



The PULP

HUGE this month:
 General Meeting: Mar. 18th
 Android Tablet
 See you there!
 New Location !!!!!

Knights of Columbus
2533 Main Street,
Glastonbury, CT

Q&A Session: 7:00PM–7:30PM
 Meeting starts at: 7:30PM

Contents:

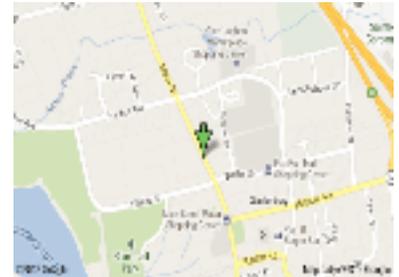
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MEETING LOCATION
Knights of Columbus
2533 Main Street
Glastonbury, CT



Editor's Corner

We're going to try again and demo an Android tablet.

In the news (for the paranoid): It is reported that a British intelligence agency has collected video webcam images from millions of Yahoo users, regardless of whether they were suspected of illegal activity, according to accounts of documents leaked by Edward J. Snowden..

Analysts with a security firm found a list of 360 million account credentials for Web services. They also found a cache of 1.25 billion e-mail address

At the recent RSA Security Conference, researchers demonstrated an ability to set a PC on fire as part of a malware attack. They were able to fake a firmware update on a Mac which was able to spike the CPU and turn off the fans.

Security researchers have reported finding malware pre-installed on some Android phones. Some of it was hiding as real software.

If you have 'bitcoins' you should have withdrawn them about 2 weeks ago.

In other news: Apple has officially stopped support of Snow Leopard (OSX 10.6), so no more updates. On the plus side, it does not suffer from the encryption bug in iOS, Lion, Mountain Lion, and Mavericks.

Apple has announced that it will be releasing 'CarPlay' later this year. You will need to buy a BMW to try it out.

Car makers are working with the computer industry on a set of standards for ethernet (802.3) in cars. I wonder how long the cable length will be and how to keep them plugged in. Actually, it's for wiring the car to support cameras, sensors, and entertainment.

On Feb. 26 NASA announced that they had found 715 planets orbiting 300+ stars. That is in addition to the 1,000+ previously announced.

One more thing, someone remind me that I have some raffle prizes.

Stuart Rabinowitz
Editor

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A Little Computer Quiz

by Stuart Rabinowitz

The trivia and minutiae of the computer related world. The answers will appear next month or you can submit an answer sheet at the General Meeting. Good Luck.

- 1 At one time, dBase III was one of the leading PC data base programs. What company sold it?
- 2 One of the programmers went on to work on FoxPro and wrote the definitive handbook. Who was he? (as a hint, he was a child movie/tv star)
- 3 In 1987 the first commercial ISP started in business, what was the name of the company?
- 4 Nextel got started in 1987, but that was not the original name of the company, what was Nextel's name back then?
- 5 Like many projects Bluetooth was given a codename during development, what was that codename?

Answers to Feb., 2014 Quiz

- 1 It's been 30 years since Apple introduced the Mac, but there was another computer company that began selling computers in 1984. What was that company?
A Michael Dell began his company selling hand assembled computers from his dorm room.
- 2 Ten years earlier in 1974 a new game (still being played today) was published. What is that game?
A Jan. 26, 1974 marked the first official publication of the complete 3 volume manual of Dungeons & Dragons.
- 3 Who developed the game?
A Gary Gygax
- 4 Who was the publisher?
A Tacctical Studies Rules.
- 5 Like many people in 1984, I participated in an Apple program tied to the release of the Mac. What was the program called?
A "Test-drive a Mac" let you take one home free for a few days. I bought a iic for half the price.





