CALIFORNIA EDUCATIONAL DATA PROCESSING ASSOCIATION

THE DATABUS

"Serving California's Public Education Technologists"

Vol. 35 No. 2 *March-April, 1995*

A Guide to Network Ethics and Computer Technology Use

Policy: Districts advised to develop guidelines for Acceptable Use of technology.

Warren Williams, Grossmont Union High School District

Editor's Note: As districts and county offices expand their abilities to offer Internet access to the classroom, an Acceptable Use Policy becomes an important component to guide the appropriate use of the Internet in the instructional setting. A draft of the policy developed by Warren Williams for the Grossmont Union High School District is included as a Special Insert in this issue.

The California State Department of Education has released an advisory about "Suggested Policy: Acceptable Use of Electronic Information Resources." In the advisory, Harvey Hunt, Assistant Superintendent, warns schools of the danger of not implementing such a policy. He cites the exponential expansion of electronic information services and the concomitant problems that can arise when students are allowed, even encouraged to explore a network not specifically designed for them. He warns of encounters with racism, pornography, solicitation and other abuses as part and parcel for doing business in the Information Age.

As a result, it is incumbent upon Districts to teach students how to deal with objectionable materials and to outline possible consequences for inappropriate use of information resources. It is also important to make parents aware of the access being provided to their students and to give responsibility to them and their students about the kind of access that should be permitted. Students also need to be made aware about the appropriate use of all technologies, not just the Internet. Behavioral codes need to be changed to include consequences for tampering with computers, software piracy, netiquette infractions and other technology related offenses. Students also need to be taught how to avoid trouble spots on the information highway and how to report questionable activity.

A letter sent to all parents in the Grossmont District by our Superintendent, Dr. Jo Ann Smith, appears on page 12. There was some concern that parents might be upset with us for providing access. I personally took all calls from all parents regarding our Internet policy and every one expressed satisfaction with our action and most asked

(See "Use Policy" on Page 8)

In This Issue:

CEDPA Information

CEDPA is an association of Educational Data Processing Professionals (technologists) within the State of California. Founded in 1960, the major emphasis of the association's activities are directed towards improving Administrative Information Processing in public education within the State of California and to prepare its membership to better meet and support the technological needs of the Instructional Program.

CEDPA is a California non-profit corporation, as recognized by the Internal Revenue Service.

As cited in CEDPA's bylaws, the purpose of this organization shall be:

(a) To provide information to the California public educational community concerning educational data processing via dissemination at an annual conference and through periodicals and special interest seminars.

(b) To foster the exchange of knowledge of educational data processing concepts, systems and experiences between educational data processing installations and other associations both at the state and national level.

(c) To inform the association membership of important information concerning educational data processing.

(d) To provide recommendations to the State Department of Education, State Legislature, school districts, County Offices of Education and other public educational organizations concerning educational data processing.

(e) To develop professional standards for the Educational Information Systems Community within the State of California.

Yearly membership in CEDPA is granted to attendees of the Association's annual conference. Individuals interested in the Association's mailings may request to be added to CEDPA's mailing list by writing to the address below.

The DataBus is published bimonthly by the California Educational Data Processing Association and is distributed without charge to all members of the association and to other selected individuals within the State of California that are interested in information systems processing in education. *The DataBus* is also published electronically on the Internet. CEDPA's home page URL is http://www.nmusd.k12.ca.us/CEDPA/Cedpa.html. All correspondence and address changes should be sent to:

CEDPA
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Partnerships and Projects: Some of What's Happening in Our World

Direction: Partnership opportunites and activities explored with other organizations.

Phillip W. Branstetter, Riverside County Office of Education

The previous *DataBus* included an article about CEDPA's theme for the coming year. It seems appropriate to continue that discussion by detailing events that have taken place since that article was published, and to update CEDPA readers about current projects and active groups of particular interest. It seems also obvious that none of us can keep abreast of all the activities, committees, task forces, and events that shape our collective destiny without networking together—there's simply too much going on.

Since the last *DataBus* the Board of Directors met in Palm Springs and discussed partnership opportunities at some length—specifically focusing on the CUE organization. We have had two very productive meetings with representatives of CUE talking in general about how our respective constituencies can leverage each other's members' expertise; and specifically about conference planning and the possibility of future conferences being held adjacent (both time and location) so members from each organization could participate in activities and sessions from either conference. At the very least sharing speaker names on pertinent topics is plausible. Both organizations are keenly interested in working together with the stated provision that individual organizational identity is maintained.

Other organizations and activities of particular relevance include the California County Superintendents Educational Services Association (CCSESA), the Education Council for Technology in Learning (ECTL), and the Golden State Educational Network (GSEN) committee.

CCSESA is a relatively new and very active participant in technology-related issues. The Telecommunications/Technology Task Force is of particular interest to CEDPA members and is currently involved in several activities relating to developing a telecommunications / technology plan on a statewide scale including:

- surveying COEs to identify current uses of technology, plans, interest and readiness to participate in collective activities;
- identifying model technology sites;
- tracking and participating in legislative activities; and
- assisting the California Department of Education by making comments on the RFI and RFA projects (administered by the Orange County Department of Education) to provide "Internet Dialtone" for dial-in Internet access, and backbone Internet services respectively.

