

# SLO Bytes Hard Copy

A publication of the **San Luis Obispo PC Users Group**

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<http://www.slobytes.org>

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General Meeting, by Bill Avery

The new newsletter format begins with this issue. The report of the Early Meeting is simply a question and answer session with our sage explorer of the computing world, Alan Raul. His discussions are available on tape, for those who might wish to listen at a later date. The topics covered this time touched on PDF files, some choices related to publishing them. Also mentioned were alternative programs using HTML or Postscript formats to share documents over the Internet. Alan noted the recent introduction of the modem communication standard, "v.92", as an upgrade from the older 56Kb/sec "v.90" standard, which has been popular for about 2 years. After these discussions ended, we adjourned to the Break Room for Nancy Vrooman's Social Circle - a monthly feature of SLO Bytes, sharing cookies, coffee, and herb teas. Our Christmas Meeting will be special with extra homemade goodies from our members, I hope.

Ray Miklas opened the main meeting, with the HTML and Linux SIGs announcement for the following week at Ralph Sutter's home in Arroyo

Grande on Monday Night, and a new location for the Linux group. That will be [KCBX.net](http://www.kcbx.net) [a.k.a. [SLONET](http://www.slonet.org)] on Thursday, November 21, 2002 @ 630 PM, at KCBX Training Center, 4100 Vachell Lane, San Luis Obispo. A map is available at <http://www.slonet.org/~araul/map.gif>.

Our most important item this month concerns the annual Board of Directors Election, which will be the first order of business next month. All the Officer and appointed positions are open for nominations. Ray has posted details on our Website, <http://www.slobytes.org/announcements.htm>, in the second part of the Announcements Page.

We also scheduled an open meeting for discussions concerning our club's activities in the coming months, at Ray's home, on Thursday, Nov. 7, 2002, at 7pm. That meeting has occurred, and the results will be explained at the next club meeting.

Our Main Speaker for November was Marty Joel of Perceptions Unlimited LLC, a custom software engineering company. It is located at 1543 La Loma Drive in Nipomo, CA., phone (805) 929-0590. On the Web, see his resume and job history at <http://www.PerceptionsUnlimitedLLC.com/company/>.

Marty came to us with a presentation titled, "Demystifying the Internet!". He began with the simple concepts known to most users, and filled in several of the unknown details, to shed light on its more interesting aspects, including understanding security systems in a general way. The presentation was partially repeating information presented in August, 2002 to our club by Jim Synder from Complete Connections of Paso Robles, and is also covered by "The History of the Internet", by Dave Kristula, on the web at <http://www.davesite.com/webstation/net-history.shtml>.

Marty's presentation is also available on tape, if anyone would like to hear it again. He is experienced in many areas of software development, such as operating systems, device drivers and embedded software, and has been working in those areas for about 25 years, beginning when he was a teenager in high school. His company is 12 years old, and it is an OEM, or Original Equipment Manufacturer, which means that other companies, under another name brand, use his software. He explained "what the Internet is, how names and addresses are used, how bits are moved in packets, how email works, how the World Wide Web works." He described "how a network can be connected to the Internet, as well as some other uses of

the Internet, besides email and the web."

"The Internet consists of a fairly small number of wide and fast data highways owned by such companies as Worldcom, Level 3, and Savvis. These highways are actually fiber-optic cables that connect hubs located in major cities. Attached to these hubs are 'toll-roads', owned by the ISPs, (Internet Service Providers). You pay your ISP for access, and your ISP pays for the use of the main highways." Marty showed an interesting map of the 3 major providers cable routes across the United States, color-coded to indicate the speed of the connections, such as 10 MB/sec. [http://www.savvis.net/network/usmap\\_files/slide0001.htm](http://www.savvis.net/network/usmap_files/slide0001.htm)

Two types of connections exist, namely dialup accounts or dedicated connection. He said, "when you use a dialup connection, your computer's modem converts data to and from encoded sounds on the telephone line while talking to your ISP's modem, that is connected to what is called a 'router'. This is another computer, which sends and receives data over the Internet for you." When you connect to the Internet, using cable or DSL, a network card is connected to your cable or DSL 'modem'. These are not true 'modems', because they do not use audio tones to transmit digital information. Since these connections do not get converted to sounds, they are much faster than a typical dialup modem, at 56 KB/sec vs. 1 MB/sec or more for DSL or cable.