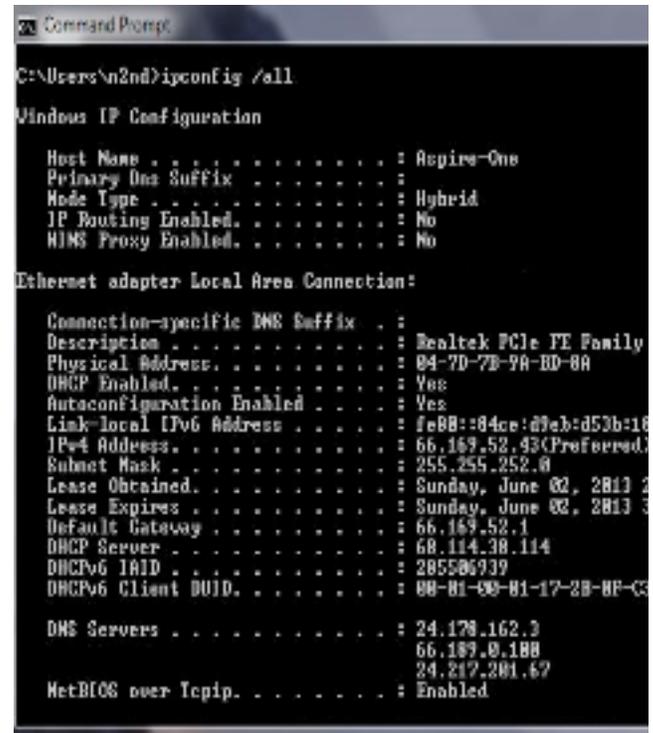
Home Networks
 By Dick Maybach, Member, Brookdale Computer Users' Group, NJ
 July 2013 issue, BUG Bytes
 www.bcug.com
 n2nd (at) charter.net

Learning about networks, especially the Internet, can easily become mind-numbing, largely because the field is so full of jargon and acronyms. While it isn't possible to escape this morass completely, we can make it somewhat more manageable by approaching the topic in two stages: (1) a single computer connected to the Internet and (2) a home network connected to the Internet.

Every device connected to the Internet, no matter its location in the world, has a unique Internet Protocol (IP) Address. This is usually written as four three-digit numbers separated by periods, where the value of each number varies from 0 to 255. Although we usually think of a site's address as being its Uniform Resource Locator (URL), this is just a convenient representation. When you send a message to a URL, your computer uses a Domain Name System (DNS), usually a service provided by your Internet Service Provider (ISP), to find the associated IP address. For example, *www.google.com* is assigned the IP address 74.125.140.105. You, of course, must have your own IP address so that you can receive data. (You can find it by browsing the site <http://whatismyipaddress.com/>.) Your ISP assigns an IP address to your computer when you connect it to the Internet using a Dynamic Host Configuration Protocol (DHCP) service. This means that your ISP must own enough IP addresses to supply a unique one to each user, and normally each home user has only one. If you have only one computer and you plug it directly into the ISP's modem, this is sufficient.

Before introducing any more complexity, let's see what we can learn about our Internet connection. Use an Ethernet cable to connect your PC directly to the Wide Area Network (WAN) modem provided by your ISP. You will have to reboot your PC and probably the WAN modem to establish an Internet connection. If you use Windows, navigate through *All Programs* and *Accessories* to *Command Prompt* and type "ipconfig /all". (The equivalent Linux and OS-X command is "ifconfig" or "ip".) There are graphical programs that show the same information, but

ipconfig puts it all on one screen. (The screenshot shows only the first portion the command's output.)



Fortunately, not all of the displayed data is important, but note the following items.

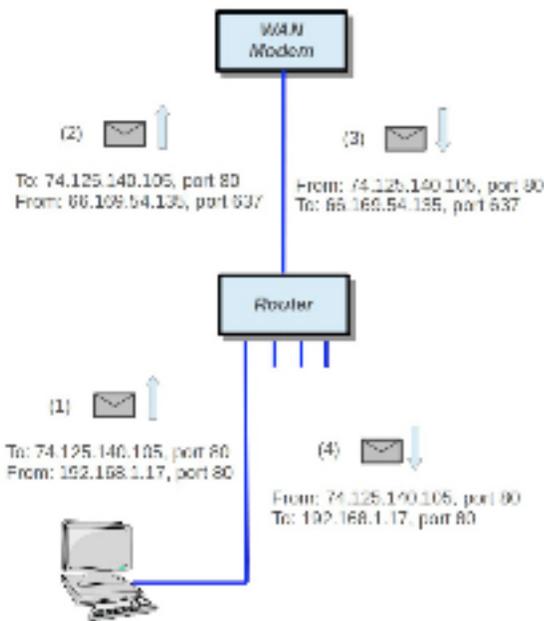
- ? DHCP is enabled and its server is located at 68.114.38.114, and the ISP has used it to assign the IP address 66.169.52.43 to this particular PC.
- ? This address is valid for one hour (as shown by the Lease Obtained and Lease Expires times). Before the IP address lease expires, your PC will automatically request a renewal.
- ? The hard-wired address of the Ethernet interface in our PC is 04-7D-B-9A-BD-8A.
- ? One of the DNS servers at 24.178.162.3, 66.189.0.67, or 24.217.201.67 translates URL to IP addresses.