CCSESA will also be the key organization in implementing the provisions of the recently chaptered AB3141, follow-on legislation to AB1200 which deals with several issues most notably (to CEDPA members) telecommunications standards.

The ECTL was created by SB1510. ECTL is also very active in technology projects although not typically well known to CEDPA members. Their activities primarily support classroom projects and model sites. ECTL funding is behind the "Building the Future" grants and the RFI and RFA projects to provide Internet access. Internet seems to be the tie that binds all technology projects—at least for the moment. ECTL meetings are open and, from a CEDPA perspective, I found sitting in the audience to be a valuable lesson in what activities were taking place and in understanding relationships among players.

The GSEN committee is a task force of the ECTL working to forward recommendations on a strategy to build a statewide infrastructure for voice, video, and data networks consistent with the *Building The Future: K-12 Network Technology Planning Guide.* The committee is currently working in sub-groups to put individual pieces in place to be combined in a larger document. In theory the GSEN document will lead to development of an architecture of comprehensive network services for districts and COEs to attach to. The document is nearing completion, probably in the next several weeks, then we may get a sense of the GSEN impact or relevance on individual networking plans. It's actual value will depend very much on what happens in Sacramento to provide resources to implement a voice, video, and data network.

(see "Direction" on Page 14)

Ethernet Over Cable TV

Network: Modesto City Schools succeeds with 10mb. Ethernet using Cable TV lines.

Don Peterson, Modesto City Schools

During the summer of 1994 Modesto City Schools was prepared to embark on a networking course recommended by Pac Bell. The plan included 56kb lines using frame relay from each of thirty-four (34) sites to the "cloud." The district office would be connected to the "cloud" by a T1 frame relay line. This seemed to be a viable solution and well within acceptable guidelines. The one problem facing me was how to increase the communication budget to cover this additional annual cost.

It just so happened that a meeting was scheduled with one of our contractors, Featherstone Communications, Inc., to validate some work that was completed. During this meeting Stan Mayer of Featherstone asked if the district would like to prototype a product called DataChannel, designed to use a portion of the bandwidth of a cable television network. This product was capable of connecting local area networks using Ethernet at 10 megabit speed. The best feature was that the transmission cost would be free! Naturally the response was "Yes, proceed with caution!"

Then came the meeting with the City of Modesto, Stanislaus County Department of Education, and Post-Newsweek Cable, our cable TV carrier. Fortunately the charter included channels for educational use and the cable company had the equipment necessary including backward amplification. The system uses two channels: one up and one down stream. The City of Modesto issued the appropriate approval and the prototype was scheduled. The timing was interesting because a meeting was scheduled with Featherstone representatives at the Fall, 1994, CEDPA conference in Long Beach. It was very surprising and encouraging to hear Dr. Bossert speak of the successful implementation of Ethernet over Cable TV in Hawaii.

The prototype was scheduled for the week of December 5th between District Office, Post-Newsweek Cable and Modesto High School. Featherstone dedicated two (2) days to the project. To our surprise, the entire system was up and running in four (4) hours! The existing bridge was replaced with the cable bridge with little disruption to users. After the installation the users were amazed at the throughput of the system. It is not surprising when the speed of transmission goes from 56kb point to point to a 10 megabit line. Post-Newsweek Cable and Featherstone were very accommodating and went out of their way to help.

The shakedown cruise went well. Since the original prototype, three additional sites have been installed. Additionally, the Stanislaus County Department of Education has been connected, which will be our Internet access point. There have been many calls about this project from Alaska to Virginia and every place in between. We received a letter from Delaine Easton expressing interest in a site visit and we will be arranging a visit to Washington, D.C. to present the system to Vice President Al Gore and the technology committee with our Representative Gary Condit.

If you would like more information on this system, please feel free to call me.

Don Peterson is M.I.S. Director for Modesto City Schools. He can be reached at (209) 567-4089.

Stan Mayer, Featherstone Communications Inc., can be reached at (310) 799-9494 or by mail at 10555 Bloomfield Street, Los Alamitos, CA 90720.

Call for Topics and Presenters

Skip Sharp
San Diego County Office of Education

Our call for speakers will take a different twist this year. Rather than putting out a call for speakers only as we have done in the past, we are instead putting out a call for both topics and speakers. If you don't want to be a speaker/presenter for whatever reason that is OK, but please let us know the issues that are important to you so that we can structure the speakers and workshops to meet those needs. If you know of someone else who you believe to possess knowledge or experience that should be shared with others, please let us know that information too. We'll try to make it easier this year than ever before. There are absolutely no forms to fill out, instead simply contact our speaker chairperson, Skip Sharp, at 619-292-3539, or FAX 619-571-8825 or internet E-mail at hsharp@sdcoe.k12.ca.us.

