

**Technology Study**

**North Iowa Community School**

**Revised – 5/20/01**

**Tech Comm. – 5/21/01**

## The Plan

### Philosophy:

To understand technologies place in education an understanding of technologies place in society must first be realized. Technology is a tool. The printing press is technology and proved to be one of the greatest inventions of the last millennium. Technology (computers) has the same potential to change society. Just as classrooms hundreds of years ago didn't just sit and read a book because they could, "We" should not just use a computer in the classroom because we can. Technology does not need to be taught, it needs to be applied. Technology should not just be used; it should be useful. Classroom technology has three functions:

- 1 – Provide students with a resource to learn more by; drill and practice, expanded communication with the world, and resources not currently available.
- 2 – Provide teachers with a resource to make their job more efficient, such as administrative software to aid in grading, expanding communication intra and inter district, and providing resources not currently available.
- 3 – Provide students with exposure to technology. As the world becomes more technology oriented student's ability to be more efficient with the use of technology will become a critical skill.

This realization can be achieved by:

- Providing teachers with the **tools** and the **skills** that they need to be more efficient and to teach using technology
- Providing teachers with the **tools** and the **skills** that they need to teach students how to use and become more efficient with the use of technology.
- Providing students the **tools** with which to hone their skills in technology

Technology is broken into 6 main categories:

- **Infrastructure** – backbone of the network without a good infrastructure many changes are not possible. For example IP phone system requires switches. Video over IP requires 100Meg/sec
- **Servers** – Roll over of server is critical. This increases reliability. Because of the increase in server side applications this becomes more important.
- **Workstations** – The need for powerful workstations is really a class-by-class issue. Power is needed in some areas more than others. Workstation roll outs should be based upon need rather than equity. A minimum speed must be maintained in order to allow for the least number of software builds. This includes desktops, notebooks, and palm based computers.
- **Peripherals** – This again is a need-based item. Places like the art room need a scanner, but does the science room? Places that do presentations a lot need a projector or TV scan converters.
- **Software** – District licensing will cover basic applications such as the operating system and an office suite. The remaining, classroom specific software will need to be purchased by the individual classroom budgets.
- **Staff Development** – staff development is the key to making everything come together. Staff development will be done on new technology as it is implemented into the district and any new software/hardware roll out will include a training component. Staff development for the use of technology in the class will be conducted at the district level but this will not be adequate for some. Individuals should seek out additional resources for their specific content area.

## Current Equipment – May 2001

### • Infrastructure

Current infrastructure in both buildings is in good shape. Areas of concerns are:

#### Buffalo Center

- Lack of switches

- Weak backbone between Elementary and High School

- Single drops in many rooms

#### Thompson

- Lack of switches

- Single drops in many rooms

#### District

- Wan link peaking out

- Manageability of switches / routers

There is some wireless access is currently in place, about 30% of Buffalo Center and Thompson are covered by 802.11b / 2.4Ghz wireless.

### • Servers

Current servers are doing to the following:

#### Window 2000 server

- Web-mail

- Global Docs

- JMC sharing

- Web Announcements and Menus

- Departmental WebPages and curriculum

  - Physics, Networking, Tag, Computer App.

- PC authentication and Policies (Lockdown software) – PC Only

- Registration Database

#### Mac OS 9.1 ASIP server

- Mac Manager (Lockdown Software) – Macs Only

- Web Page

- Domain Name Servicing and Web Tracking

- POP3 / SMTP Mail

- Teacher Lesson Plans

- E-mail filtering

- FTP

#### Windows NT 4.0 – Thompson

- PC Authentication and Policies (Lockdown software) – PC Only

- Public Save

### • Workstations

Workstations in classrooms are fairly adequate:

High School – 4-5 machines need immediate attention and the remainder has about 1 year of life left.

High Media Center – Machines are adequate but more are needed 1 – 2 year(s) life left

High School Teaching Lab – 7 Machines have a 1 – 2 year life, 9 machines are at the end of their life cycle and need replacement

Middle School – 4 –5 machines need attention and the remainders have a 1-year life left.

Middle School Media – 1 machine needs replacement, 1 machine has a 2-3 year life left, 1 machine has a 1-2 year life left

Middle School Teaching Lab – 20 machines have a 1 - 2 year life cycle remaining. 10 machines are way past usable life cycle and should be removed but do NOT need to be replaced if class sizes are below 20.

Elementary – Classroom machines have a 2-3 year remaining life

Elementary Media Center – 2 machines have a 2-3 year life remaining. 2 machines are at the end of their life cycle and need to be replaced.

Continuation of the 3-year rotation of classroom machines appears to be needed.

- Peripherals

Laser printers have greatly reduced printing costs to the district:

Printers in the Thompson Office, Middle School Lab, and High School Band Room need attention. Repair or replacement is needed.

- Software

District is providing licensure for Operating systems and Office suites.

District is providing for Server software

Classroom teachers provide classroom specific software licenses

- Staff Development

Small amounts of staff development have allowed for teachers to learn about new technologies placed in rooms. This should continue.

