SPAUG PrintScreen

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A Non-Profit / Educational Organization - http://www.pa-spaug.org

Notes from the Prez

by Jim Dinkey

FINANCIAL INFORMATION ON LINE is ubiquitous. What would you like to find? There are company profiles, past histories, income estimates among others. Some sites are free, some charge a fee. Please let a board member know where your interests lie.

RAFFLE PRIZES are currently a problem. If you have or can recommend some raffle prizes for the Club, It would be much appreciated. Bev Altman is the coordinator of this activity.

TROJAN HORSES are still running around. This is a reminder that Zone Alarm, a freeware, is definitely in order. Trojan Horses ARE NOT VIRUSES and are not detected by virus scanners!

THE MID-2001 CD had 18 man-hours of effort put into it compliments of John Sleeman and Stan Hutchings. We are attempting to get the CD ready by the next meeting—no guarantees. It is 231 MB so far.

THE REAL MESSAGE this month is the availability of support programs that permit you to TUNE UP your computer:

CATCHUP.CNET.COM is a means of checking your machine and then receiving a report of the upgrades available for your particular machine. It is up to you to go to the sites to obtain the particular downloads.

WWW.MCAFEE.COM offers the

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Meeting Agenda.

7:15 "Boot up"

7:30 Announcements.

7:35 Guests introduction.

7:40 Random Access (Crosstalk)

7:50 Break

8:00 SPEAKER

9:15 SIG Reports

9:20 Raffle

9:30 Adjourn

General Meeting @ Elks Lodge - Wed. July 25 @ 7:15 PM
4249 El Camino Real - Palo Alto (directions on page 4)

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same service, but for a fee. However, the 10-day trial could be enough for your needs. One portion is the Hardware Advisor that looks at your machine and gives you a hint on where hardware upgrades could be implemented to your advantage. Some bottlenecks may be eliminated.

WWW.PCPITSTOP.COM is a checker of the overall health of the machine, including bottle necks and software updates. Turn it loose on your machine and see how you come out.

UPDATES.ZDNET.COM will review your machine for free and tell you what software is out of rev. Downloading the corrections is an option left to you. Found a bunch of surprises for my machine.

http://msn.zdnet.com/partners/msn/bandwidth/speedtest500.htm will visually demonstrate the speed of your connection to the Internet. This will show you what you are missing if you have not gone DSL or cable.

Have fun.

Jim

Upcoming SPAUG Meetings

July:
Jason Turk, RAID
(Maury Green hosting)

General Meeting @ Elks Lodge
4249 El Camino Real, Palo Alto
July 25, 7:15 PM

Jason W. Turk,
National Sales Manager,
Promise Technology, Inc.,
will speak on
RAID Data Storage Devices

August:
Gilman Louie, CIA Menlo Park head

September:
Hank Skawinski, Marketplace 2001

October: open

November: open

SCSI vs. IDE

(Reprinted courtesy of CDW-G Solutions)
Contributed by Maury Green

FIND THE RIGHT SPICE

When you upgrade your storage capabilities, does it make a difference whether you choose SCSI or IDE standards? It can.

Anyone working with large files on the desktop or using a heavily trafficked server knows that slow hard disk performance can make the fastest processing system painful to use. If you're running into performance problems opening and saving files or multitasking on a PC or server, it might be time for a storage upgrade.

For most users, the latest IDE drive technology makes sense and is inexpensive and readily available. But if you're looking at servers, server appliances, or high-powered workstations, the age-old SCSI versus IDE dilemma comes into play. And the answer isn't as obvious as it once was.

OLE RELIABLE IDE

The fact is, IDE (Integrated Drive Electronics), also known as ATA (Advanced Technology Attachment), is still the standard of choice for most desktop users. ATA drives are faster and less expensive than equivalent SCSI drives, usually about $5 to $7.50 per

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gigabyte compared to $15 to $18 or more per gigabyte for SCSI, not including the SCSI adapter. Most mainstream desktop PCs today ship with drives and motherboard controllers supporting the latest Ultra ATA/66 or Ultra ATA/100 standards. You can also upgrade most older PCs to those standards by purchasing an inexpensive controller card.