GINA™ 1995

Interface: Multi-platform software provides access to CORE+ and the Internet

Sue Mangiapane, GINA Project

The GINA™ Project has taken on a very aggressive posture as 1995 begins to unfold. Closing 1994 with nearly 7,000 GINA/CORE+ customers, 40 Site Licenses and/or Group Purchases, and the continual demand for more information and services state wide, is proof beyond doubt that Internet Access will be an important part of our future and GINA an important part of the solution for education. Meeting the challenges of stabilizing our Windows GINA Client and moving forward with improvements and enhancements to the Mac, Windows and GINA Server software, we have initiated many staffing additions and reassignments. Our challenge is in our self-supporting, non-profit status. GINA's success depends on your ideas for implementation and we are focused on working with counties and districts throughout the state to take the steps required by you to make GINA a positive and constructive part of the Internet for Education.

We have taken several proactive measures which we feel will better position GINA for schools. The measures are outlined below and details will be provided in the GINA *InterNews* Newsletter. We would be happy to discuss any ideas you may have to make these solutions workable for your particular situation. Our 1995 provisions are as follows:

Windows Maintenance Release 1.1.5

We successfully resloved some of the GINA Windows client software problems with a maintenance release in January. This release helped some but not all of our customers experiencing problems. We have initiated three additional steps toward ultimate resolution for GINA Widows.

- Windows users may request a free Terminal Based Account and will not be charged for any services until Windows is functional for their situation.
- The Windows Client is in the process of a rewrite and will be released with full Winsock 1.1 compliance, (Trumpet), and improved communications, expected late 2nd Quarter.
- Implementation of new Terminal Server Access. Some of our current Windows dilemmas are in part due to insufficient connectivity via CAPS port. Testing is being done concurrently with higher speed terminal server modems.

GINA Product Development Schedule

A schedule of product development is available including plans to integrate a World Wide Web Client into both the Mac and Windows Applications, improved mail features, and a new Threading feature for the newsreader. Server Enhancements are also planned for the password file, improved security, and easier terminal server configurations.

GINA Presentation Software

A Director Presentation is currently available to be downloaded for the Mac. The GINA Presentation was designed to illustrate GINA, Internet Resources, and Sample Technical Configurations. A full script is available along with the application. A Windows Presentation will be available in early March. We are considering:

New Site License Agreements

We continue to look for creative ways of making GINA Available and are exploring two new site licenses which could be available as soon as March. All existing Site License customers will be contacted with details prior to release of the New Site Licenses. Two options we are considering are:

- **Kids Surf "Free" Site License** - Designed for Districts or schools who have invested in an Internet Server and prefer that each student has their own Internet ID and email address. This option establishes pricing so that student access is free; students will not be charged for use of GINA at school.
- **CA County Office Initiative** - Designed with the unique role of the County Office in mind. Eliminates County involvement in the collection of fees for GINA. Eliminates a mandatory number of licenses of GINA Client making the GINA Server available. Makes inclusion of GINA easy and manageable for counties wanting to allow use of the GINA Client as an addition to their existing environment.

Restructuring of Gopher and Conferences

Teachers and Administrators are invited to work with us to reconstruct the pointer in Information and Conferences Menus. Any teachers or administrators who would

(see "GINA" on Page 14)

Yolo County's Internet Access Plan

Support: Districts' needs addressed by a comprehensive implementation roadmap.

Greg Lindner, Yolo County Superintendent of Schools

This article describes what the Yolo County Superintendent of Schools (YCSS) is doing in collaboration with our local School Districts in the areas of Internet Access. It further defines why we are doing it and the kind of equipment we are using.

While this information may be old news to some of you, perhaps it will benefit some out there that are just getting started with their connections. Nothing in this article is meant to say one piece of equipment is better than another but simply represents what equipment and vendors we used. Additionally, all schools and districts are advised to first, identify if they have a need to connect to the Internet, and then if yes, they are advised to utilize the provider that provides the least cost solution while providing the greatest ease of use and support.

Questions regarding this article may be directed to Greg Lindner at Yolo County Superintendent of Schools (GLindner@Yolo.K12.CA.US).

The Yolo County Superintendent of Schools has developed a Strategic Plan in order to have a well designed comprehensive plan for accomplishing educational excellence that is strongly supported by all the significant constituencies of the community. **Everything** we do in the ITS department relates back to this Strategic Plan.

Strategy V of the Strategic Plan states, *"We will develop and implement a technology plan that meets the needs of those we serve"*. Through an Action Team comprised of Educators, County Office Personnel, Community Members and Business Leaders, a Technology Plan was developed and is in the process of being implemented.

Specifically, the Plan calls for:

1. Continued operation of the County Wide Financial/Payroll/Personnel System and Student Systems

2. Migration to a County Wide Network able to provide access to a centralized information channel specific to the needs of and accessible to defined user groups

3. Internet Access for all schools in the County

4. Technical assistance in the areas of Microcomputer Support, Network Design, and Network Support

5. Training for all defined clients in the areas of Administrative Software, Educational Software, General Technology, and Networking - including Internet training.

The Yolo County Superintendent of Schools is located in Woodland California. The computer area of the Information & Technology Services department is approximately 1000 square feet, consisting of a computer room, a printer room and a forms room. The site has a raised computer floor, a dry fire alarm system, a power distribution unit (surge protector/power conditioner), separate punch locks to enter each room, alarm system for outer offices and computer room, and a dedicated air conditioner. Additionally, the entire site is fully networked with 10BaseT, category 5 cable running Ethernet and TCP/IP. Two large (750 and 950 sq. ft.) training rooms are available for training and are fully networked.

