CALIFORNIA EDUCATIONAL DATA PROCESSING ASSOCIATION
http://www.cedpa-k12.org

the DataBus

"Serving California's Public Education Technologists"

Vol. 38 • No. 1 December, 1997-January, 1998

E-rate Central – An Update

Funding: Application forms will be available soon. Districts advised to proceed cautiously.

Greg Lindner, Yolo County Superintendent of Schools

E-rate is finally starting to accelerate! The Draft forms (470 and 471) went to the Office of Management and Budget (OMB) on 11/13/97. OMB has two weeks to review and revise them. Once they have been reviewed the FCC will publicly announce their availability and mail them out to schools.

Recently, a California delegation consisting of Kelly Blanton (Kern County Superintendent of Schools), Jackie Lamb (California Department of Education), Owen Burgess (KCSOS), Skip Sharp (San Diego COE), and me (Greg Lindner, Yolo COE), met with Ira Fishman (CEO of the Schools and Libraries Corporation), Meryanne McCormick (FCC), Valerie Yates (FCC), and Lisa Gelb (FCC) to clarify E-rate issues for California Schools. Additionally we met with Paul Galant, counsel to Commissioner Tristani.

All the meetings were beneficial in clarifying information and putting things into perspective. More importantly, they allowed us to shed some light on the issues the field is experiencing with the program. Both the excitement about the possibilities of the program as well as the frustrations regarding uncertainty surrounding the details were discussed. We came away from the meetings feeling both sides benefited greatly. We all have the same goal and that is to see the program succeed.

The biggest issue that seems to be facing districts at this time is the answer to the question, "Should I sign a contract now or wait until the bidding process is operational?" The best advice I can give and others have given is to WAIT unless you absolutely have to sign a contract now. If you do have to sign one, it is strongly recommended that the contract contain language to the effect, "subject to E-rate funding". Please remember that no services received prior to January 1, 1998 will be covered.

The second biggest issue is how Master Contracts will be handled under the E-rate program. Jackie Lamb of CDE and the Department of General Services are working with the FCC to resolve and streamline these contracts. Included in these discussions is how CMAS will be handled. Currently there are about 1200 CMAS contracts that are eligible under the program based on the dates of

(See "E-Rate" on Page 12)

Also 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 or filling out the interest form at CEDPA's website.

The DataBus is published bimonthly by the California Educational Data Processing Association and is distributed without charge to all members of the association and other selected technologists within the State of California who are interested in information systems processing and technology in education. Submissions, correspondence, and address changes should be sent to the editor at:

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Electronic editions of *The Databus* and information about CEDPA are available from CEDPA's website at
http://www.cedpa-k12.org

CEDPA Conference Update

Sacramento: Annual gathering draws praises from attendees and TV news coverage.

Greg Lindner, Yolo County Superintendent of Schools

It seems like we say the following every year, however, this year it rings especially true: This was one of our best conferences ever! Over 200 members attended the conference this year and over 60 vendors. We received several comments from attendees such as the following "This was one of the best run conferences I've ever attended, I actually had to make several choices as to which session to attend." This year's conference also made history as we were interviewed for the regional news on KCRA Channel 3. They spotlighted the emerging importance of technology in schools and the need for technologists to stay informed and network with our peers - exactly what our association and conference is all about.

Another success of our conference was the enthusiastic response of our listserves. All attendees were introduced to our Edtech listserve and the power it holds as more of our members use it. Our association has the tools now to become a more powerful voice in K12 technology: a voice where we as members can solicit advice statewide from others on technical issues and products and a mechanism to do quick statewide surveys on technical issues. As the numbers of K12 technology subscribers increases so does the power of the medium. I strongly encourage you to join if you haven't already done so.

Our second annual golf tournament, hosted this year by Ncompass Systems, was also quite successful. NCompass Systems, Inc. (www.ncompsys.com) is a developer and licensor of GUI based, cross-platform client/server software systems designed for use in California School Districts. NCompass products include the FullCourse, a complete food service management system, and MainCourse, a collection of modules used in Budget Preparation, General Ledger Accounting, Accounts Payable, Accounts Receivable, Inventory, Work Orders, Personnel, Purchasing and Payroll.

The golf tournament was enjoyed by all that participated. Finishing in second place was the team of Tony Ballacera, Peggie Hayes, Roger Siler and Bruce Hayes with a minus 2 for the scramble tournament. In first place with a minus 3 was the team of Glen Farley, Ken Ferguson, Jim Bridges and Don Salvage. Finishing in last place was….. Well, everyone had fun at least. Closest to the pin went to Roger Siler at 17'6". Lynn Baugher had the women's longest drive and Bruce Hayes had the men's longest drive. All prizes were donated by Ncompass for which we are very appreciative.

Next year's tournament will once again be in Palm Springs and should be even bigger and better. Please plan to sign up early, as the spots will no doubt go fast. Next year we will do things a little differently such as hiring a tournament director (too much work for me!) and assigning teams randomly so everyone has a chance to mingle with everyone else.

All in all, the conference went very well this year. This is primarily due to the efforts of your CEDPA Board. They worked long and hard throughout the year to insure the success of the conference and that CEDPA is at the forefront of technology issues in K12. Next year is shaping up to be another banner year for CEDPA, noted by our first SIG meeting and the attendance of Jeff Raikes, vice president of Microsoft North America. Our conference will once again be one you won't want to miss - and not necessarily just because it is in Palm Springs. Our Internet Room will be going through a transformation under Darryl La Gace to align more with our needs now that more of us are connected to the net. Look for more network management tools, virtual private networks, video distribution, etc. - all issues we're all starting to deal with or understand as our networks mature.

I've had a great year as president, and I think we've been able to achieve quite a bit and move our organization forward. This coming year, my role as past president will be similar to a Public Relations Officer. I intend to continue singing the praises of our organization, building our listserv participation, and working towards raising the awareness and usefulness of our organization, both with our membership and other partners.

Please visit CEDPA's website at **www.cedpa-k12.org** for association news and information about significant developments affecting K12 technologists. Also, don't forget to take advantage of the information sharing in CEPDA-hosted E-rate, Edtech, and SIG listservs.