If ever you lose your Internet access, a good first step would be to repeat the above procedure to see whether the problem is in your home network or within your ISP.

However, many of us want to connect several devices to the Internet. How can we do this with only one IP address? There are blocks of



IP addresses which never appear on the Internet, but are reserved for local use. The devices on most home networks use the addresses 192.168.1.x, where x varies from 0 to 255. (The 1 in the third group could be replaced with any number from 0 to 255.) If your network is using the 192.168.1.x plan, it knows that any IP address in this range belongs to a local device and any IP address outside this range resides on the Internet. To make use of this, we purchase a router and connect our local network devices to it. It has a separate connector for a cable to our ISP's modem. The router, as its name suggests, directs any local messages to internal addresses and sends all others to the ISP, but first it changes their return address to the IP address the ISP has assigned. But this means that all incoming messages have the same IP address; how does the router get them to the correct local device? Each message has not only an IP address, but also a 16-bit port number, and the router changes the port numbers of the return addresses of outgoing messages. It keeps track of these and when an incoming message appears, changes its address to the appropriate local device and restores the original port number. This process is called Network Address Translation (NAT).



In the figure, our PC generates a message (1) to Google at 74.125.140.105 using Port 80. (It probably consulted an NDS to obtain Google's IP address.) In this case, the ISP has assigned us the IP address

66.169.54.135, and the router changes the return address to this (2) and changes the port to 637. When Google replies (3) to the only address and port it knows, the router consults its records and sees (4) that messages from Google to port 637 should be routed to local IP address 192.168.1.17 and Port 80. Your neighbor may also be using 192.169.1.17 as the local IP address for one of her PCs, but since her Internet IP address is not 66.169.54.135, she won't get your messages from Google.

If your home network includes a router, you should now reconnect it to the WAN modem and restore the original network connection for your PC. Again, use *ipconfig /all* (or *ifconfig*, as appropriate) and compare the results with those you obtained with the PC connected directly to the WAN modem. Again, the screenshot shows only the first portion of *ipconfig*'s output.



Note the changes. (Ignore the change of Host Name and physical address; this is for a different PC.)