Currently the entire site is networked with a thinlan backbone (includes a redundant second backbone). Eventually as the need arises this will be replaced with a fiber backbone. Individual workstations are wired via category 5 UTP back to one of three wiring closets where they are connected to category 5 patch panels. The patch panels are then connected to HP Manageable Hubs.

YCSS utilizes HP Netservers for administrative uses running Microsoft NT Advanced Server software. *Client* software is Microsoft Windows for WorkGroups as well as Macintosh System 6.05 and above. YCSS employees access the HP3000 (used for financial systems) via the network. TCP/IP, Netbeui, Ethertalk phase 2, and WRQ's NS 3000 Connection are used at YCSS.

An HP9000, E-35 Server with 2 gigabytes of disk space, 96 mb of memory, DAT tape drive and CD-ROM

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has been purchased and is on-line. Clients will connect to the HP9000 utilizing TCP/IP. Server software will be identical to what is being utilized on the SCOOPNET Server at Sacramento County Office of Education (SCOE): WWW, FTP, NetNews, and E-Mail will be available. (Our Home Page is pretty plain right now but will improve over time!)

Over the next 18-24 months, YCSS will work with districts to migrate the HP3000 WAN to a full network WAN so that costs can be contained and existing phone lines utilized for both HP3000 connectivity and Internet connectivity. Furthermore, the E-35 Server Contents will be refined and modified to meet the information needs of our clients. This will be accomplished by committee - made up of representatives from our client base.

Finally, the network will be monitored and analyzed for security, performance and upgrade needs.

Specific Equipment Used

A 3Com Netbuilder II (8 Slot Chassis) has been chosen as the host router at YCSS. This router was chosen because of its ease of expansion, cost, and because of knowledge base and leveraging ability of SCOOPNET. SCOOPNET utilizes the same router as does EGUSD, Marin County, Novato USD and many other school districts. Utilizing the same router as our service provider (SCOOPNET) brings many benefits in the area of knowledge and vendor awareness. Knowledge is increased because YCSS can collaboratively work with the other schools in the network to solve problems and increases our position with the vendor because so many of the schools are using this equipment.

The HP9000 E-35 Server was chosen because of its high quality and excellent support record. Additionally, YCSS can leverage its current support agreements with HP and the superior support it has received from HP over the last several years.

Livingston Remote Access Servers were chosen because they have proven to work well and because they are among the lowest cost solution for remote access.

US Robotics Sportster 14.4 modems were chosen because of high quality and low price.

Frame Relay was chosen because of no mileage sensitivity (costs are fixed no matter how far away the remote site is) and because it allows multiplexing the signals to the host without having to purchase a port on the Netbuilder II for each remote site.

Software chosen will be freeware off the Internet for client access. Additionally, an e-mail gateway will be setup to allow sending/receiving mail from Microsoft Mail for the YCSS Internal LAN. Server software will be shareware from the Internet and then modified by Lloyd Internetworking to fit our environment. The server software (a.k.a. Cyberstation) will also be maintained by Lloyd Internetworking until such time YCSS staff are capable of doing this function.

YOLONET will connect to the Internet via SCOOPNET. A T-1 Frame Relay line (initial port speed 384mb) will be used to connect to the Internet. The name server will be located at YCSS. Hewlett-Packard, Comlink Inc., and 3Com are being consulted about how to set up the network firewall to insure proper security. Comlink Inc. will do the actual work.

One of the advantages of using the same equipment and vendors throughout the network is the ability to utilize the knowledge gained by the other members. YCSS is working with SCOE to make sure we benefit from their work and they benefit from ours. Additionally, SCOE is filtering newsgroups available for downloading. We have also contracted with Lloyd Internetworking to set up our server and provide consulting, maintenance and training.

YCSS is currently developing its Acceptable Use Policy and will have it completed prior to April 95.

Summary

YCSS is forging ahead and will probably be fully operational on the Net by the time you read this. It has been an enlightening experience along the way bringing with it a tremendous opportunity to learn new things! It is satisfying knowing we are achieving the goals laid out in our strategic plan. It has also been a little scary having so much change so fast. We are fortunate to have a great team here at YCSS who are adjusting to the change — it is seen as an opportunity to learn new things and really make a difference. It will be even more satisfying after we've seen the technology in use.

TELIS[SM]: TeleLearning InfoSource

Connectivity: New service announced for telementors.

Keith A. Vogt, California Technology Project

The California Technology Project initiated a new online service in February, 1995, for the use by the CTP's Telemation Project state and local Telementors and support personnel for one year.

This new online service, TeleLearning InfoSource, "Telis[SM]", will provide the 1,000 telementors and support personnel with Internet access through a contribution from several business partners. GTE/MCI will provide the statewide 800# dial-up access and Realm Internet Systems will provide the Internet services, Adobe Systems will provide Acrobat software, Compaq Computer Corporation is providing a server, and Microsoft will provide server management software.