Thanks for a great year!

Cisco Systems Any to Any —Technology Migration Program

Upgrading: Equipment investments can be leveraged towards future purchases.

Sue Mangiapane, Cisco Systems, Inc.

Cisco is pleased to announce its Technology Migration Plan; an innovative, industry first allowing customers to trade the vast majority of Cisco products for any other Cisco product. This program underscores Cisco's commitment to providing end-to-end product solutions as well as emphasizing our commitment to provide effective migration options in the face of ever changing network requirements.

Only Cisco can offer a comprehensive set of product solutions, network design & consulting expertise, worldwide support, and now a plan allowing customers to address their current networking needs with the assurance they can leverage their investment toward future purchases. This allows customers to focus their attention on the other requirements driving their business and reinforces Cisco's commitment to act as a proactive partner in helping our customers gain competitive advantage with a constant stream of innovative technical and commercial solutions.

This program covers the major products offered by Cisco (Interface Modules, Chassis Units, Software). Minor ancillary product offering such as cables, memory, and power supplies are not covered. This program represents approximately 90% of Cisco's entire product offering. The program is global in scope and will be offered through channel partners. Any Cisco product not covered under this program umbrella, or competitor's products, may be addressed on a 1-off basis. Inquiries may be directed to your local Cisco Account Manager.

The following terms and conditions are specific to the Technology Migration Plan and are in addition to Cisco Systems Standard Terms and Conditions of Sale and Software License or Cisco / customer negotiated contracts.

• The program is offered for purchase orders to Cisco Direct, from resellers in contract with Cisco and from end users and purchasing from the Global Price List.

• The trade in program may not be used in conjunction with other promotional programs.

• The credit provided for the trade in of equipment is deducted from the list price. The standard discount is then applied.

• Customers must return old products within 60 days after shipment of the Cisco replacement solution. Customers otherwise authorize Cisco Systems to invoice for the credit value, and customers agree to pay Cisco's invoice for the credited value.

• Equipment must be returned to a Cisco designated location with freight and insurance pre-paid by the customer.

• Customer signature, as applicable, is required on all forms for this program. P.O.s and RMA forms not containing the required signatures will be rejected by customer service and the order will not be processed until all documents comply with this requirement.

• The number of purchased products listed on the Trade-in Order form must be greater than or equal to the number of products being traded-in (one for one trade).

• Offer applies to all purchases of new Cisco product from commencement date of program. It will not be retroactively applied to purchase orders submitted previous to that date (September 2, 1997).

• Cisco Systems, Inc. reserves the right to add, modify, change, improve or discontinue this program and associated products without notice. All products are subject to availability. All prices are subject to change without notice.

For additional information on how you can trade-in older Cisco Product as well as Competitive Product for New Cisco Equipment please contact your local Account Manager.

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SIG 1997-98: Making Connections and Managing Resources

Peering: Forums to help IT administrators manage technological issues, human factors.

Warren Williams, Ramona Unified School District

Late Thursday afternoon in Sacramento. A city waits to reward its visitors with a walk along a reenergized waterfront, a visit to the State Capitol or enjoyment at one of the many eateries famous for the repast and entertainment. But in a room crammed with computers linked to the Internet sits fifty public employees and technology industry representatives seemingly unaware of the charm and excitement that can be theirs. The meeting is the CEDPA SIG being held at the annual conference. And while no stick-in-the-mud individuals, the people congregated there are interested in the technology issues that confront public education in California. At this particular meeting, E-Rate consumes the discussion but many areas of concern are covered and most issues are addressed to the satisfaction of all in attendance.

CEDPA's Special Interest Group (SIG) meetings have provided IT professionals with a forum for the exploration of topics relevant to information management in K-12 systems. This year, CEDPA will bring five SIG meetings to its membership. The first will have already happened by the time this article is published. On December 3, Jeff Raikes, Vice president of Microsoft North America will have delivered to a SIG meeting thoughtful insight into Microsoft's directions as they relate to IT professionals. His appearance at the SIG indicates the importance attached to the work performed by members of CEDPA. Microsoft is hosting the meeting at its Orange County facility. The additional four SIG meetings will occur in January, February, April and May. January and April meetings will be at a location in Northern California with February and May returning to Southern California.

As the nature of IT has shifted from classical data processing tasks on tightly regulated and controlled mainframe networks to loosely confederated amalgams of workgroup nets, so has the SIG focus shifted. Educational leaders increasingly call upon the IT professional to manage the entire spectrum of information technologies on voice, video and data networks. Data warehousing, network infrastructures, and assistance in the delivery of instruction are all projects that IT personnel can be expected to coordinate. IT managers find themselves not only dealing with standard account code implementations, but also E-Rates and Digital High School initiatives.

It is incumbent upon today's managers to find more efficient, less costly and more sophisticated methods for not only implementing new and emergent technologies, but a great deal of attention must also be paid to those human factors necessary for the successful completion of projects and for sustaining daily operations. In many cases, additional workload has been assigned to IT departments without a commensurate acquisition of staff. Training, stress management, salary negotiations, constantly evolving job specifications and motivational techniques are all components that affect human performance as school and county offices move to a greater dependency on the work performed by the IT department.

IT personnel are relatively comfortable with the concept of mission critical as it relates to business operations and attendance. As the world becomes more technologically based, they are increasingly finding themselves as focal points for all of a district's or county office's mission critical tasks including communications - student to student, parent to school, school to county office - instructional delivery, data proliferation and disaggregation, and remote or distance learning. As educational managers find their operations evaluated on "measurable standards," IT professionals are called upon to assist in the development of electronic portfolios and data warehouses.

SIG meetings this year will focus on using technology to assist the IT professional in managing those human factors and technological issues that confront them daily. The meetings will use the traditional format that has served our members well. An open forum/discussion period will begin the meeting. Members will share their concerns and expertise. Frequently these forums are the only place in the State where our members can engage in collaborative discussions for IT professionals.