Ultra ATA/66 and Ultra ATA/100 transfer data between the hard drive buffer and system memory at very fast burst rates of 66 and 100MBps, respectively. Bear in mind, however, that when it comes to working with large files, burst rates are not as important as sustained transfer rates, which depend primarily on the drive's rotation speed, drive head, and servo technology. Today's sustained transfer rates max out at around 40MBps, so for most users an upgraded controller won't make much of a difference. Nor will upgrading to a supposedly faster SCSI drive. IDE device installation is also much easier to deal with than SCSI, as there are no configuration IDs, terminators, or complex driver problems to worry about.

Where IDE falls short, at least natively, is multitasking. For example, a developer or a video or audio content creator running a multitasking operating system like Windows® 2000 and making use of many devices at once will notice a definite performance hit with IDE versus SCSI. The same is true for users of IDE drives on a heavily trafficked server. Sure, the IDE interface supports four devices, two each on two separate channels. But a single IDE channel can only support a single transaction at a time, so while an IDE transaction is taking place with one IDE device, other transactions have to wait, and the other device on the channel cannot be accessed. Mixing hard disks with CD-ROM, tape, or other drives on the same channel leads to even more of a performance hit, as hard disks and these devices use two different protocols. You can sidestep this problem by putting your devices on separate IDE channels, but then you've limited the number of devices you can attach to your motherboard controller.

By contrast, SCSI is a much more intelligent interface than IDE, and is inherently designed for multitasking. Depending on whether you're using narrow or wide SCSI, a single adapter can support either 7 or 15 devices, each of which has its own intelligent controller and can work with the others to accept multiple commands at the same time. SCSI devices accomplish this with their native intelligent command queuing and reordering capability, which can take multiple concurrent commands (up to 64 or even 256 in some cases) for multiple devices, and execute them in the most efficient order for maximum performance. This is why SCSI-based RAID is the best solution for high-capacity servers.

SCSI also tends to put less of a drain on the CPU than IDE, though current Ultra DMA and bus-mastering IDE controllers can transfer data directly into memory, bypassing the CPU for most operations. SCSI also tends to be a bit ahead of IDE on the technology curve. The drives with the fastest rotation speeds and other performance enhancements tend to show up as SCSI drives first, then later as IDE drives. Finally, SCSI supports external devices; IDE does not.

SQUEEZING SCSI

IDE has been making major inroads into SCSI territory lately, particularly for workstations and workgroup servers. Adaptec uses its own technology to offer inexpensive IDE RAID (0,1, 3, and 5) controllers that feature multiple IDE channels, offer similar fault-tolerance features as their SCSI counterparts, and support for hot spare IDE drives. You'll find IDE RAID technology in many low-end workstations, servers, and server appliances, including Snap appliances. With the price of IDE drives getting more and more reasonable, a configuration of multiple hot-swappable drives can make a great high-performance, nearline backup alternative to tape. The performance of Adaptec's IDE RAID technology is fine for the small- and medium-

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Questions and Answers

Name	*Area Of Expertise*	*Phone*	*Hours*	*e-mail*
Jim Bailey	**DOS , Quick Books 6, Quicken 98**	**650 494 0631**	**9AM - 9PM**	**Jimby@pobox.com**
Jim Dinkey	**Win NT/Win 98**	**650 493 9307**	**9AM - 9PM**	**jimdinkey@jimdinkey.com**
Bill Goldmacker	**DOS**	**650 691 0911**	**6PM - 9PM**	**gold@svpal.org**
Robert Mitchell	**Win 95/98, MS Publisher 2000**	**650 941 5792**	**3:30PM-8PM**	**Rfmitch702@earthlink.net**
John Sleeman	**MS Publisher, UNIX, Fortran, Perl**	**650 326 5603**	**9AM - 8PM**	**sleemanj@earthlink.net**

Arlan Kertz - "SPAUG 501(c)"

This is to remind you that SPAUG is a non profit organization registered with the IRS under Internal Revenue Code 501(c)(3). In this regard, your dues (except for $12 for the newsletter) are deductible. Also, any additional cash and or other non-business assets donated to SPAUG are also deductible.

Elks Lodge, 4249 El Camino Real, Palo Alto, CA 94306-4496

The Elks Lodge is at 4249 El Camino Real on the North side of the street, between Charleston and San Antonio Road, but very close to Charleston. It is next to Ricky's Hyatt House, which is on the corner.