cont. pg.9



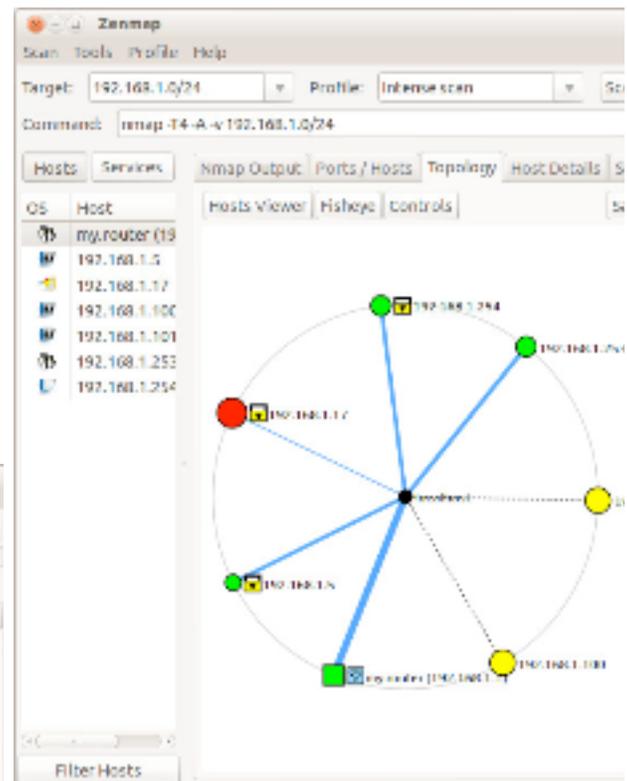
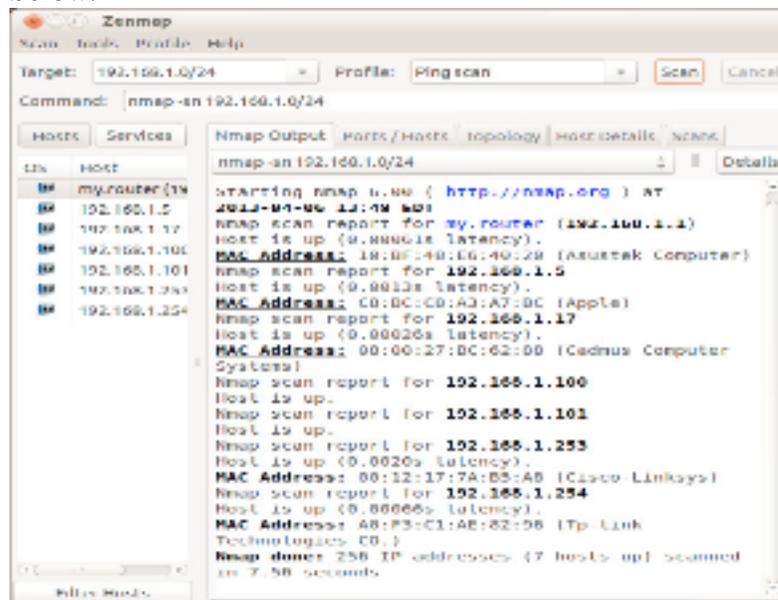
? The IP address now begins with 192.168.1, which is a local one, as is the default gateway.

? The DHCP server is now our router, which assigns all the devices with IP addresses of the form 192.168.1.x.

? There are two DNS servers, one in the router for local devices and one at the ISP for the Internet. (Note that the latter is one of the three we saw when connected directly.)

Zenmap (<http://nmap.org/zenmap/>), available for Linux, OS X, and Windows, is a very valuable tool for exploring your local network. Pay special attention in the following discussion of how you can limit its probes to your local network, as its activities can look like you are trying to hack any computer it probes. Some system administrators are quite sensitive to these, and using them could result in unpleasant conversations with your ISP or legal authorities. The screenshot shows the results of a simple ping scan of my local network. Note that the target was 192.168.1.0/24. My network uses the addresses 192.168.1.x, where x varies from 0 to 255. Each field in the IP address is actually an 8-bit number, and the /24 tells Zenmap that it should not change the first three fields. (Three fields times 8 bits equals 24.) Thus it probes all the addresses from 192.168.1.0 through 192.168.1.255. If we had specified 192.168.0.0/16, Zenmap would have probed 192.168.0.0 through 192.168.255.255, and while this wouldn't probe outside your local network, it could take a long time. The result is shown below.

of their IP addresses are the same, I'll designate them by only the last field. Our router is located at 1; 5 is a PC with an Asustek motherboard; 17 is a Windows 7 PC, 100 is the Ethernet adapter and 101 the wireless card of my desktop PC; 253 is a wireless access point; and 254 a network switch. A ping scan is quite simple; we are just looking for an answer from each address. We can learn much more by performing an intense scan, which takes several minutes, compared to the few seconds for a ping scan, and the results fill several screens. Fortunately, Zenmap can summarize its results graphically.



Circles indicate computers, and squares indicate routers. The colors and sizes of the nodes indicate how many ports are open; a greater number of open ports implies a greater vulnerability to outside hacking. (Green is good, yellow less so, and red could be something to be concerned about.) The thickness of the line to localhost indicates

Seven devices are operating; since the first three fields

cont. on pg. 9



The Smiley Face Turned 22 years old
 September 19th
 Art Gresham, Editor, Under the
 Computer Hood User Group, CA
 September 2013 issue of Drive Light
www.uchug.org
 editor101 (at) uchug.org

"Scott Fahlman was the first documented person to use the emoticons :-) and :-(, with a specific suggestion that they be used to express emotion. The text of his original proposal, posted to the Carnegie Mellon University computer science general board on 19 September 1982 (11:44), was thought to have been lost, but was recovered 20 years later by Jeff Baird from old backup tapes."