After a working lunch, CEDPA will host an organization or corporate representative to provide insights into directions and solutions that can assist IT managers

(See "SIG" on Page 16)

1997 Conference Vendor Recap

Terrell Tucker
Panama-Buena Vista Union School District

My experiences dealing with vendors this past year have been quite rewarding. With the number of exhibitors participating in this year's conference reaching 58, there seemed to be solutions to everyone's problems and questions around every corner. It was satisfying to see the support from so many different areas of technology and the abundance of equipment, software and goodies available for attendees.

The exhibit area drawing that capped off the show drew its usual high level of anticipation as attendees viewed a virtual mountain of goodies to be awarded to those lucky enough to have their names drawn. These

(See "Recap" on Page 16)

1998 CEDPA Board of Directors Announced

The 1998 CEDPA Board of Directors were elected at the business meeting held at the CEDPA Conference. President-elect is Terrell Tucker of Panama-Buena Vista Union School District. Terrell was responsible for the 1997 conference vendor exhibit, the largest and most successful in CEDPA's history. He will oversee the planning for next year's conference that will be held at the Palm Springs Marquis, site of the 1996 annual conference.

Other board members that were re-elected to their positions are Jane Kauble (LACOE), Secretary, Judy Acosta (VCSS), Treasurer, Addison Ching (CSU Office of the Chancellor), *DataBu*s Editor, and Mike Caskey (Stanislaus COE), Director (1999). Eric Boutwell (SFUSD) was elected to a two-year directorship. Darryl La Gace (Lemon Grove SD) continues his term as director (1998) and Greg Lindner is now Past President.

The board paid tribute, with appreciation, to Ken Jones (CSU Foundation), who has stepped down as CEDPA Director after many years of dedicated service to CEDPA. The association will miss his leadership and contributions

In other action, CEDPA president Russ Brawn appointed Warren Williams to the position of SIG Chairperson. The remaining term of the directorship vacated by Terrell Tucker will be filled by board appointment.

Attendance Awards

Judy Acosta
Ventura County Superintendent of Schools

Every year, CEDPA recognizes conference attendees who have attended for five, ten, fifteen, or twenty consecutive years. It is our way of showing our appreciation for your dedication and support.

Those receiving awards at the 1997 Conference at the Radisson Hotel in Sacramento were:

Five Years

Lisa (Downer) Hayes
Carl Fong
Cindy Minter
Steve Setterlund
Dan Trade
Phil Trott

Ten Years

Richard Moynahan
Art Perez

Much to our dismay, we overlooked someone this year who should have received a five-year award. Robert (or Bob) Thomas of the Fairfield-Suisun District was missed because the name (Robert/Bob) was used to register in different years. Bob, we will correct this mistake and get your award to you as soon as possible. If there are others who feel they may have been overlooked, please contact me. You will find my address, phone number, or e-mail address on the second page of this edition of *The DataBus*.

Many thanks to our loyal supporters!!!

CEDPA Listservs

Edtech - A discussion forum for educational technology issues.

Erate - A discussion forum for E-Rate, the FCC ruling on Universal Service that provides schools and libraries significant discounts on telecommunications services.

SIG - A discussion forum for K-12 information management issues; also used to assist with the planning and announcement of CEDPA SIG meetings.

To join a list, send an e-mail message to listserver@cedpa-k12.org. Leave the message subject blank. The message body should contain only two words: the word **subscribe** and the name of the discussion list you wish to join. The rest of the message should remain blank. Do not append your signature line to the message.

Microsoft Happenings

Glenn Osako, Microsoft Corporation

Skills 2000 Educator Training Initiative
January 1998 - June 1998

One of the most critical obstacles that many academic institutions face when attempting to provide cutting-edge technology training is finding qualified instructors. Microsoft plans to provide a jump-start to academic institutions through its recently launched Skills 2000 Educator Training Initiative. During FY98, Microsoft will sponsor workshops in 19 cities across the United States and prepare instructors to teach Microsoft Windows NT technology. The Educator Training Initiative will provide 8 days of instructor led training for the nominal cost of the course materials - $150. Typically students pay up to $2850 for the equivalent training through commercial training facilities.

Skills 2000 Initiative Benefits AATPs

The Skills 2000 Educator Training Initiative is one component of Microsoft's Skills 2000 **(www.microsoft.com/skills2000/)** multi-million dollar initiative to address the gap between the number of open jobs in the computing industry and the lack of skilled professionals to fill them. Skills 2000 involves a multi-tiered approach designed to reach out to individuals currently in the computing work force as well as those interested in developing a career in information technology.

Who should apply for the Skills 2000 Educator Training Initiative?

We strongly encourage instructors at community and vocational colleges, high schools, and four-year institutions to participate in the Educator Training Initiative. To qualify, instructors must apply for, or already be a member of, the Microsoft Authorized Academic Training Program. It's not too late. Apply today at **http://www.microsoft.com/aatp/intro.htm**.

How to Register for the Educator Training Initiative

Registration will begin December 1st. To register, visit our site in December. If you are unable to access the Internet, call (800) 973-1479 or e-mail skills@artedu.com to request a Skills 2000 Educator Training Initiative registration form. Classes are limited in size. Registration will be on a first-come, first-serve basis.

Class Locations & Schedule

Workshops will be held in nineteen cities across the United States. Please see the schedule at **http://www.microsoft.com/aatp/schedule.htm** for a location near you.

For more information, please see the AATP web site: **http://www.microsoft.com/aatp/**.

Attend Technical Solutions Briefings

The Technical Solutions Briefing (TSB) is an in-depth, three-hour presentation that describes compelling features and benefits of Microsoft products and addresses the migration and deployment issues facing many corporate customers. Many customers who attend Corporate and Education Solutions Briefings want more in-depth information about specific product categories, as the Solutions Briefings are a high-level architecture overview that touches on all Microsoft products. The Technology Solutions Briefings are intended to provide the next level of in-depth technical information about a series of technologies. Topics include: Microsoft Desktop, Internet solutions, Data Warehousing with SQL Server, Messaging, Communication & Collaboration with Exchange.

For Southern California times & locations: **http://www.microsoft.com/usa/socal/events/tsb.htm**.