Park your car in the parking lot at the front of the lodge, and proceed to the center door. This is a keycarded door so we will have someone at the door to let you in. Proceed to the Lodge Room straight ahead and to the left.

If you cannot get in the center door because you are late, press the wireless doorbell that will be in place for each SPAUG meeting, and someone will come to let you in.

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sized networks and low-end workstations to which it's marketed. High-performance 3D workstations and application servers still demand SCSI, however.

SCSI is also feeling the squeeze in the external device market where USB and IEEE 1394, which are easier to configure, are becoming the buses of choice. IEEE 1394, with its fast throughput (up to 400Mbps), is particularly popular in the Macintosh and PC video editing applications. You can find external IEEE 1394 drives from Western Digital and other drive vendors. These usually have IDE drives at the other end of the connection. At the high end, Fibre Channel is taking over as the technology of choice in enterprise storage networking. Fibre Channel's higher throughput, scalability, and support for longer distances and multiple protocols (including SCSI and IP) and topologies, including arbitrated loop, makes it a natural for SANs.

Still, SCSI is the technology of choice for any internal storage or storage attached to a high-end workstation or server. It's also appropriate for server clusters that share a single storage system.

CAN YOU SAY ACRONYM?

Both IDE and SCSI have amassed a number of different standards over time with different throughputs and other characteristics (see Tables 1 and 2 for more information). What you need to know on the SCSI side is that Wide SCSI, available in all SCSI flavors past SCSI-1, uses a 16- or 32-bit bus, rather than an 8-bit bus, so it can transfer twice as much data at a time. The two types of differential signaling, high and low voltage, were introduced to increase allowable cable lengths. Low-voltage signaling predominates today, as high voltage differential signaling proved to be an expensive solution.

The three generations of SCSI specifications have allowed SCSI performance to keep up with processing power and the needs of new applications. SCSI's original, 5MBps throughput is now up to 160MBps with Ultra 160 SCSI and soon to be 320MBps with Ultra 320 SCSI.

IDE has a similar upgrade path over time and a similar backward compatibility. IDE and ATA are interchangeable, as are Enhanced IDE and Fast ATA. The various PIO (Programmed Input/Output) modes use the CPU's registers for data transfer, whereas the DMA modes transfer data directly into memory. Today, you will mostly find Ultra ATA/66 and Ultra ATA/100 drives; just about all are DMA based. PIO is pretty much a thing of the past. The ATAPI standard, introduced with Enhanced IDE, supports all devices other than hard disks and has had some minor changes over time.

SCSI and IDE hardware have no problems coexisting on the same network or even the same system. For example, if you have a desktop system that is used for both traditional office and high-performance content creation applications, you can store the business-oriented files and applications on a mainstream Fast ATA drive, and add a separate SCSI adapter with a faster SCSI drive and whatever CD, CD-RW, tape, and DVD drives you would need for content creation applications and files. This gives you the best of both worlds, as you save storage dollars and still get the multitasking benefits of SCSI when you need them. There's also

Special Interest Groups Well-Received

The Club has run a number of SIGs during the past year or so. There are proposals for more, listed below; we should like members' input on which are favored. If you have other suggestions, we should very much like to hear them.

Windows 98/98SE/ME
Internet.
Quicken.
Home Networking

no reason why ATA and SCSI storage can't coexist together in the same network, server, or even storage appliance.

Be on the lookout for serial ATA, which is in a draft standard today and is likely to offer burst rates up to 150MBps in its first incarnation. USB 2.0, or Hi-Speed USB, available in mid 2001, will allow connection speeds up to 480Mbps (compared to USB 1.1's 12Mbps rate); and IEEE 1394 will also introduce a new version at the end of 2001 that will up throughput to 800Mbps.

As organizations provide Web access to more and more data, fast storage performance is becoming a necessity. Luckily, there are excellent high-performance storage options to choose from, and upcoming advances in storage technology will provide the storage power that future organizations crave.

Field Trips.

The Club has run a number of popular field trips during the past year, and more are in prospect (see below) after the winter hiatus. We should welcome suggestions for other trips; please pass on your idea to the Prez, Jim Dinkey.