19-Sep-82 11:44 Scott E Fahlman :-)
From: Scott E Fahlman <Fahlman at Cmu-20c>

I propose that the following character sequence for happy:

:-)

Read it sideways. Actually, it is probably more economical to mark things that are sad, given current trends. For this, use

:-(

The information in the paragraph above is quoted from Wikipedia
http://en.wikipedia.org/wiki/Emoticon#cite_note-smiley-1

It is a very abbreviated summary of the story of how the keyboard characters we now call a Smiley Face came into

existence. It is part of a much longer story of the inner workings of the earliest forms of computer to computer, and user to user communications, long before the internet as we know it. These 'Bulletin Boards' were first commonly used among academics. It all began as a rather prankish comment following this post on the Computer Science Bulletin Board System at Carnegie Mellon University.

"At around noon on September 16th, 1982, and in response to a similar scenario involving pigeons, Neil Swartz posted the following hypothetical situation to the CMU CS BBS:"

"There is a lit candle in an elevator mounted on a bracket attached to the middle of one wall (say, 2" from the wall). A drop of mercury is on the floor. The cable snaps and the elevator falls. What happens to the candle and the mercury?"

A very delightful reading of the complete story of the evolution of :-) is at
<http://rhizome.org/editorial/2013/mar/13/emoticon1/>
 I am sure you will be [ROFL](#) when you read it.



Have you disabled or removed Java from your computer?

By John Pearce, President, Pikes Peak Computer Application Society, CO
February 2013 issue, Bits of Bytes
<http://ppcompas.apcug.org/>
jlpnet (at) comcast.net

Oracle seems to be having one security problem after another with Java. Last fall, it was reported that Java 7 Update 7 had problems but that Java 6 was safe (no security problems). Oracle released Java 7 Update 8, Update 9, and Update 10 all of which had security problems. The latest security problem seems to affect both Java 6 and 7. Java 7 Update 11 is available for download. Apparently this fixes a few problems but not all of them. The status of a patch for Java 6 is unknown.

While some tech gurus (Kim Komando for one) recommend completely removing Java from your computer, the Department of Homeland Security is recommending disabling the Java plug-in in your browser(s). You can find a bunch of links by using the search term homeland+security+java in most any search engine. Homeland Security's recommendation leaves Java available in case any desktop applications might need it.

The current crop of malware exploits security flaws in Java that allow the download of the malicious payload if you simply visit an infected website. The malware download may happen so quickly

you don't notice it and there is no security pop-up to warn you, either.

What to do, what to do?

Several tech writers have suggested disabling Java in your primary browser and leaving it enabled in a separate browser that is used only to access web sites that require Java. I have done a little checking using some of the websites in my bookmarks and found that disabling Java has no impact on the websites I visit most often.

The only website I found in my bookmarks that uses Java is the speed test at <http://dsreports.com/speedtest> and the site has alternatives to Java available. I didn't have any problems because the websites I checked use Java script, which does not have security issues as Java does. I rarely use Internet Explorer but decided to disable Java in IE anyway.