"A unique number called the IP [Internet Protocol] Address identifies every computer on the Internet. These numbers are currently 4 bytes (or 32 bits), unsigned integer numbers. To make them easier to work with, we usually describe them in 'dotted-decimal' notation, in which a decimal point separates the value of each byte, from 0 to 255." An example is 255.255.255.255. With 32 bits, you have about 16 Billion combinations, which is actually becoming a problem, because we are running out of numbers. There is a new protocol, called 'IP6', which uses 6 bytes, instead of 4 bytes, for IP Addresses. These addresses are grouped into 'Classes', so an ISP might be given a block of addresses, and there are only so many big blocks available."

The IETF, or Internet Engineering Task Force, on an international basis, controls the administration of these number blocks. Your ISP assigns either a static or dynamic IP address, depending on the type of connection and level of service. The dynamic address changes each time you connect to the ISP's server, and uses DHCP, or Dynamic Host Configuration Protocol, to select a number out of the block of addresses available to a given ISP. To connect properly, you must setup your computer for the correct type of connection, and give it the DNS [Domain Name Server]'s computer Primary and Secondary IP addresses as supplied by your ISP. Domain Names are an adaptation to allow people to use these numeric addresses by assigning alphabetical names to the IP address numbers, since people use words, and not numbers, to communicate and remember locations. Common top-level Domain Names are .com, .gov, .edu, .mil, .net, .int, and .org. Some new names are .biz, .info, and .name . There is also a 2-letter top-level domain name for each country, such as .ca for Canada, .jp for Japan, and .uk for the United Kingdom. You can own a domain name for under \$20 per year, and this gives you ownership of all the sub-domains under that name. An example is mavens.org, and it will have specialty sub-domains called hardware.mavens.org and software.mavens.org. [Marty explained that 'mavens' is Yiddish for 'expert'].

When you type a named address into the address box of your browser, the Domain Name Server is asked to convert that alphabetical information into the corresponding numeric address. If the DNS server does not know the correct address, it will contact a higher level server, which does know, and return that information to your browser. The names 'server' and 'client' refer to the split system of software which has one part of a program on your computer, and a second part of that same program on a 'host' computer, usually at the ISP's location. Web Hosting has become popular, because your web page is located on the remote host computer at your ISP, so you do not have to store the information on your own machine.

The domain name servers for the eleven main top-level domains are spread out over the entire world, Marty said, for redundancy purposes, and commerce purposes. The main hubs in the United States are Mae West and Mae East, one on each coast.

There are racks of routing servers at these NOCs [Network Operations Centers], that interconnect the backbone fiber-optic cables together, to send the data packets to their correct locations. These installations are often called 'server farms'.

The domain name system has 4 parts the 'scheme' which is the first part of every name, such as http//, ftp//, or telnet//, which tells what kind of protocol is being used. Then there is the domain name, or sub-domain portion, which contains letters, numbers, dashes, underscores and periods. What follows that is called 'path', which is like a sub-directory system on a hard drive, leading to the actual resource, or file, location for the address of interest. After the resource, another optional part of this system allows for a question mark, followed by some data with equal signs to represent inputs to a program at the remote resource location, to allow interactive response back to the original server, or other resource on the Internet. Forms on web pages use this system to post data to a remote site, for entry into CGI [Common Group Interface] scripts, for example.

Further discussions enabled us to hear about details on email, the World Wide Web, and browser security schemes.

To conclude his presentation, Marty summarized his talk: "What you learned today has been a brief overview of the Internet. There is much more information about the topics I touched on. I've given you Cliff Notes of the books and specifications I've read. The protocols of the Internet are defined in over three thousand documents called RFCs for Request for Comments. An organization called the Internet Engineering Task Force, IETF, maintains a list of all the RFCs at <http://www.ietf.org>. You do, however, now know more than most Internet users, and more than some technical support people you may encounter."