Recent & prospective trips:

Hornet Aircraft Carrier – Alameda
Bevatron – UC Berkeley
Intel Museum Chip Manufacture
Ames Museum of Computer History
Palo Alto Power Distribution Center

SCSI

			Max. Bus Lengths			
Interface	**Max. Bus Speed**	**Bus Width**	**Single-Ended**	**LVD**	**HVD (Differential)**	**Max. Devices**
SCSI	5MBps	8-bits	6m	-	25m	8
SCSI-2	10MBps	8-bits	3m	-	25m	8
SCSI-2	20MBps	16-bits	3m	-	25m	16
Ultra SCSI	20MBps	8-bits	1.5m	-	25m	8
Ultra SCSI	20MBps	8-bits	3m	-	-	4
Wide Ultra SCSI	40MBps	16-bits	-	-	25m	16
Wide Ultra SCSI	40MBps	16-bits	1.5m	-	-	8
Wide Ultra SCSI	40MBps	16-bits	3m	-	-	4
Ultra2 SCSI	40MBps	8-bits	-	12m	25m	8
Wide Ultra2 SCSI	80MBps	16-bits	-	12m	25m	16
Ultra3 SCSI (Ultra 160/m)	160MBps	16-bits	-	12m	-	16
Ultra320 SCSI	320MBps	16-bits	-	12m	-	16

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IDE/EIDE

Interface	DTR	DMA Mode	PIO Mode	Devices
IDE/ATA*	4.2MBps	0	-	2
IDE/ATA*	3.3MBps	-	0	2
IDE/ATA*	5.2MBps	-	1	2
IDE/ATA*	8.3MBps	-	2	2
EIDE/ATA-2*	13.3MBps	1	-	2
EIDE/ATA-2*	16.6MBps	2	-	2
EIDE/ATA-2*	11.1MBps	-	3	2
EIDE/ATA-2*	16.6MBps	-	4	2
EIDE/ATA-3*	13.3MBps	1	-	2
EIDE/ATA-3*	16.6MBps	2	-	2
EIDE/ATA-3*	11.1MBps	-	3	2
EIDE/ATA-3*	16.6MBps	-	4	2
EIDE Ultra ATA/33	33.3MBps	2	-	2
EIDE Ultra ATA/66	66MBps	5	-	2
EIDE Ultra ATA/100	100MBps	5	-	2
EIDE ATAPI	Device Dependent	-	-	2
*Indicates an obsolete technology.				

Tech Support.

Don't overlook the list of members (on page 4) who are willing to offer help and advice on their areas of expertise. It's free so there are no guarantees! However, it provides one-on-one help, and more time than the ten minutes of Random Access at the General meetings.

If you have questions on subjects not listed, try calling Jim Dinkey. If he can't help, he may know who can.

Jim also maintains a laboratory in his home which is available to SPAUG members when intractable problems arise. Call (650) 493-9307 to make an appointment, which would normally be on a Saturday morning. This service is also available to non-members, but at the cost of a suitable donation to the Club's coffers. (That alone should be an inducement to join - any appropriate contribution would be more than the annual membership, but less than you would pay a commercial outfit. Tell your friends.)

Planning Meeting

Planning meetings are held on the first Wednesday of each month, usually at Beverly Altman's home at 7:15 pm. All members are welcome, and encouraged, to attend. Please phone Jim Dinkey or Bev Altman to confirm venue.

Next meeting: Wednesday, August 1st, 2001 at 7:15, at Bev Altman's home.

Stanford/Palo Alto Users Group for PC (SPAUG) annual membership dues are $35, payable to SPAUG, at PO Box 20138, Stanford CA 94309-0138.

Please include your name and address, and optionally an e-mail address and any special interest group (SIG) you want more information about.

Questions? Call Beverly Altman (650) 329-8252 or Jim Dinkey (650) 493-9307.

The SPAUG Web Page

available at

http://www.pa-spaug.org

Hosted by MNC Monterey Network Center

General Meeting
Wed. July 25,
7:15PM
at Elks Lodge,
4249 El Camino
Palo Alto

Listserver

spaug-list@cloves.montereynet.net

Any member on the spaug-list can send messages to all other members on the list automatically by sending e-mail to this address. This list is intended for announcements of interest to all SPAUG members. Please avoid excessive or trivial announcements, since some members are paying for connect time. Additions or corrections can be sent to:
info@pa-spaug.org

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PC USER GROUP Meeting

WEDNESDAY	**July 25**	7:15 PM

Elks Lodge, 4249 El Camino Real, Palo Alto
Hosted by: SPAUG (Stanford Palo Alto User Group for PC)

Topic: RAID Data Storage Devices

Speaker: **Jason W. Turk**,
National Sales Manager,
Promise Technology Inc.,
http://www.promise.com

Speaker Bio: With over 8 years in the IT industry with an emphasis on storage, Jason's experience encompasses all the various channels. National Sales Manager for Promise Technology for the past 3 years. Previously Product Manager at distributor Synnex Information Technologies in Fremont CA. Before Synnex he worked for Promise as a Channel Business development Manager and before that he helped run a family retail chain of 10+ stores throughout the bay area.