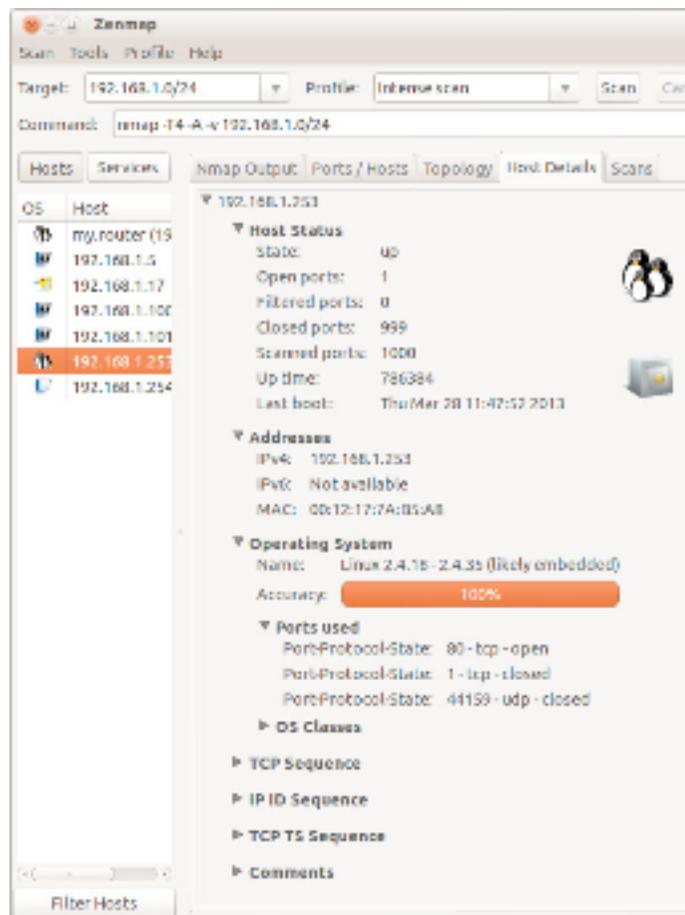
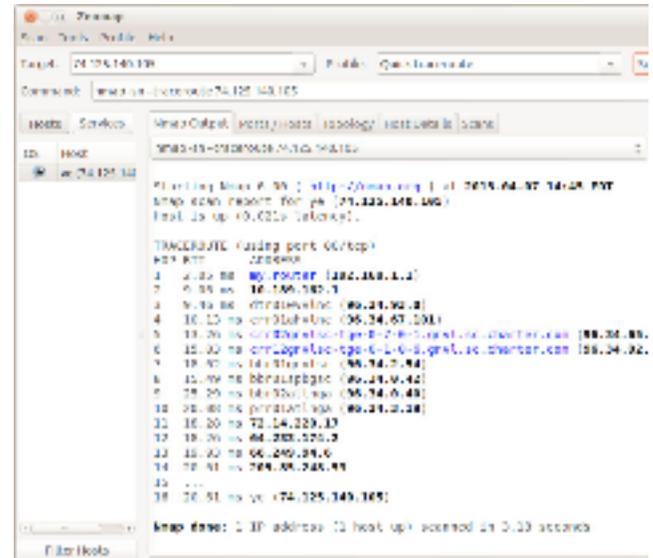


from pg. 6

the round-trip delay; thick means slow. (I made this probe from the PC with addresses 100 and 101, so delays can't be measured here.) The square yellow icon is a padlock indicating that some of the ports are filtered, which lessens the vulnerability to hacking. Finally, the square blue icon indicates a wireless access point. (Clearly, the detection isn't perfect, because 253 is also a WAP.)

The host details tab shows what Zenmap has found about a particular computer.

screenshots show both the text and graphic results.



In this case, our test message made 16 hops on its way to Google, although other tests would provide slightly different results. You can also view these results graphically, but I find the text output easier to understand and to be more complete. There are other network tools, but Zenmap is included in the Parted Image toolkit (discussed in my April 2012 article, available at <http://www.bcug.com>), which I always have it with me. There is extensive documentation for this useful program on the Zenmap Web site, accessible through the Help menu button visible in the screen-shots.

Taking a few minutes to explore your home network will remove much of its mystery and could prove valuable in solving future problems.

In this case (the WAP), the operating system is Linux and the one open port is 80.

Zenmap can also show you the route your data takes as it travels to its final destination. For example, let's again use www.google.com at 74.125.140.105. We enter this into the target box and select *Quick traceroute* as the scan. The



PULP Staff	
Editor	Stuart Rabinowitz
Distribution	George Carbonell

Membership: Anyone may become a member. Dues are \$12 per year and include a one-year subscription to The Pulp as well as access to the HUGE Public Domain disk libraries. Meeting topics, times and places can be found on page 1 of this issue.

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March 2014

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
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9	10	11	12 1989 WWW born	13	14 Pi Day	15
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23	24 Ada Lovelace Day	25	26	27	28	29
30	31					