Additional training is needed to help integrate into classroom to improve learning.

Teachers should seek outside training in classroom specific areas.

## **2001-2002 – Focus on High School**

### • Infrastructure

The feasibility of increasing available bandwidth between buildings should be investigated. Minimum of a 1.5Mbps.

Upgrade to switches wherever possible, in this order:

- 1 - Where phones are going
- 2 - Where high demand is – ie media centers, printers, administrative

Additional wireless point should be added

### • Servers

Roll servers to classrooms workstations and place in new server

Servers should focus on an increasing need for server side applications:

- 1 – JMC Attendance – web based
- 2 – JMC Grade book – network based
- 3 – Exchange Server
- 4 – Online Lesson Plans for k-12

### • Workstations – High School Focus – 200Mhz Minimum for network machines

The addition of phones to classroom – This is budgeted outside of the State Technology Funds

Workstations should be upgraded to support newer Operating Systems in the following priorities:

- 1 – Media Center – 16 machines needed if possible
- 2 – High need classrooms:
  - Art
  - Drafting
  - Teaching Lab
  - Yearbook
- 3 – Classrooms
- 4 – Student Checkout

All media centers should look to roll over some computers

### • Peripherals

The addition of a video-editing suite to Media Center: Camera will be purchased via media. Computer system and additional hardware placed using technology \$s.

Laser printers should be placed in (order of Priority):

- 1 – Middle School Media Center
- 2 – 2<sup>nd</sup> Floor Elem.
- 3 – Basement High School
- 4 – Middle School Office

Video projector for teaching classroom

- Software

The district should continue to purchase licenses to keep operating system and office suites up to date with licensure.

- Staff Development

2 - 3 hours should be reserved for both staff and faculty training of the new exchange server software

1 – 2 hours should be reserved for faculty training of the new JMC attendance software

4 – 6 hours in 1/2 to 1 hour chunks should be reserved during the year for faculty training

1 hour should be reserved for principal secretaries for training of the new JMC attendance software

1 – 2 hours should be reserved for faculty training of the new copier/printer in the high school

1 hour should be reserved for faculty training of the teacher assignments page

1 hour should be reserved for the faculty training in using private documents and backup areas

All faculty and staff are encouraged to attend outside of the district training

## **2002-2003 – Focus on Middle School**

### • Infrastructure

The feasibility of increasing available bandwidth between buildings should be investigated.  
Greater than 1.5Mbs if needed

Upgrade to switches wherever possible, in this order:

- 1 - Where phones are going
- 2 - Administration computers
- 3 - Where high demand is – ie media centers, printers, administrative

Look at the need for 1000Mhz link to the servers and other high need devices

Additional wireless access points

### • Servers

Roll servers to classrooms workstations and place in new server

New server should support existing applications plus feasibility of:

- Server/Web based office suite
- Server/Web based grade book
- Community Access
- Online classroom
- Assessment
- Lesson Delivery

Streaming Video Server should be investigated

### • Workstations – Middle School Focus – 450 Mhz Minimum for Network Machines

Any Additional phones not covered in 2000-2002 years – Outside of State Technology Funding.

Workstations should be upgraded to support newer Operating Systems / Software in the following priorities:

- 1 – Media Centers
- 2 – High need classrooms:
- 3 – Classrooms

Student / Classroom checkout computers

All media centers should look to roll over some computers

Video conferencing stations should be investigated

- Peripherals

Roll over of laser printers should be investigated

Network/district wide Color laser

Additional video and stills editing equipment

Additional projection / video conversion equipment

Non-Traditional workstations

    Palm devices for some teachers and some students

- Software

The district should continue to purchase licenses to keep operating system and office suites up to date with licensure.

- Staff Development

Online Classroom training should be given to facilitate the transition for some teachers

Faculty and Staff should be given training on new server applications

Training should be offered to show how the new presentation lab works

Time should be spent training on the use of a portable lab if available

## **2003-2004 – Focus on Elem.**

- Infrastructure

The feasibility of increasing available bandwidth between buildings should be investigated.

Watch network traffic caused by video on demand systems and Internet classrooms.

Look at the need for 1000Mhz link to the servers and other high need devices

- Servers

Roll servers to classrooms workstations and place in new servers

New server should support existing applications plus feasibility of:

- Additional Online classroom support

- Additional streaming video support

- Telecommute services for teachers and students

- Workstations – Elementary – 700 Mhz Minimum for Network Machines

Workstations should be upgraded to support newer Operating Systems in the following priorities:

- 1 – Media Centers

- 2 – High need classrooms:

- 3 – Classrooms

All media centers should look to roll over some computers

- Peripherals

Roll over / replacement of laser printers should be investigated

Additional projection / video conversion equipment

All Student access to palm-top devices at appropriate grade levels

- Software

The district should continue to purchase licenses to keep operating system and office suites up to date with licensure.

- Staff Development

Faculty and Staff should be given training on new server applications

Teacher training in the use of palm-top devices should be included. Because of the philosophy change of such devices 1-2 days may be needed.