You are invited to join us for an optional no-host dinner at 5:45 pm, at Su Hong Eatery, W. Meadow and El Camino Way, Palo Alto

We meet on the last Wednesday of most months.
Our remaining meetings for 2001 are: 7/25, 8/29, 9/26, 10/24, and 11/28

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http://www.pa-spaug.org
Jim Dinkey, President, 650-493-9307 jimdinkey@jimdinkey.com

☞ **See other side for a special offer.** ☜

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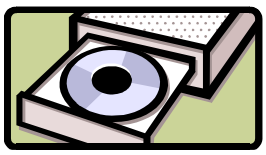
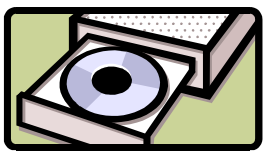
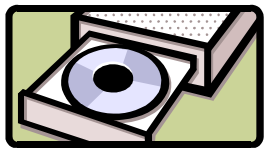
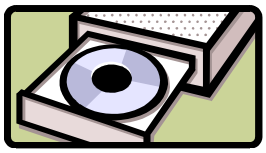
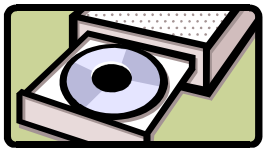


AdobeAcrobat ..... Reader for PDF Files
AdOffNT ..... Gets rid of ads if you are running NT
AdSubstract ..... Get rid of banner ads from Web Sites
AmazingBlocks ..... A Tetris style arcade game
Arachnaphilia40 ..... HTML Editor
AtomicClockSynch ..... Synchronizes PC Clock with Internet Time Servers
Bounce Spam Mail ..... Lets you send fake bounce messages to spammers
BusinessCards ..... Two programs for designing business cards.
CatWalkingAround ..... Cat walks around your screen doing cat things.
Christmas ..... Several programs for Christmas
Coco Calculator ..... Scientific Calculator
Communicator476 ..... Netscape476
Cookie Pal ..... Block and control cookies
CuteFTP ..... FTP program
Desk Menu ..... A simple but flexible desktop launcher
Diskkeeper Lite41 ..... Disk defragger for NT
DropZip50 ..... A drag and drop program for zipping and unzipping files
Eudora Lite50 ..... E-mail program
EZMacros ..... The ultimate keyboard macro utility
File Splitter ..... Split large files into smaller files to fit on floppies
FindItEasy ..... A Java applet to search and retrieve records
MahJongg ..... Game
MS Media Encoder7 ..... Converts sound files to Media format
MS Media Player7 ..... Media Player
MSN_Explorer55 ..... All-in-0ne Software, browse, e-mail, music, with current ISP
NistTime ..... Synchronize computer clocks via the Internet
Opera402 ..... Smaller, faster web browser
OptOUT ..... Internet Spyware Detection and Removal
PaintShopPro7 ..... Easy-to-use photo editing, painting, etc.
PowerToyTutorial ..... Tutorial for PowerToys
RoboType ..... Insert blocks of text using a shortcut word
ScreenShotPrograms ..... Three programs to choose from.
SlidesandSound20 ..... Prepare slide shows with sound from camera or slides
SnagIt32 ..... Screen capture, etc.
WebWasher221 ..... Gets rid of banner adds.
WinZip8 ..... WinZip utility
WS_FTP Lite508 ..... FTP Program









In addition, there are 40 files from the August 23, 2000, *PC Magazine* "Finalists in the Shareware" categories of: (1) Business Applications, (2) Desktop Accessories, (3) E-mail, News Readers & Chat, (4) File Utilities, (6) Graphics & Multimedia, (7) HTML Editors, and (8) Internet Utilities.