Marty's entire presentation can be downloaded at <http://www.mavens.org>

See his Power-Point Presentation at <http://www.Mavens.org/mavens/DemystifyingTheInternet.ppt>

Our meeting concluded with a Pic-N-Win raffle for a neat pair of walkie-talkies, and software for a PDA on a CDROM.

All members had a good time, counted by Ray, to be about 65 in attendance this month.

Our December meeting will feature a return visit from PowerQuest, by Gene Barlow, our favorite hard drive expert, and a BIG Prize drawing for all current members, with many special items. Also, don't forget to bring your used hardware/software for our annual swap meet. Santa gets an early start this year, so we'll see you there, and Happy Holidays to all.

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#### President's Message

Thank you Bill for such and informative and in depth coverage of our last meeting and Marty Joel's presentation. You always give us a great summary of our featured speakers' presentations so that we can read of what we have heard, reinforcing our understanding of the presentations.

As Bill noted (above), our Hard Copy newsletter has taken on a new look and format. This is due to the fact that no one came forward to volunteer for the job of the Editor. This may not be as bad as it first appears because we certainly can deliver all the pertinent information of our club's activities to our members via email and our web site, and save the expenses on printing and mailing costs. We will continue to print and snail mail the Hard Copy (of this format) to members who do not have an email address. Let us know what you think.

Due to Alan Raul's work, you can also view our Hard Copy in the HTML and PDF formats:

HTML version of this mailing available at <http://www.slobytes.org/announcements.htm>

PDF version of this mailing available at <http://www.slobytes.org/nl1202.pdf>

I have purchased (for \$9.99) four CDs "Learn XP Bundle Windows, Excel, Word & PowerPoint" for our members to check out and use on their computers. We will make copies available for checking out starting at our Dec. meeting.

I'll be the "Santa Clause" at our Dec. meeting, passing out the various gifts at our gala give-away raffle. Bill Avery and I have been shopping at Staples, Best Buy, Radio Shack, Computer Stuff, and at Trader Joe's (10 bottles of wine). I believe that we will be happy with the gifts we receive from the "Santa Clause" this year :-)

--Ray Miklas

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#### Club Information and Meeting Times:

Hard Copy is a monthly publication of SLO Bytes PC Users Group located in San Luis Obispo, California. Information in this Newsletter is derived from both our own membership and other PC User Group Newsletters. The purpose of this publication is to inform our members of meetings and provide information related to the use of IBM PCs and compatible computers.

Membership: Dues are \$25 per year. Full membership entitles you to our monthly newsletter, technical assistance, raffle gift drawing at the end of the meetings and comradeships.

Article Submission: Deadline for submission of articles is the 15th of each month. Articles should be provided in ASCII format without any type of formatting from your word processor including tabs, indents, extra spaces, or highlighting. We prefer articles on disk but will accept hard copies if necessary.

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General Meetings are held the 1st Sunday of each month. Our meeting location is the San Luis Obispo I.O.O.F. Hall on Dana Street.

Special Interest Groups (SIG's) meet at 1:00 p.m.

The general meeting starts promptly at 2:30 p.m.

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#### SLO Bytes Officers/Volunteers:

R. Miklas (President/Editor)

G. Kuncir (V.P./Programs)

M. Baxendale (Treasurer)

W. Avery (Contributing Editor/Win95/98 SIG)

A. Raul (Web Master/Linux SIG)

R. Sutter (HTML/Internet SIG)

N. Vrooman (Refreshments)

N. Wallenstein (Publishing)

K. Stilts (Set-up/Clean-up)

C. Buttschardt (Set-up/Clean-up)

J. Enos (Set-up/Clean-up)  
W. Palmerston (Set-up/Clean-up)

Treasurer's Report Oct 15 - Nov 15, 2002	
Income	
Membership Dues	\$200.00
Refreshments	\$30.84
Expenses	
Rent	\$75.00
Newsletter Copying	\$52.82
Drawing Prize	\$21.44
APCUG Dues	\$50.00
Checking Acct Balance	\$2,144.85
Savings Acct Balance	\$376.39

New Members:

David Bruns  
Jacque Edmiston  
Percy & Sonja Garcia  
Carolyn Thomas