For Northern California times & locations: **http://www.microsoft.com/usa/norcal/events/tsb.htm**.

Microsoft releases Exchange 5.5 at Comdex

Las Vegas, NV-If ever there was a sure-fire winner in Las Vegas, Microsoft's latest offering is it. At the Comdex information technology conference, the company introduced Exchange 5.5, the latest edition of the Microsoft® BackOffice® family's messaging and collaboration server. This version of Exchange offers new features and extends the application's core strengths: messaging, interoperability, scalability and collaboration. Today's announcement also coincides with a surge in Exchange popularity. While Microsoft has sold more than 7.2 million Exchange seats in the product's first 18 months of availability, the last 12 months have shown even more

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Microsoft

(Continued from Page 7)

explosive sales.

Because organizations rely on Exchange's messaging features to keep critical lines of communication open, version 5.5 offers several new features to help ensure that the server-and its data-remain available. While previous Exchange versions supported generous 16 GB-sized message storage areas, Exchange 5.5 now limits storage only by the size of the hardware that hosts it. And the application supports the clustering services of Microsoft Windows NT® Server, Enterprise Edition, the multipurpose server operating system of BackOffice. These clustering services greatly improve overall system reliability and availability. Exchange 5.5 also enables faster data backup than version 5.0-and if a user accidentally deletes an important message-a new Deleted Item Recovery feature can retrieve it.

But the innovations don't stop there.

Microsoft Exchange 5.5's interoperability allows companies to connect to legacy systems using several integrated components: Exchange Connector for Lotus Notes, IBM OfficeVision/VM Connector and SNADS Connector. Using these tools, administrators can maintain mixed environments while migrating to Exchange from client-server or legacy systems-without incurring communications down time, and with no extra gateways or switches. And as a multiprotocol server, Exchange offers customers a choice when choosing a protocol and client.

What's more, Microsoft Exchange has already proven that it can scale to handle even the largest implementations. Almost half of the Fortune 100 companies have standardized on Exchange Server, including General Electric, which recently deployed more than 92,000 units.

And while GE, like many companies, depends on the Microsoft server for reliable electronic messaging, Exchange 5.5 also offers a number of collaboration features that go beyond e-mail. The Exchange Chat Service lets intranet and Internet users work together in real time, and hold online discussions. The software's Internet Locator Server can track who is online and ready to attend a video conference via Microsoft NetMeeting. And scripting tools and design wizards allow administrators to create workflow-enabled applications and Web-based collaboration solutions.

But Exchange isn't just for super powers like GE.

According to a recent International Data Corporation study entitled "The Pervasive Internet," Microsoft Exchange Server was the leading product selected by the majority of small, medium and large organizations polled.

For more information on Exchange 5.5, check the web site: **http://www.microsoft.com/exchange/default.asp**.

Glenn Osako is Education Marketing Manager for Microsoft Corporation's Southern California District. He may be reached at (714) 263-3019, by FAX at (714) 252-8618 or by e-mail at gosako@microsoft.com.

1998 Vendor Show

Mike Caskey
Stanislaus County Office of Education

Ho-Hum… Time to start thinking about the vendor show for next year…

It's that time of year again. No, not the start of the Holiday Season (although it is the start of the Holiday Season). It's time to start thinking about the 1998 CEDPA Conference. We'll be back in Palm Springs at the Marquis hotel, October 14, 15, & 16. The 1997 Conference was a real BLOCKBUSTER and your board is hard at work preparing for the next conference.

One of the real success stories of the 1997 conference was the quality of the vendor show and we'd very much like to continue the trend in 1998. Terrell Tucker did a great job putting the show together with a great variety of high quality vendors.

Why am I writing about the vendor show now? Well, it's pretty simple, really. We would like to know of any vendors you would like for us to contact. The Marquis is a magnificent facility. However, we may be limited to 58 or 60 vendors for the 1998 Vendor Show because of the size of the venue. We will have to follow the "first come, first served" rule of allocating booths and would like to contact any of your favorite vendors that were unable to participate in the 1997 conference. Please e-mail me at mcaskey@stan-co.k12.ca.us with your suggestions and ideas for the 1998 Vendor Show.

And, yes, I do realize that the Holidays are approaching. Have a Great Holiday Season!

Internet Servers: A Cost Effective Solution With E-Rate

Discounts: Eligible equipment includes Internet access hardware.

Dan Shahbazi, Internet Products, Inc.

Internet servers are among the many technology products that are covered under current E-Rate guidelines. A distinction can be made, however, about the added benefits that Internet servers can provide in reducing the cost of ownership after E-Rate funds have been depleted.

Eileen Donovan, an E-Rate researcher at Internet Products, Inc., the San Diego developer of InterGate, observes that schools need to be cautious about solutions that will involve increasing costs after discounts have been disbursed. "A school or district that receives E-Rate discounts in January will not necessarily be eligible for discounts next year or beyond," Donovan said. "It depends a great deal on the success of the E-Rate program and any guidelines that may change.

She added, "it becomes critical for educational sites wanting to take advantage of E-Rate to consider future costs now." Donovan said that schools or districts specifying Internet servers in their technology plans will enjoy the benefit of adding users later without incremental costs down the road.

According to Farley Stewart, Internet Products' president, an integrated network Internet server like InterGate gives educational sites seeking E-Rate discounts substantial added benefits. "We designed InterGate to work within the staffing confines of schools and districts," he said. "One InterGate is easily managed by a single staff or faculty member with basic computer proficiency."

E-Rate discounts do not cover training or staffing needs. Stewart noted that schools seeking to build their own Internet servers will likely need a staff member with significant technical proficiency to manage, maintain and diagnose problems with that solution. "The dollars spent on adding a staff member could be used for additional Internet servers that are included in E-Rate coverage."

Some schools not aware that Internet servers are E-Rate compliant may look toward ISPs to manage their user accounts and services. "Aside from the loss of internal control," noted Stewart, "there is an expense risk involved with ISP contracts because of the monthly fees associated with those agreements."