Telis[SM] will provide all internet services including email, ftp, telnet, gopher, WWW, and will be GINA, vt100, Mosaic, and Netscape compatible with access by 14.4 dial-up SLIP connections.

Telis[SM] will be available for up to six hours of use a day (24 hours a day), seven days a week, with full usenet feed and a 95% no busy signal guarantee.

Others interested in receiving information on obtaining accounts on Telis[SM] may contact me directly.

Keith D. Vogt is Director of the California Technology Project. He can be reached by Internet E-mail at kvogt@telis.org, or can be contacted at: California Technology Project, Orange County Department of Educaiton, P.O.Box 9050, Costa Mesa, CA 92628, or by phone at 714-966 4268, FAX 714-434-0231.

CEDPA Is On The World Wide Web

CEDPA now has a "home page" on the World Wide Web. This home page includes introductory information about CEDPA as well as links to the current board of directors and contact information. *The DataBus* is also published electronically on the Web. CEDPA's home page is at URL:

http://www.nmusd.k12.ca.us/cedpa/cedpa.html.

Use Policy

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for increased access and dial-in capability. The fear that parents are unwilling to allow their students to participate in Information Age access has not panned out in our experience.

Ethical use policies need to be developed with the full cooperation of the governing board, site administrators, educational technologists, librarians, students and information systems personnel. Many districts have already adopted such policies. There is not a single model to fit all districts. The Grossmont Guide is offered to anyone who is developing a policy. If you need the policy in electronic form or have any questions, please contact me at *wwilliams@grossmont.k12.ca.us*.

Various Acceptable Use Policies can be reviewed on the Newport-Mesa Unified School District's GOPHER and Web servers. You can access NMUSD's GOPHER server at ***gopher.nmusd.k12.ca.us*** *or NMUSD's World Wide Web Server at* ***www.nmusd.k12.ca.us****.*

Internet Workshop Available

Addison Ching
Newport-Mesa Unified School District

Patrick Douglas Crispen at the University of Alabama has assembled an Internet training workshop called *Roadmap for the Information Highway.* He has offered these workshops periodically on the Internet through LISTSERV lessons distributed daily via Internet E-mail over a six-week period. His last offering during February was closed after accepting 80,000 requests!

He has made his workshop available to anyone on the Internet and has further allowed his lessons to be tailored to local training needs. Neil Enns of Brandon University has taken Crispen's workshop and formatted it into HTML for use on the World Wide Web. The workshop has also been placed on Newport-Mesa Unified School District's Web server and can be accessed directly from NMNet's home page (URL **http://www.nmusd.k12.ca.us**).

The workshop covers all aspects of the Internet, including levels of connectivity, E-mail, netiquette, newsgroups, Telnet, FTP, Gopher, WWW and Listservs. It is an excellent resource to provide your instructional and administrative staff if they have Internet and Web browsing capability but don't know very much about the Internet.

HTML: The Portable Language of The Web

Abbreviations: Internet shorthand opens a new world of terminology.

Addison Ching, Newport-Mesa Unified School District

Hypertext Markup Language, HTML, is the stuff the World Wide Web is made up of. HTML is used to define everything you see on a Web page—text, graphics, audio, and hyperlinks. Without HTML, special "emphasis" characteristics such as larger text, italics, emboldening, bullet points and horizontal rules, could not be presented on the Web page and viewed by Web browsing programs.

HTML is not a difficult concept to master. Students in elementary schools nationwide are busy developing HTML-based Web pages as a part of their classroom projects. Knowledge of a few basic HTML commands can allow anyone to produce a Web page with little effort.

There are many primers available on the use of HTML. NCSA's home page at the University of Illinois, Urbana-Campaign campus, is a nice source of such material. If you're curious what it takes to compose a Web page, your browser will allow you to look at or even save the HTML code that defines the page. By looking at the HTML, you can visualize the basic concepts that go into defining a document. You'll note that most text is modified by pairs of commands that surround the text they're modifying, and that these commands are enclosed within angle brackets (< and >). These paired commands turn a feature ON <xxx> and OFF </xxx>.

The nice thing about HTML is that it is platform-independent. Web **browsers** from all platforms understand HTML. Likewise, Web **servers** on different platforms also understand HTML. I experienced this at the beginning of February when I decided to move Newport-Mesa's Web server to a different computer. The original Web server was located on the same Macintosh IIci that also supported the district's GOPHER and mail servers. Additionally, this Macintosh is also used for word processing. The popularity of our Web server made it necessary to consider putting it on its own machine to increase its efficiency.

The University of Edinburgh's European Microsoft Windows NT Academic Centre (EMWAC) developed Web server software to run on a Windows NT PC. This software was obtained from EMWAC and installed on our Windows NT machine that was already a part of our Internet support facility. The software installed easily and the server was up and running in ten minutes. More remarkably, all the HTML documents (and their attendant GIF picture and AU sound files) that were originally a part of the Macintosh Web server were FTP'd directly to the Windows NT machine *without modification!* (One nice thing about Windows NT is its HPFS file structure that allows Unix-like file naming; this is what allowed the Macintosh filenames to be preserved across platforms.) The Web service was "cut over" to the Windows NT machine on February 2 by simply changing the machine-to-IP address reference in our Name Service. Web clients referencing the URL http://www.nmusd.k12.ca.us automatically routed to the new Web server; those clients that referenced the actual IP address did not.

