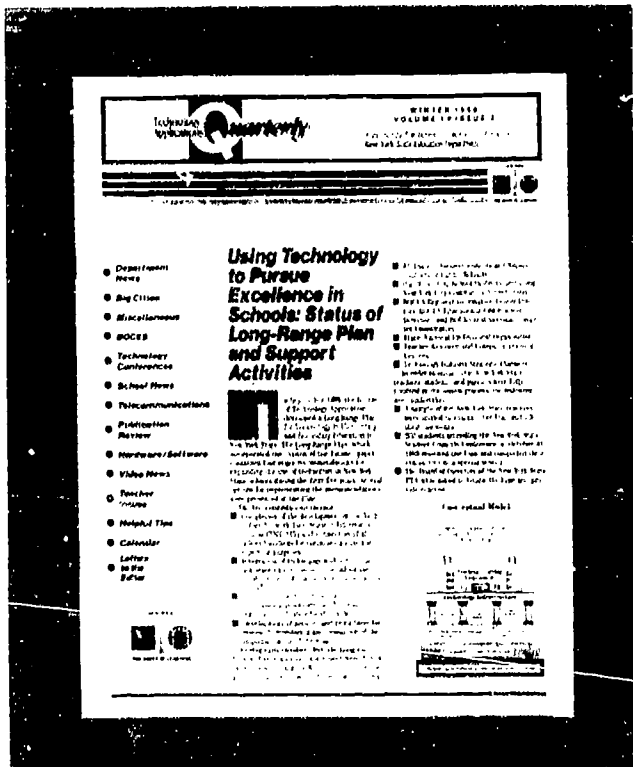
### **Gateway to Other Networks**

The *Technology Applications Quarterly (TAQ)*, published by the State Education Department's Bureau of Technology Applications, informs New York State educators of local, regional, and State technology

### **TECHNOLOGY APPLICATIONS QUARTERLY**

programs. TAQ is circulated to over 16,000 educators.

Circle 22 on Information Services Card



**Library Services**

TNT links to school library systems and regional libraries are in place within two Regional Information Center Service areas. Other regions are cooperatively planning for network integration of libraries and the TNT school-BOCES network. Library services on the network are expected to include electronic searching, access to bibliographic databases, and the statewide Film/Video Database which is being completed.

Circle 23 on Information Services Card

Many services have been developed as a result of local needs and regional planning. These services vary from region to region and may become more widely available outside of a region depending upon the nature of the service. These services may include

- distance learning projects
- electronic connections to regional/public libraries
- access to local databases of information

To obtain more information on the TNT network services and technology programs described in this brochure, you should contact your appropriate BOCES Regional Information Center, the State Education Department, or complete and return the Information Services Card.

#### **ALBANY RIC**

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## **TNT REGIONAL SERVICES**

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Phone (     ) \_\_\_\_\_

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