ISPs will charge for every user account it manages as well as the services it provides. E-Rate discounts used this year for ISP contracts may not be available in the same amount in following years; yet, the need to provide services to users and manage them continues to grow.

Two other areas of interest to educational sites seeking E-Rate discounts are the need for comprehensive support contracts covered by E-Rate and the need to show how curricula will be enhanced with the implementation of a technology plan.

Stewart noted that InterGate is fully supported with optional contracts that are covered under E-Rate guidelines. "The design of InterGate allows for one support contract to cover all support needs for every Internet service needed at a school or district," he said. "Support is a necessary part of an Internet solution, and E-Rate makes it possible for our support contracts to remain integral to the success of an educational site's Internet plan."

Curriculum enhancement also becomes a vital point of evidence for schools seeking funds. "Specifying InterGate enables schools to request discounts for a solution that has robust Web caching mechanisms that dramatically speed the process of downloading Web pages," Stewart added. "The end result is that lab time is not spent on downloading Web pages but on the value those pages offer in enhancing the learning process." More information on InterGate's performance and access control capabilities can be found on Internet Products' ftp site at [ftp://ftp.ipinc.com/presentations/cedpa97.ppt].

For more information on how the InterGate solution can benefit a school or district seeking E-Rate assistance, or to obtain an InterGate bid specification contact Eileen Donovan at Internet Products via e-mail at eileen@InternetProducts.com, or call her toll-free at 1-888-InterGate (468-3742) ext. 111. Internet Products can be reached on the Web at www.InternetProducts.com. InterGate is a registered trademark of Internet Products, Inc.

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Network Technology Planning

Process: Multi-stepped approach helps to define and achieve goals..

George Sullivan, Northrop Grumman

Editor's note: This is the first installment of a multipart series on Network Technology Planning.

Planning is the process of setting realistic goals, and implementing the means of achieving them. Planning addresses the following issues.

Establish the goals

Planning begins with decisions about what the organization requires; identifying priorities and specific aims helps to focus resources effectively.

Define the present situation

What is the distance from the goals? What resources are available to reach them? Open lines of communications between upper management and those responsible for implementing the plans are required in this phase. Broad-brush financial and demographic information form important sections of the situational assessment.

Identify aids and barriers to the goals

What internal and external factors will help the organization attain the goals? What are the problems (challenges and opportunities) that must be overcome? Forecasting and trending interact in this phase of planning.

Develop a set of actions (plan) to reach the goal

Devise alternative plans, evaluate them, and select the most satisfactory. This is an iterative process and will be repeated over and over again.

The Planning Process

The planning process can be divided into three parts:

- Strategic
- Tactical
- Operational

This article will discuss the elements of network strategic planning. Strategic planning is a continuing activity; it is the pattern of decision making that pervades an organization.

Strategy has the following attributes:

- Extended Time Horizon
- Significant Impact to the Organization
- Concentration of Effort – Focus on Specific Activities while Excluding Others
- Pattern of Decisions that Support Each Other
- Pervasiveness
- Focused on Doing the Right Things
- "The Big Picture"

Strategic Planning is the Vision Statement for the overall organization. It should be a High Level view, not nuts and bolts. To encompass a broad scope, and to allow flexibility it can't get "bogged down in details". The strategy must be customer centered; it should describe the goals that the organization wants to achieve a few years down the road.

Network Strategic Planning

Network strategic planning is the iterative process of establishing a comprehensive network architecture that addresses overall requirements for voice, video, and data communications for a three-year or longer duration. The architecture will be driven by the technology available, the requirements of the user community, and the availability of resources to satisfy user's needs. Inputs to the plan start with stakeholder interviews, in which their visions for the organization's goals are stated. This is a high technology endeavor; therefore the interview process satisfies the "High Tech – High Touch" element to achieve "buy-in" from the users.

The type of goals that we're looking for are those anticipating the results of information technology, and deployment "rules" to be followed. For example, key elements might include types of applications to be used, the number of students to a classroom or lab PC ratio, access to the network from homes, etc. These high level requirements should describe the goals that the network design much achieve. Elements of cabling, PC platform selection, protocol choices, and topology dominate the technology selection processes. At this point we must integrate available technologies into infrastructure alternatives, and make a selection that we will be comfortable with going into the future.

At this point, we must pause, write the plan down, and present it to the stakeholders. Show the alternatives that you evaluated, and your reasons for selecting them. Listen to the users, modify your plans if necessary, and communicate the results to your user community.

Next Step: Tactical Network Planning

George Sullivan is Senior Network Architect at Northrop Grumman. Bob Shupe is Major Accounts Manager for Northrop Grumman and can be reached at (714) 838-9649, by FAX at (714) 838-7479, or by e-mail at bobshupe@aol.com.

How Correct Is Your HTML Syntax?

Addison Ching, California State University Office of the Chancellor

Web browsers are fortunately very forgiving, for the most part. They faithfully display web page after web page, representing colors, font changes, tables, and other textual embellishments as accurately as one can imagine. No one would suspect that under the cover, where the true HTML source can be inspected using a "view HTML source" pull-down window or some equivalent operation, that errors might actually exist. One might even argue, "But the pages display properly!"

If you started developing web pages when the Internet was in its infancy (as far as K-12 use is concerned), you are probably "self-taught," relying on one or more tutorials and references that were available on the web. You probably did some reading, developed an experimental page or two, displayed it with the NCSA Mosaic browser, and were satisfied at the results of your efforts. If the page didn't quite work out the way you anticipated, you probably fiddled with it a bit, dug back into the tutorials to see why your instructions produced that mess of a page it did, then made the appropriate changes that gave you the look you wanted. From this discipline you probably developed some very bad and syntactically incorrect habits for writing HTML—which still exist in the pages you're currently developing. But the pages display properly!

If you recently picked up HTML as a hobby or as a responsibility of your job, you're probably using one of the many now-available web page development tools. These might include Adobe PageMill, Microsoft's Front Page, or maybe even a shareware tool such as Arachnophilia or Allaire's HomeSite, an excellent and very highly rated web development tool.