Herein lies a lesson about the Internet: servers and IP addresses are changing all the time. What is available today might not be up tomorrow or may be moved to a different location. An inherent danger with associating Internet resources with their actual IP addresses is that the resources might change to a different IP address, as in the case of our Web server. If your resource is associated with its identifying machine *name*, then you should have no problem locating the resource if it is moved to a different machine (assuming the domain's Name Service is properly updated.)

In our case, *both* web servers were kept operational and the pages on the Macintosh were modified to indicate that the server had been relocated. Those still referencing the Macintosh Web server were advised to change their reference to the URL of **http://www.nmusd.k12.ca.us**. Finally, a feature was added to the original Web pages to allow automatic routing to the corresponding page on the new Web server by clicking on a hyperlink.

Moving the Web server to the Windows NT machine was a wise decision. The Macintosh is now free to do its GOPHER and mail chores. The Windows NT machine, a 486dx2-66, is able to provide faster response to Web browser clients. In addition, the Macintosh Web server, which is still in operation to service those errant Web clients that still use actual IP addresses to connect to our Web server, is also used as a Web page development machine. Web pages to be added to our operational server are first proven on the Macintosh to ensure accuracy and operability before they are placed into actual service.

Another View On the Information Highway

Access: Careful planning can result in productive use of the Internet.

Skip Sharp, San Diego County Office of Education
Warren Williams, Grossmont Union High School District

Keith Vogt's article, "Information Highway or Digital Ditch?" in the January-February 1995 *DataBus* raises some very valid concerns. The need for good planning to effectively identify and address issues associated with the "Information Highway" and specifically the Internet is a vital success ingredient. Clearly, we should take the time to plan and execute effectively. On the flip side however, there is mounting pressure to provide Internet access and it is coming from several directions. School administrators, teachers, students and parents have either seen or experienced some of the things available on the Internet, and they want access to it now rather than later. The main problem is that on one end of the spectrum there is the 'shake and bake' planning approach which results in the very problems that Keith pointed out. On the other end, though, is the planning forever loop, in which many projects get stuck and nothing ever seems to happen.

There is a fairly fine line between the two extremes. In San Diego county we think we have successfully bridged the gap between "ready. . . fire. . . aim" and "ready. . . aim. . . aim. . . aim. . . ". What follows then are some lessons learned and suggestions from both a county office perspective, and from a very proactive district within our county.

The County Office Perspective

Planning for and gaining connectivity

The first questions the county office addressed were whether to provide connectivity, to whom, how and at what cost. At the time we got started, there were a few commercial means to connect, but most were, and still are, too pricy for the school crowd. The California On Line Resources for Education (CORE), operated by the California State University system was available and was free. A good combination we thought and so did many others, but CORE soon began to sag from the weight of its own success. After considerable discussion, the San Diego County Office of Education (SDCOE) decided to commit to become an Internet service provider. The rationale was that the SDCOE could serve as a hub for those wanting connect to the Internet and/or Internet services. This was also consistent with the role county offices play under AB1200, where it is expected that the Internet will be used as a main electronic traffic artery. Our ground rules were simple. Our server would provide e-mail capability, selected (filtered) news groups, bulletin board access, a home page, and connectivity (on ramp) to the outside world for those districts in our county that wanted those services. This approach was particularly appealing to the many districts within our county with either very small, or no technical staffs to accomplish this sort of thing for themselves. Along with the servers must come a means to communicate. We support connectivity in two ways, via frame relay and via dial-in. Thanks to a CALREN grant, about half of the districts in San Diego county have frame relay telephone lines to some of their schools. Other districts have begun to make the move to frame relay on their own, and eventually we anticipate most or all of the schools that we support to connect via that method. The SDCOE also supports a limited dial-in modem bank. Those districts requiring significant access to the server via dial-in (as in the case of teachers/students working from home), can have it as long as they provide the additional modems and lines.

There are those districts whose planning and expertise have allowed them to find their own solutions, and one of them will be explained later in this article. The intent of the SDCOE has been to assist those districts desiring help without getting in the way of others. If there has been a common battle cry, though, in getting things done here, it has been "Two, four, six, eight, everyone collaborate". Using this mindset, the districts and the county office have been able share ideas and experiences, to communicate effectively and plan accordingly regarding each others plans, and to mutually identify and solve problems together where practical.

What are the costs?

This can vary significantly from place to place, but the cost to provide Internet access at SDCOE has not been enormous. SDCOE acquired the necessary servers, routers, CSU/DSUs, dial-in modems and software to make it all work for about $70,000. The model that SDCOE has used has been to provide server features at low/no cost to

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Highway

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the districts, but for the districts to pay the connectivity costs. Additionally, the districts are faced with the cost of internally wiring their own schools and facilities. SDCOE can help in some areas such as the grants mentioned, and with some expertise in facilitating campus/building wiring, but for the most part, the districts prefer to arrive at their own solutions.