Or you might be using Microsoft Office 97's built-in HTML conversion utilities for Word, Excel, and PowerPoint. Other popular programs such as Adobe PageMaker also have HTML exporting routines that will convert your formatted text into HTML, sometimes with results you didn't quite expect!

Whatever method you're using to create HTML, are you assured that your HTML syntax is correct and conforms to HTML standards? What do you base that assurance on? Do you assume that if your page displays properly on the most popular web browsers in use that your syntax is correct?

Guess again! Many people that write "raw" HTML—that is, coding HTML statements from "scratch" using a text-based word processor—inadvertently include syntax errors in their coding. This may be due to bad coding habits or carelessness. How many of you former programmers can remember coding that COBOL program with perfect syntax—no compilation errors and it executed correctly the first time? HTML coding is no different—after all, it is too a programming language.

Commercially available development packages are no different; just because the program "generates" the required HTML doesn't necessarily mean that it generates the HTML statements with correct syntax. The programmer that wrote the HTML generator probably used the same guidelines that you've used in the past—if the web browser displays it properly, it *must* be correct! The HTML conversion utility for Microsoft's PowerPoint97 generates HTML with a handful of errors—a misspelling, extra spaces where they shouldn't be, and the absence of quote marks where they should be. But the pages display properly!

So why the fuss about syntactically correct HTML?

First, the fact that the incorrect HTML displays properly could be due to a "bug" (or is it a feature?) in the browser that could be corrected or modified in a subsequent release. This means that incorrect syntax that displays properly today may not at some point in the future.

Second, incorrect HTML, while displaying properly in Netscape Navigator or Microsoft Internet Explorer, may not display properly on other, lesser-known browsers (Mosaic, Lynx, or shareware) that might be in use.

Third, incorrect HTML produces inconsistent results on the browsers that compensate for the errors. The only way you can guarantee consistent format and layout is to ensure that your HTML is correct. Fortunately, there is a very good tool that is available to accomplish this.

CSE 3310 HTML Validator by AI Internet is an effective tool that will not only evaluate your HTML syntax and point out errors, but it will also help you to develop correct HTML syntax habits. The tool will work in stand-alone mode but can also be incorporated within

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Digital Subscriber Line (xDSL)

Digital Service: High speeds possible on a single copper pair.

Paul J. Sosa, Pacific Bell

Digital Subscriber line technology has created a buzz in the networking industry. The promise of high speed digital service on a single copper pair is an important step in the provisioning of high speed distributed networks. Digital Subscriber line technology is often referred to as xDSL with the "x" as a placeholder for a number of different implementations.

x DSL technology has three common elements. First, the delivery medium is a single copper telephone pair. Second, the data is formatted digitally. Third, analog voice remains delivered in the 4Khz passband.

ADSL is one implementation of xDSL technology. ADSL delivers an analog voice channel, a digital 384 Kbps upstream channel and a digital 1.5 Mbps downstream channel on a single copper pair.

The explosive growth of the Internet and the expense of hybrid fiber/coax networks has generated a new enthusiasm for ADSL. ADSL's architecture models the traffic patterns on the web. An individual web user clicks on a hypertext link sending a small request to a web server. The server responds with a large HTML file sent in return. The traffic is asymmetric, in that small requests create large responses.

ADSL promises lower cost and higher performance than competing technologies. ADSL uses the existing single pair distribution plant, therefore, is not dependent on costly distribution upgrades. ADSL is a dedicated end user technology, unlike cable modems, that allows the service provider to guarantee performance levels. ADSL is flexible, in that it can be paired with other technologies in the backbone, such as ATM or SONET, to create high speed Wide Area Networks. Finally, ADSL can be configured to carry digital data, analog voice and broadcast MPEG2 video in a variety of implementations to meet customer needs.

Pacific Bell is planning to offer ADSL service in Northern California by the end of 1997 and Southern California early in 1998.

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E-Rate

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those contracts. There are about 3-4000 current CMAS contracts.

The third biggest issue seems to be how is the California Teleconnect Fund going to interface with the E-rate program. Jackie Lamb of CDE has also been meeting with the CPUC to clarify this issue. In fact the CPUC has issued a request for comments (comment period ends 11/17/97) on a resolution that clarifies the issue from CPUC's perspective. Basically the resolution clarifies some confusing language in their prior document. In summary the resolution states that the E-rate should be taken first then the CTF. The downside of taking the E-rate first and then the CTF is dependent upon how long it takes the paperwork to be completed. Specifically, if you have CTF now, you should be covered for the 98 year. In 99, it appears you would have to utilize E-rate first, drop CTF then reapply for CTF. We're concerned about how long it might take to turn the paperwork around since in the past it has taken 3-6 months to get CTF. Stay tuned for more information on this.

A lot is happening on E-rate and it is changing every day. Since most of the information we receive is verbal it has been frustrating at times relaying the same information to everyone. One of the best resources I have found for gathering E-rate information, clarification, and the latest news is the **CEDPA Erate Listserve**. Directions on how to sign up for the listserve are on the CEDPA home page at **http://www.cedpa-k12.org**.

To stay informed on E-rate, subscribe to the listserve and also check out the following pages:

CDE's E-rate Page: **http://www.cde.ca.gov/ftpbranch/retdiv/k12/e-rate/**

YoloCOE's E-rate Page: **http://www.yolo.k12.ca.us/erate/**

HTML

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Allaire's HomeSite HTML development tool as a complete HTML development package. It features a complete diagnostic set with options that allow you to specify how certain characters (such as ampersands and high-ASCII characters) should be handled. The current release version 2.50 includes support for HTML 4.0 as well as for unique features of Netscape Navigator 4.0 and Microsoft Internet Explorer 4.0.

When used in conjunction with Allaire's HomeSite HTML development program, a single function key is used to invoke the validator. Word wrapping is automatically turned off and HTML statements are assigned temporary statement reference numbers and appear in their own window. Any errors detected by the validator are detailed in a separate frame window that references the statement number and describes the error. The user can click on the error flag and HomeSite will locate and highlight the offending statement. At this point, editing can be done to correct the error.