Training and Support

At the SDCOE, we feel that training and support are the most critical elements in making access to the Information Highway a viable tool for education. To that end, we have structured an Internet curriculum consisting of several courses that focus on using the Internet as an instructional resource. Functional since February of 1994, the course has seen over 700 teachers from San Diego county attend, and we have also had attendees from all over the state. We also firmly believe that 'bossware' is a cornerstone in the training process, and to date over half of the superintendents in the county have attended our Internet training. The end result is that all involved can witness first hand what the Internet phenomenon is and make informed decisions for themselves as to how the Internet fits into the big picture in their respective districts. Most see the adventure as just beginning. The SDCOE commitment is to keep providing the training as long as it is requested. Since most courses are filled within two days after they are announced we believe that we have identified and are meeting a bona fide training need.

Even after training is received, we believe that there is a certain amount of "hand holding" that is required. Surfing the Internet is becoming easier all the time, but finding your way to where you want to be, rediscovering what you have previously found, and avoiding those areas where you don't want to be is difficult. That's where the help desk comes in. We have retrained several county office personnel to provide assistance to school personnel in using the Internet. That assistance ranges from 'scouting the Internet'— finding those things of worth for education and steering educators toward them, to providing real time, over the phone support to those who request it. We want the educators and administrators in the county to know that they have a place to turn for advice and/or help in finding and navigating to where they want to be on the Internet. We are finding more and more use of the help desk all the time. In the early stages of Internet use there is simply no substitute for this service. Our plan is to further evolve the help desk to include teachers and members of the corporate sector to provide help desk support.

The District Office Perspective

Responding to the hype

The mad dash by schools to jump on the Information Highway is partially the result of technologists like Keith and myself doing a good sales job. I remember the first time I saw CORE and its offer of unlimited access for all California educators and students. I marveled at the tremendous resources available on the character based service and immediately began devising plans to provide the service to the Grossmont district in all classrooms and as a dial-up from home. Teachers could not help but respond to the offer of help to bring classrooms into the twentieth century. They intuitively grasped the potential to offer a wide range of services and data to students who were, for the most part, working out of outdated textbooks. Very rarely if ever did we evangelicals caution teachers about costs, support, policy statement needs or growth problems. The implication at workshops around the State was that if your students and teachers were not connected, they were somehow behind the electronic learning curve and they may never catch up. It is as true today as it was a few years ago. The Internet, in one iteration or another, will be part of almost all learning environments in the near future. Teachers and administrators need to be aware of that and plan for it. Its eventuality must be part of curricular and mission critical application discussions.

Training and Support

When connectivity becomes part of an education culture awareness, then issues like support and training become part of the natural dialog. The Grossmont District has a robust technology plan. The plan anticipated training and support as an ongoing need for the implementation of its technology plan. It was therefore well situated when the Internet became available as an instructional and administrative tool. Classes are offered to all district employees who want to learn about Internet access. This course is required for anyone who requests an ip address. Teachers are taught curriculum design using the Internet and support is offered by the IS and Educational Technology staff.

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Highway

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Costs

Our Superintendent likes to ask "can we afford not to invest" when it comes to the latest in technology. When spread across the 20,000 students and 2000 employees, the cost per person to install connection to the Internet is minimal, roughly $2.00. The Internet integrates well into our existing network and adds tremendous capability. For small districts and individual classrooms, the access to information sources can be mitigated by excellent programs as that run by SDCOE or other county offices. I also have found not one person engaged in technology reluctant to share her or his expertise with other schools or districts. Private enterprise has also contributed. PacBell's Education First initiative offers a good model.

Some concluding thoughts

We have seen a lot of long term planning by educational institutions who can offer to those who are at the experimental stage some sage advice. The Information Age is not hype and its presence will profoundly alter the delivery of instruction in California and elsewhere. To those who wait until all of the pieces fit perfectly, there is the danger of losing for your students an equitable jumpstart on their future.

There are pitfalls in this entire process and we have made our share of mistakes and will make more. We have also learned from those mistakes. The process is working and will get better. We see the time to get involved as being now, because if we in public education don't figure out how to make it all work and soon, somebody else outside of education will do it for us. We should all capitalize on the opportunity, rather than complain later that it passed us by as we slept through it. As Dorothy would have said to Toto, "Don't worry about that digital ditch Toto, just follow the Yellow digital road".

Your Contributions Wanted

We're interested in your new projects and successes. Please share your experiences with our readership by sending your articles to us for publication in *The DataBus.* Please send your contributions to CEDPA care of the address on Page 2. Your article will be published in the next scheduled issue after it is received.

Acceptable Use Policy Parent Letter

The following is an example of a letter sent home to parents of students in the Grossmont Union High School District. This letter, written under the superintendent's signature, accompanied the Acceptable Use Policy (see Special Insert in this issue) that had to be signed off by both students and their parents prior to permitting the student access to the Internet. CEDPA is grateful to GUHSD for sharing this letter with our membership.

Dear Parents:

We are proud to offer to Grossmont Union High School District students and staff access to the Information Superhighway called Internet. Internet is a service of the Grossmont Information Network which provides support for curriculum and student learning. Our goal in providing this service is to promote educational excellence by facilitating resource sharing and communication. We support the bipartisan vision of President Clinton and Newt Gingrich, Speaker of the House, that all students have access to information designed to keep them competitive in the work force and abreast of important issues.