The validator is quite thorough, detecting extra spaces where they don't belong, flagging incorrect use of HTML instruction options, and catching nesting errors where closing tags appear out of sequence or not at all. It is very refreshing to run your HTML through the validator and end up with a "No errors found" message. However, if the validator detects any syntax errors, its concise diagnostics will allow you to locate and fix your errors quickly.

Additional information about HTML validator and an evaluation copy of the program can be obtained at **http://www.htmlvalidator.com**. Information and an evaluation copy of Allaire's HomeSite can be obtained at **http://www.allaire.com**.

Job Announcement Submissions

California K-12 public education agencies are welcome to submit job announcements for publication in *The DataBus.* All submissions must meet the following criteria:

1. Announcements must be in word-processed format.
2. Vacancies must remain open a minimum of two weeks after publication date.

Announcements will be included on a space-available basis. Submissions should be made electronically via e-mail to the *DataBus* editor (see Page 2) at least two weeks prior to publication date to be considered for publication.

www.cedpa-k12.org

Have you visited CEDPA's website lately? Do you like the remodeled look?

Most of the site's pages were recently redesigned to provide an "updated" look and to enhance site navigation. A common navigation bar with clickable topic buttons appears on the top tiers. Standard fonts were replaced with more universally readable fonts designed especially for web browsing.

You may have noticed the appearance of two special logos on the navigation bar. These two clickable logos – "Microsoft Internet Explorer" and "Built on Microsoft Windows NT Server/Powered by Microsoft BackOffice/ with Microsoft Internet Information Server" – are there to symbolize Microsoft's relationship with CEDPA and acknowledge CEDPA's appreciation to Microsoft for partially underwriting the support costs of CEDPA's website.

"CEDPA appreciates Microsoft's involvement and support of our activities," said Addison Ching, editor of CEDPA's newsletter and CEDPA's webmaster. "Their commitment to K-12 education is clearly evident by their association with CEDPA and our site."

Glenn Osako, Education Market Manager for Microsoft Corporation Southern California District adds, "I checked the site and it's first-class...looks great! I really appreciate…all the hard work on this; I think this strengthens our partnership." Osako continued, "We look forward to providing your organization with on-going information and support."

As a part of the arrangement, CEDPA will host an informational page on its website that will be dedicated to Microsoft surveys and items of interest to K-12 technologists. Look for the appearance of this page in the near future.

CEDPA's site is hosted on a Pentium 200 computer running Windows NT Server 4.0 with Microsoft Internet Information Server 3.0. The site can be reached at **www.cedpa-k12.org**.

How does that graphic "rotate?" How does the IE globe spin? These and many other web animations are done using animated GIFs. Special programs such as WWW GIF Animator and GIF Construction Set can be used to assemble multiple images into a single GIF file. The animation effect is accomplished by changing the individual images at intervals as defined in the GIF file.

3Com Corporation Announces CoreBuilder™ 9000 Enterprise Switch

SANTA CLARA, Calif., November 17, 1997 – Global networking leader 3Com Corporation (Nasdaq: COMS) today defined a new class of switch in the networking industry with the announcement of its CoreBuilder 9000 system. This innovative, multi-layer switch offers unprecedented levels of network capacity – up to four times that of competing products – with the control and the high system availability required for the core of enterprise networks. The new system, following the recent introduction of the CoreBuilder 3500 Layer 3 high-function switch, further strengthens 3Com's position as the technology leader of switching systems for the network core.

Specifically, the CoreBuilder 9000 platform defines a new class of high-end switching systems for ATM and Gigabit Ethernet high-capacity backbone networks. In addition, because higher-speed desktop computers are increasing network bandwidth demands, customers can plan to scale their networks with confidence to effectively support next-generation applications.

The CoreBuilder 9000 system's flexible architecture supports both cell-based ATM and packet-based Gigabit Ethernet switching in a single platform and can be configured to support a variety of technologies to meet customers' diverse high-speed switching requirements. By aggregating 3Com CoreBuilder, AccessBuilder® and SuperStack® solutions into a single system, the new CoreBuilder 9000 leverages customers' investments and provides unprecedented levels of campus LAN performance migration.

"Network managers are concerned about protecting their core switching investments in a time of rapid evolution and change; therefore, flexibility and choice are necessary requirements for the network core to remain intact, while also accommodating new application and network technology demands," said John McConnell, president of McConnell Consulting, Inc. located in Boulder, Colorado. "3Com's CoreBuilder 9000 switch will be well received by customers since it offers multiprotocol routing and switching with support for both cell and frame networking technologies."

"Today's announcement raises the bar for switching in the network industry with 'first in its class' breakthrough technology designed for customers' migration to fully-switched networks that will support next-generation applications," said Ron Sege, senior vice president of 3Com's Enterprise Systems Division. "The new system enhances 3Com's industry-leading family of CoreBuilder high-function switches and provides the superior technology that will be required for the enterprise network core."

Unprecedented Levels of Network Capacity and System Redundancy

With up to four times the switching capacity of competing products, both in performance and network port density, the CoreBuilder 9000 switch provides forwarding rates greater than 100 million packets per second. 3Com's recently announced FIRE (Flexible Intelligent Routing Engine) Layer 3 switching wire-speed routing technology enables the CoreBuilder 9000 switch to scale up to 56 million packets per second. It supports up to 112 OC-12 ATM ports or up to 126 Gigabit Ethernet ports. Future plans are to scale to OC-48 ATM. The fully fault tolerant system is designed for high availability with complete redundancy and no single point of failure.

"At the core of today's corporate ATM backbone networks, nothing but 100 percent up time is acceptable," said Dan Gisi, manager of enterprise communications architecture at Adobe Systems. "The new 3Com CoreBuilder 9000 switch has the OC-12 port density required in the core of our new network design and the built-in reliability that it requires."

TranscendWare Software: Network Control for the Enterprise Network Core

The CoreBuilder 9000 system enhances 3Com's leadership position for providing the ultimate network control technologies that customers require, such as bandwidth management, QoS/CoS and network management via its TranscendWare networking software.

The bandwidth management features include support for Layer 3 switching, Fast IP and MPOA cut-through routing techniques, multicast/broadcast controls, traffic management and congestion control features which enable efficient network bandwidth utilization. Advanced QoS/CoS features available in the system enable customers to support mission critical or delay sensitive applications, such as voice and video. The system offers distributed management agents that work in concert with 3Com's Transcend® Enterprise Manager software, featuring ap-

(See "CoreBuilder" on Page 15)

CoreBuilder

(Continued from Page 14)

plications such as configuration and policy-based management, status monitoring and reporting.

"The CoreBuilder 9000 switch fully complements our strong sales and service partners that serve some of the world's largest enterprise network customers," added Alan Kessler, senior vice president of 3Com's Enterprise Systems Global Field Organization. "We have accelerated our investment in 3Com's sales and service organization and continue to partner with the industry's leading network integrators, which deliver the best results to customers."

3Com Third Generation Layer 3 Switching Architecture

FIRE (Flexible Intelligent Routing Engine) is a fully-programmable Layer 3 switching, wire-speed routing ASIC technology, which is the heart of 3Com's third-generation Layer 3 switching architecture. The CoreBuilder™ 3500 Layer 3 switch, the first product to leverage the FIRE architecture, leads the industry by providing ten times the performance for as low as one-tenth the cost of a traditional backbone router. networking analyst at Dataquest.

The FIRE ASIC technology provides support for extensive Layer 2 and Layer 3 switching, multiprotocol routing and policy-based network services, all at wire speed. FIRE implements the network control element of 3Com's TranscendWare™ framework: software embedded in network devices that controls traffic flow, optimizes network performance, automates administration tasks and enforces network policies.

"The FIRE architecture's advanced functionality not only gives customers unprecedented network capacity and control, but also provides expansion capabilities that enable customers to meet their business requirements now and into the next millennium without compromising existing network investments," said David Tolwinski, vice president and general manager of 3Com's Switching Systems Division. "This new architecture capitalizes on 3Com's unmatched experience with Layer 3 switch design, based on our installed base of more than 600,000 Layer 3-enabled switch ports."

FIRE Technology Available in CoreBuilder 3500 Switch

The CoreBuilder 3500 switch raises the bar for Layer 3 switching solutions by combining leading price/performance with the robust network features required for corporate enterprise networks. It provides non-blocking, wire-speed, multiprotocol routing and switching on all ports, eliminating the performance bottleneck caused by legacy LAN routers, while also preserving existing network wiring and subnet topology. In addition, because customers' networks require seamless integration of multiple technologies, the switchs modular design supports Ethernet, Fast Ethernet, Gigabit Ethernet, FDDI and ATM, as well as routing of IP, IP Multicast, IPX and AppleTalk protocols. As with all 3Com systems, the CoreBuilder 3500 switch is managed within 3Com's comprehensive Transcend Network Management solution. Advanced network management features such as full, embedded RMON, RMON2 and Roving Analysis Port provide users with the functionality required to monitor and control the CoreBuilder 3500 switch.

"We tested the CoreBuilder 3500 switch in a configuration of 24 Full Duplex Fast Ethernet ports. The CoreBuilder 3500 switch performed full wire-speed routing of both IP and IPX achieving the maximum throughput possible with no packet loss," said Kevin Tolly, president of The Tolly Group.

"The CoreBuilder 3500 switch will provide us with a high-speed collapsed backbone to meet our needs going into the next century and will enable us to soon deploy Gigabit Ethernet downlinks to 3Com's SuperStack® II desktop switches for a truly scalable, high-performance architecture," said Bob Bonham, manager of network architecture and management at SAS Institute of Technology. "The switch's unique embedded policy management will enable us to utilize multicasting, thus minimizing broadcast traffic and conserving bandwidth. In addition, its network diagnostic and RMON and RMON2 management capabilities will help us optimize network communications."

Availability

The ATM system will be available in April 1998. The Gigabit Ethernet system will be available in June of 1998. Details for additional Ethernet (Layer 2 and Layer 3), FDDI and WAN access and multi-service modules will be announced at a later date.

These press releases were submitted by Laura Thurman of 3Com Corporate Communications. John Perez is a K-12 representative for 3Com Corporation. He can be reached by telephone at (310)348-8110, by fax at (310)-348-8167 or by email at John_Perez@3Com.com.

SIG

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accomplish their jobs. As CEDPA's reputation has expanded, the quality of the speakers that can be attracted has also increased. The intent this year is to bring CEO and CIO officers to meetings to share their visions and expertise. Their insights will hopefully assist the membership manage the complexity of issues faced on a daily basis.

Finally, SIG meetings can not be successful without the input of the membership. For this reason, CEDPA will begin to host a new listserve. It will have a twofold function:

- It will serve as an open forum for all matters of concern for IT professionals.
- It will assist in planning and announcing future SIG meetings. Topics and location suggestions will be discussed on-line.

CEDPA hopes that SIG meetings this year can assist you in managing the variety of tasks needing your attention. Please engage us in our on-line forum. To enroll on the listserve send an email message to listserver@cedpak12.org. Include in the message text - "subscribe SIG".

Recap

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goodies included the standard collection of clothing apparel (t-shirts, sweatshirts, golf shirts, and fleece jackets), tote bags, mugs, and gift baskets. Prizes also included software (Corel WordPerfect Suite 8, anti-virus, personal information management, electronic encyclopedia), network cards, camera and binoculars set, deskjet printers and a color television set. Over forty lucky attendees had their names drawn for these prizes.

Activity inside the exhibit area seemed to be at an all-time high, impressing vendors with the usefulness of CEDPA in their marketing strategy. At the same time, all present were able to witness one of the largest vendor shows in CEDPA history. As the saying goes, "if you couldn't find it there, maybe it doesn't exist".

I extend my sincerest appreciation to vendors willing to support our group and to each of you that saw the benefit of the event. It is always rewarding to see hard work pay off and the response from attendees regarding the usefulness of this year's show was certainly rewarding. As always, we welcome your ideas to improve the exhibit area of the conference and look forward to next year at Palm Springs to be even better.

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