The Grossmont District will make every attempt to protect students and teachers from any misuse that could result from experience with an information service. The District will require that every student learn proper network etiquette. Before network access is allowed each student will be required to read a unit of instruction which will include how to avoid restricted information on the network. Finally, your signature on a permission slip granting network access will be required.

The District's investment in your student's future will provide many hours of educational and enjoyable interchange with the information services at school. Please feel free to call Warren Williams, Director of Computers and Technology Services, at 465-3131, extension 332, if you need additional information.

Sincerely,

Jo Ann Smith
Superintendent

Netiquette: The Traffic Laws for the Information Highway

Guidelines: Responsible use is navigation based on courtesy and good manners.

Addison Ching, Newport-Mesa Unified School District

Network Etiquette—Netiquette—is necessary for survival on any public computer network. It applies to callers of bulletin board systems. It is important for users of public access networks such as CompuServe, Prodigy and America Online to know and observe. More recently, Netiquette has become important information for users of the Information Highway—the Internet.

Netiquette is not new. It has probably been around since the creation of the first computer networks. It is enhanced with each additional application. Many books and articles have been written about it. Yet it contains only suggested guidelines, and "Netiquette Police" are virtually non-existent. Netiquette is, thankfully, voluntarily observed by most responsible users of information networks. It is the underpinning that allows the many users of an information network to successfully interface and communicate with other network users worldwide.

Netiquette is courtesy, manners and common sense combined with some simple network use standards that have evolved over the years. Some Netiquette guidelines apply to E-mail communication, while others apply to file transferring and other uses of computer networks. Additional, specialized guidelines may be added by your network administrator for use on your own local network.

Here are some general Netiquette E-mail guidelines:

1. **Don't shout!** Turn your CAPS LOCK off and use upper case letters like you would in any other writing. Capitalized words are used for EMPHASIS. If you write your message using all upper case letters, you are SHOUTING your communication!

2. **Don't flame!** Flaming is sarcastically criticizing, berating or otherwise communicating something inflammatory to someone else. This is not only not nice, it is also unnecessary for effective communication. On certain systems, especially forums that are moderated or otherwise conducted by a person-in-charge, flaming will get you banned from further discussion or participation.

3. **Don't overquote!** Quoting is the process of including the original message to you in your reply. Your message processor will usually have the capability of deleting portions of the original message that are not pertinent to your reply. Only include that which is vital to the reply—to remind the recipient about the context of your reply.

4. In a public forum such as a newsgroup, **don't try to enforce your opinion** over those of others. Everyone is entitled to his or her own opinion; respect those of others. If you post a controversial opinion, don't be surprised if you get a bunch of responses! Don't get into arguments over opinion differences.

5. **Don't use abusive or vulgar language**. Have consideration for the audience of your post.

6. If using a "signature" on your messages, keep it brief and provide only that information that is vital for others to communicate with you. Signatures should not be used as "brag" sheets with fancy character drawings.

Here are some general Netiquette file transfer guidelines:

1. Download only that which you can use. Excessive downloading ties up network bandwidth and access ports. Make sure you virus-check everything you download.

2. If uploading, make sure the file you're transferring is virus-free and has not been hacked.

3. Don't upload or download copyrighted programs. If you download a program and later find out it is copyrighted, you should remove it from your computer.

Netiquette is common-sense computing while interacting with others on a computer network. A basic tenet is to not do anything that you wouldn't have done to you. By observing Netiquette guidelines, you will end up with endless hours of enjoyable traveling on the information highway.

Direction

(Continued from Page 3)

Another relevant issue is the imminent demise of the Migrant Student Record Transfer System (MSRTS) in Little Rock. MSRTS has been used for years as a national system to gather and pass information about migrant education students. MSRTS is sunsetting, effective in June, and each state appears left to its own devices to fill the void. With all the effort California has put into CSIS as a student record transfer mechanism it seems to me that it is a natural building block for tracking migrant, homeless, and other highly mobile student populations. What is needed is a short-term solution to MSRTS going away, a systemic study of the highly mobile student record keeping needs, and development and implementation of a comprehensive solution built on CSIS principles and some form of a statewide network infrastructure. Look for this to be a relatively hot topic, particularly among COEs, during the next few months.

There are probably a hundred other items of significance taking place. As we become aware we will continue to share information and ideas.

GINA

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like to contribute to this important project are welcome to join in.

GINA Communications

Realignment of help groups and access to help will help us better respond and communicate. A sincere effort to create a positive and constructive environment is the ultimate goal of the GINA/CORE+ Staff.

Details on these programs and many others are available in the GINA ***InterNews*** Newsletter or please feel free to contact us directly. We continue to discover much misinformation and encourage you to talk with us directly. Our goal is to work with you and any unique requirements you may have. If you would like details or would like to be added to our mailing list please call or E-mail me. We continue to build GINA's success on your success. Thanks for your great ideas and continued support.

Sue Mangiapane is Director of Marketing for GINA. She may be reached at (310)985-9100, or Internet E-mail at smangia@cello.gina.calstate.edu.

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